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Revision History

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Overview

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1.1 OCAPI Overview

The purpose of the Open Composable Application Programming Interface (OCAPI) is to provide data center provisioning capabilities across all Western Digital and non-Western Digital device technologies using a “normalized” API. The goal of the OCAPI is to configure and manage storage devices via the “control path”, while the “data path” delivers data to and from the consuming host systems.

1.2 Industry Standards

The topics in this section describe some of the industry standard modeling and protocols used in the OCAPI.

1.2.1 Common Information Model

The OCAPI follows the industry standard conventions from the Common Information Model (CIM) provided by the Distributed Management Task Force body (dmtf.org). The resource naming conventions and resource attributes follow the CIM model for managed elements. The OCAPI simplifies the CIM model by “flattening” or “compressing” in the following ways.

Collections

Collections are rolled into the Resources as a “plural” of the resource type:

- GET /Volumes returns the list of Volume Resources
- GET /Volumes/{id} returns the specific Volume instance

Services

Services are rolled into the Resources themselves. For example, CIM requires an element called a StorageService to provide creating a new volume. The OCAPI collapses this notion into the resource itself, so that creating a new volume only requires telling the “resource type” (volumes in this case) to create a new volume. Any other manipulation of an existing resource is done directly to the resource. Some examples:

- POST /Volumes (params) creates a new Volume Resource
- PUT /Volumes/{id}?params modifies an existing Volume Resource
- DELETE /Volumes/{id} deletes an existing Volume Resource

Associations

Associations are provided “inherently” with Resource. This means retrieving a particular Resource may also give “navigation links” to other associated resources. This eliminates the need to traverse Association Classes in the CIM Model by providing readily available URLs to Collections and Instances of other resources that are related to this Resource.

Some examples:

- Media contains links to Storage Pools
- Storage Pools contain links to Media that makes up the Pool; contains links to Volumes exported by the Pool

- Volumes contain links to Storage Pools that make up the Volume; contains the links to Storage Endpoints exposing the Volume
- Storage Endpoints contain links to attached Volumes; contains links to Paths to remote/consuming Hosts
- Paths contain links to Storage Endpoints; contains links to Host Endpoints

1.2.2 JSON Data Format Model

The OCAPI uses the standard Javascript Object Notation (JSON) to describe the managed CIM-based elements and their CIM and/or Vendor-Unique-based attributes. The API responses are in a well-formed JSON format as well as request body entries to create or modify a resource. The JSON data format intrinsically determines the data type simply by indicating the "value" within a pair of double-quotations for string types and non-quoted numerical values for number types. No other format descriptions are needed to keep the API as simple as possible.

1.2.3 Protocols

The OCAPI follows strict interpretation of the Representational State Transfer (REST) architectural style put forth by the IETF and the Hypertext Transport Protocol (HTTP) specifications. This requires all API "actions or verbs" be rendered only with HTTP Methods that work directly with the resources.

This API supports the HTTP methods of GET, POST, PUT, DELETE, HEAD, and OPTIONS. This dictates that all Uniform Resource Identifiers (URIs) must be formed as "nouns" or "resources" upon which the methods are applied. No actions or verbs shall be rendered in the URI patterns or within the JSON request body.

1.2.4 HTTP Conditionals and CORS

The OCAPI uses HTTP Conditionals to provide concurrency capabilities among multiple web clients. This "optimistic concurrency" uses the "ETag Header" (entity tag) to provide a resource hash value (32 hexadecimal characters) of the current state of the resource. This ETag value can be used to lower the network traffic when used with HTTP GET requests, and is also used to properly modify or delete a specific resource such that concurrency among web clients is established. The next two subsections describe the API support for GET and PUT/DELETE usage of conditionals.

HTTP GET Conditional

A web client may use the ETag value returned from a GET response to use in the next GET request to the same resource. However, it is not a requirement. And not all resources provide ETags. This is usually the case for resources that change on their own often (e.g., the System Clock, Performance, or other time-based or automatically changing resources). If the web client chooses to use an ETag for a GET request, the "If-None-Match" conditional is used. The web client will understand from the "304 Not Modified" response that the resource or list of resources has not changed since the last time it retrieved the information.

Using Conditional GET significantly reduces network traffic by eliminating unneeded transfer of data if it has not changed over time. This works well with web clients that need to "poll" for status frequently. This means that GET responses are either fully verbose or fully silent if the web client uses the ETag with "If-None-Match" conditional request header.

HTTP PUT & DELETE Conditional

Another form of HTTP conditional allows web clients to take advantage of the HTTP Conditional PUT and DELETE processes. This includes an ETag returned in most GET Request response headers. When used with the HTTP PUT or DELETE method, the web client can determine if the resource has changed since the last GET response before a PUT (modify) or DELETE is requested. This is called “optimistic concurrency”. It is the opposite of implementing explicit locking mechanisms to handle multiple web clients (“pessimistic concurrency”).

The web client will receive an ETag as part of the GET response header which can be used to pass the “If-Match” conditional to the web service to determine if the resource has changed just before the PUT or DELETE Request.

If the “If-Match” conditional is not sent along with the PUT or DELETE request, the API will return a “428 Precondition Required” to prompt the web client to use the API's HTTP conditional capabilities. This prevents accidental or rogue changes and deletions and makes sure there is an orderly process when two or more web clients work on the same resource at or near the same time.

HTTP Cross-Origin Resource Sharing (CORS)

The OCAPI supports Cross-Origin Resource Sharing (CORS) operations. This is typically needed for web clients that connect to one particular web service which then tells the web client to connect to a different web service, usually in the executing Javascript, for example. The connection focus goes from “same-origin” or “same authority” to a “cross-origin” or different authority. Web clients that support this capability are required to send an OPTIONS method to the remote web service location (cross-origin) with the “Origin” header filled in with the local web service IP address or hostname with the scheme prefix (http or https) to determine if the remote web server will allow a connection from the web client while the focus is still on the local web server. If the remote web service disallows the connection, the OPTIONS response will return a “preflight connection failure” back to the web client indicating no further communication is allowed. If the remote web server allows the connection, it will return headers in the OPTIONS response to indicate what kind of connection, methods, etc., are allowed to the remote web server. The web client can then execute the original HTTP method to the remote web server to complete the transaction. Most modern web browsers support CORS.

1.2.5 HTTPS/SSL/TLS Connections

The OCAPI provides the user the ability to upload their own self-generated SSL/TLS Certificate and Key Pairs.

The OCAPI does provide its own self-signed Certificate and Key Pair, which is just enough to allow a browser to ask the user to proceed with the self-signed but unsecure connection. The user will need to do the following in order to successfully create secure connections between the browser and devices:

1. Create a user-generated Root Authority Certificate and Private Key pair
 - There are several SSL generators available (e.g. OpenSSL)
2. Create a user-generated Leaf Certificate and Key Pair signed by the Root CA Key (from the previous step)
 - The Leaf (or Device) Certificate/Key Pair must have the IP and/or DNS name as part of the Certificate that is within the user's network environment
3. Upload the Leaf Certificate and Key Pair to the Device via the OCAPI – see POST Files/TLSCertandKey in [/Compute/Devices/{id}/Files/{id}/](#) (page 84)

- The successful upload will automatically restart the API service for the HTTPS listener to use the new Certificate

1.3 Resource Oriented Architecture

The OCAPI implements "Resource-Oriented Architecture" (ROA) which dictates the API to have the following attributes:

- Addressability - Resources have explicit URLs for direct addressing
- Stateless - Resources do not require previous or next state processing; all operations are atomic
- Linkability - Resources can be reached via "Self" links from other associated Resources; provides navigation among related Resources
- Uniform Interface - Resources respond to supported HTTP Methods

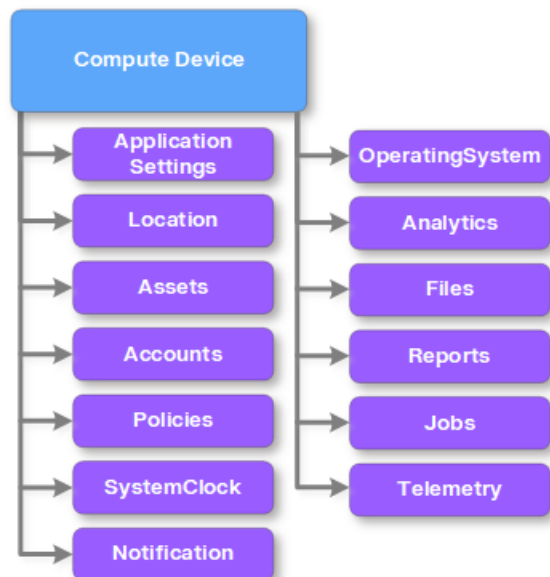
1.4 Modeling Device Resources

The OCAPI architecture requires the control path management scheme to be "resource-oriented". Any device and its components are all considered resources. For example, a device is a resource as well as its power supply. The management of the device and the power supply have separate resource addressing so that a management client can manage any component resource directly. There are physical resources, logical resources, and virtual resources. The physical resources typically already exist and cannot be created or deleted. However, logical and virtual resources can be created, modified, and deleted. The RMDC Control Node is located on a Compute Device with modeling includes logical/virtual resources.

Logical & Virtual Resources Model

The logical and virtual resources model include those resources that are logical or virtual in nature. These include Accounts, SystemClock, and Files. These are modeled in [Figure 1: Logical & Virtual Resources Model \(page 6\)](#).

Figure 1: Logical & Virtual Resources Model



1.5 curl

Curl is a free, open-source command line tool and library for transferring data using various network protocols. It can be used to access the OCAPI to request resource information, modify attributes, and create or delete resources using HTTP methods. Example curl commands are provided throughout this API reference; the following are the most commonly used commands and options. For more information on curl usage and syntax, visit <https://curl.haxx.se/>.

Commonly Used Command Options

- `-i` Requests HTTP response headers to be included in the output
- `-u user:password` Specifies the user name and password for server authentication
- `-X method` Specifies a custom request method to use when communicating with the HTTP server. Options are GET, POST, PUT, DELETE, HEAD, and OPTIONS
- `-H header` Specifies an extra header to include in the request, such as Content-Type, If-Match, etc.
- `-d data` Specifies the body data for a POST or PUT request
- `-F fieldname=@filename` Specifies a file to upload by emulating the submission of a filled-in form
- `-k` Allows for HTTPS requests

GET

A GET request is the first step in interacting with a resource. The GET curl command provides authentication credentials and the URL of the resource:

```
curl -i -u authentication -X GET resourceURL
```

The response header will include an ETag, which is used in subsequent PUT or DELETE requests to modify or delete the resource.

PUT

A PUT request modifies the resource. The PUT curl command provides authentication credentials, headers (such as Content-Type and If-Match), request body data, and the URL of the resource:

```
curl -i -u authentication -H header -X PUT -d 'data' resourceURL
```

The If-Match conditional in the PUT command requires the ETag from the GET response header in order to modify the resource.

POST

A POST request to a collection creates a resource within that collection. The POST curl command provides authentication credentials, headers (such as Content-Type), request body data, and the URL of the resource:

```
curl -i -u authentication -H header -X POST -d 'data' resourceURL
```

DELETE

A DELETE request deletes a resource. The DELETE curl command provides authentication credentials, headers (such as If-Match), and the URL of the resource:

```
curl -i -u authentication -H header -X DELETE resourceURL
```

The If-Match conditional in the DELETE command requires the ETag from the GET response header in order to delete the resource.



Discovery

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2.1 Discovery Overview

The OCAPI uses a generic doorbell type of URI that queries a particular host and port to determine what kind of device or component is available as a resource. There is also a mechanism to have an OCAPI-based Device do a discovery of all other participating OCAPI-based Devices to generate a dynamic system list of Devices that can be managed through a single OCAPI-based Device as a single-point-of-management.

- **/Query/** - Returns a Summary of the Collection of Devices at this location (IP Address) - see [/Query/ \(page 11\)](#)
- **/System/Query/** - Returns all the "Summary Query" responses from all discovered Collection of Devices across the network - see [/System/Query/ \(page 25\)](#)

2.2 REST-Based API

This API is based on the true REST architectural style, meaning that all actions/verbs will be handled exclusively by the existing HTTP Methods (GET, POST, PUT, DELETE, HEAD, OPTIONS) along with all URI patterns containing only fully qualified collections of resources and resource instantiations (nouns only, no action verbs permitted in the URI).

URI Patterns

Uniform Resource Identifiers (URI) are built with the following pattern:

- *scheme, host, domain, resources, resourceID*

For example:

- `http://ip:port/domain/resources/resourceID[/resource/resourceID]...`

Where:

- *scheme* can be http or https
- *domain* can be "storage", "compute", "network", or "system"
- *resources* can be "devices", "volumes", "hosts", "switches", "servers", etc.
- *resourceID* can be an index, GUID, UUID, or any type of identifier for the instance of a resource that is unique to at least the local device

The following is a real world example of a particular storage resource:

- `http://localhost:8080/Storage/Devices/12345`

All entries are plural-based so that a URI without an ending GUID or other resource identifier would return the collection or list of a particular element. For example, `http://ip:port/Storage/Devices/12345/volumes` would return a list of volumes instead of a particular one.

URI representations of physical components and devices must include the fully qualified URI path.

Physical Components:

`http://ip:port/Storage/Devices/id/Adapters/id` is the address of a specific adapter in a specific storage device.

Logical/Virtual Components:

`http://ip:port/Storage/Devices/id/Volumes/id` is the address to a specific volume.

Resource URIs

There are several “management domains” that can be used to describe and manipulate devices. For converged or composed systems, these domains are “compute”, “network”, and “storage”. These typically describe management at the device or component level. The “system” domain entry is used to aggregate the 3 other domains into an all-encompassing management layer to help describe the usage and connectivity of the devices and components as a physical or virtual system. The system-level management typically allows aggregation lists of all participating devices and also any user-defined groupings of the devices and components that make up the system or sub-systems.

The base URI format is as follows:

- /Query – Doorbell URI
- /Storage/Devices – Storage-based device collection URI
- /System/Query – System-based device query aggregation URI
 - Contains all the discovered Query responses for all participating Device within the System

2.3 /Query/

The /Query/ resource (Doorbell) returns the device type and perhaps its higher level system membership and/or any other device(s) managed by this device via proxy, if any.

HTTP Methods:

GET

HEAD

OPTIONS

Table 2: Resource Attributes

| Attribute | Data Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--|-----------|-----------------------|-------------------|--|---|
| Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| SystemQuery | String | Mandatory | No | Free-Form URI Format with IP plus "/ System/Query" | Link to ask this Device to discover other devices |
| InformationStructure.Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Link to use to display or modify the InformationStructure |
| InformationStructure.Name | String | Mandatory | No | Free-Form 64 Chars | The API name |
| InformationStructure.HttpPort | Number | Mandatory | Yes | 80, or 1024 - 65535 range | Port number for HTTP listener; default = 80 |
| InformationStructure.HttpsPort | Number | Mandatory | Yes | 443, or 1024 - 65535 range | Port number for HTTPS listener; default = 443 |
| InformationStructure.ID | String | Mandatory | No | Free-Form 256 Chars | The query identifier represents the main device ID |
| InformationStructure.AuthenticationType.ID | Number | Mandatory | Yes | 0 = Basic; 1 = Digest | The current authentication type ID |
| InformationStructure.AuthenticationType.Name | String | Mandatory | No | Basic or Digest | The current authentication type Name |
| InformationStructure.StructureDescription | String | Mandatory | No | Free-Form 256 Chars | The API Schema Description |
| InformationStructure.OwningOrganization | String | Mandatory | No | Free-Form 64 Chars | The API Schema Owner |
| InformationStructure.Status | String | Mandatory | No | Free-Form 64 Chars | The API Schema Version Release Status |

| Attribute | Data Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-------------------------------------|--------------|-----------------------|-------------------|--|---|
| InformationStructure.URI | String | Mandatory | No | Free-Form URI Format | The API Schema URI starting point |
| InformationStructure.Version | String | Mandatory | No | Major.Minor.Release Format | The API Schema Version Number |
| InformationStructure.ClientFilter | String | Optional | Yes | Default: All Clients if empty; REGEX of IP Address ranges with " " delimiter | Creates a "white list filter" of allowed Clients based on REGEX pattern of IP Addresses. Multiple entries with " " delimiter. |
| InformationStructure.MaximumThreads | Number | Optional | Yes | Default: 5 | Throttles the total number of web client connections. Returns a 429 Too Many Requests if maximum number reached. Try again. |
| Devices.Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| Devices.Members | String Array | Optional | No | One or more / Devices bodies | Collection of Device Summaries |

GET /Query/

GET /Query/ returns the query information along with the "links" for further management navigation into this Device.

Example GET curl Command

```
curl http://10.20.30.40/Query/
```



Note: User authentication is not required, since the GET /Query/ is the "doorbell" to initiate first contact with the Device. The JSON response includes URI links to go further into the Device, which will require user authentication.

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Query/",
  "SystemQuery": "http://10.20.30.40/System/Query/",
  "SystemGroups": "http://10.20.30.40/System/Groups/",
  "SystemJobs": "http://10.20.30.40/System/Jobs/",
  "InformationStructure": {
    "Self": "http://10.20.30.40/Query/InformationStructure/",
    "AuthenticationType": {
      "ID": 0,
      "Name": "Basic"
    }
  }
}
```

```

    },
    "HTTPPort": 80,
    "HTTPSPort": 443,
    "LogLevel": "info",
    "MaximumThreads": 50,
    "Name": "Open Composable API",
    "OwningOrganization": "Copyright 2020-2022 Western Digital Corporation or its
affiliates. All rights reserved.",
    "Status": "Preliminary Proof-of-Concept",
    "StructureDescription": "REST-based API for Device Management. Use HTTP OPTIONS
with header {\"Documentation\": \"Schema\"} to get resource schema information based
on URI. Use HTTP OPTIONS with header {\"Documentation\": \"Info\"} to get general
information based on URI. ",
    "URI": "/Query/",
    "TimeoutMultiplier": 1,
    "Discovery": {
        "DiscoveryCycleTime": 60,
        "DiscoveryTimeout": 5,
        "QueryTimeout": 20,
        "Threads": 128,
        "Netmasks": []
    },
    "Orchestration": {
        "Enabled": false
    },
    "Version": "RMDC-1.4.4-224",
    "LDAPSettings": {}
},
"Devices": {
    "Self": "http://10.20.30.40/Devices/",
    "Members": [
        {
            "Self": "http://10.20.30.40/Compute/Devices/4C4C4544-004E-5410-8035-
B5C04F374733/",
            "SystemType": {
                "ID": 1,
                "Name": "Compute"
            },
            "Name": "5NT57G3",
            "ID": "4C4C4544-004E-5410-8035-B5C04F374733",
            "OperatingSystem": {
                "Self": "http://10.20.30.40/Compute/Devices/4C4C4544-004E-5410-8035-
B5C04F374733/OperatingSystem/",
                "Name": "Resource Manager Data Center",
                "OSType": {
                    "ID": 18,
                    "Name": "Winnt"
                },
                "Version": "0.4.224"
            },
            "SerialNumber": "0000",
            "Model": "Resource Manager Data Center",
            "Manufacturer": "WDC",
            "Capabilities": {
                "Members": [
                    {
                        "ID": 9,
                        "Name": "Access Server",

```

```
{
  "CapabilityDescription": "This device is a server providing access to resources directly attached or in a network.",
  {
    "ID": 14,
    "Name": "Management",
    "CapabilityDescription": "This device provides software system management capabilities."
  }
],
{
  "Status": {
    "State": {
      "ID": 16,
      "Name": "In service"
    },
    "Health": [
      {
        "ID": 5,
        "Name": "OK"
      }
    ],
    "Details": [
      "None"
    ]
  },
  "IPAddresses": {
    "Members": [
      {
        "IPAddress": "10.20.30.40"
      }
    ]
  }
}
}
```

Table 3: GET Response Codes

| Response Code | Name | Description |
|---------------|--------------|---|
| 200 | OK | OK & Support resource information in the response body |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |

HEAD /Query/

The HEAD /Query/ pings the Query resource.

Table 4: HEAD Response Codes

| Response Code | Name | Description |
|---------------|-----------|---|
| 200 | OK | OK with no response body + Header "Server: OpenFlex API" to help determine that the IP address response to the doorbell request |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |

OPTIONS /Query/

The OPTIONS /Query/ returns the allowable HTTP Methods list for this resource.

Table 5: OPTIONS Request Headers

| Request Header | Mandatory or Optional | Description |
|----------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 6: OPTIONS Response Codes

| Response Code | Name | Description |
|---------------|-----------|---|
| 200 | OK | OK with no response body + Header "Server: OpenFlex API" to help determine that the IP address response to the doorbell request |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |

2.4 /Query/InformationStructure/

The /Query/InformationStructure/ resource provides detailed information about the API.

HTTP Methods:

GET

PUT

HEAD

OPTIONS

Table 7: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--|--------|-----------------------|-------------------|---|---|
| Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| SystemQuery | String | Mandatory | No | Free-Form URI Format with IP plus "/System/Query" | Link to ask this Device to discover other devices |
| InformationStructure.Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Link to use to display or modify the InformationStructure |
| InformationStructure.Name | String | Mandatory | No | Free-Form 64 Chars | The API name |
| InformationStructure.HTTPPort | Number | Mandatory | Yes | 80, or 1024 - 65535 range | Port number for HTTP listener; default = 80 |
| InformationStructure.HTTPSPort | Number | Mandatory | Yes | 443, or 1024 - 65535 range | Port number for HTTPS listener; default = 443 |
| InformationStructure.ID | String | Mandatory | No | Free-Form 256 Chars | The query identifier represents the main device ID |
| InformationStructure.AuthenticationType.ID | Number | Mandatory | Yes | 0 = Basic; 1 = Digest | The current authentication type ID |
| InformationStructure.AuthenticationType.Name | String | Mandatory | No | Basic or Digest | The current authentication type Name |
| InformationStructure.StructureDescription | String | Mandatory | No | Free-Form 256 Chars | The API Schema Description |
| InformationStructure.OwningOrganization | String | Mandatory | No | Free-Form 64 Chars | The API Schema Owner |
| InformationStructure.Status | String | Mandatory | No | Free-Form 64 Chars | The API Schema Version Release Status |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-------------------------------------|---------|-----------------------|-------------------|--|---|
| InformationStructure.URI | String | Mandatory | No | Free-Form URI Format | The API Schema URI starting point |
| InformationStructure.Version | String | Mandatory | No | Major.Minor.Release Format | The API Schema Version Number |
| InformationStructure.ClientFilter | String | Optional | Yes | Default: All Clients if empty; REGEX of IP Address ranges with " " delimiter | Creates a "white list filter" of allowed Clients based on REGEX pattern of IP Addresses. Multiple entries with " " delimiter. |
| InformationStructure.MaximumThreads | Number | Optional | Yes | Default: 5 | Throttles the total number of web client connections. Returns a 429 Too Many Requests if maximum number reached. Try again. |
| RestartAPI | Boolean | WriteOnly | Yes | true | Directs the device to restart the API service |
| LogLevel | String | Optional | Yes | "debug" "info" "warn" "error" | The log level setting for writing into /var/log/vstore.log |
| TimeoutMultiplier | Number | Optional | Yes | 1 - n | The timeout multiplier value to increase the API timeout values |
| Discovery.DiscoveryCycleTime | Number | Optional | Yes | | |
| Discovery.DiscoveryTimeout | Number | Optional | Yes | 1 to n; default = 5 | The time in seconds to wait for HEAD / Query responses from remote devices during background GET /System/Query scans |
| Discovery.QueryTimeout | Number | Optional | Yes | 1 to n; default = 20 | The time in seconds to wait for GET / Query responses from remote devices during background GET /System/Query scans |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--|---------|-----------------------|-------------------|---|--|
| Discovery.Threads | Number | Optional | Yes | 1 to n; default = 128 | The number of concurrent HEAD or GET /Query requests at once |
| Discovery.Netmasks[].Netmask | String | Optional | Yes | IPv4 IP Address format with CIDR Netmask value. nnn.nnn.nnn.nnn/mm where: nnn = 0 to 255 (IPv4 Address octet value) mm = 0 to 32 (CIDR subnet mask value) | The IPv4 IP Address/ CIDR netmask range for a given scan entry in the Netmasks[] Object Array. Default entry if the Netmasks[] object array is empty = "this RMDC server's IP Address and subnet" |
| Discovery.Netmasks[].Enabled | Boolean | Optional | Yes | true false | Indicates if the Netmask value is enabled for the scan range list of Netmasks |
| Discovery.DiscoveryInvFrequency | Number | Optional | Yes | 2 to 10 minutes | Background Discovery interval in minutes |
| Discovery.DiscoveryFullInvMultiple | Number | Optional | Yes | 1 to n multiplier to DiscoveryInvFrequency Minimum allowed is 10 minutes | Background Discovery interval multiplier value |
| Discovery.PolicyESReadInvFrequency | Number | Optional | Yes | 1 to n minutes | Background Policy DB interval update check |
| Discovery.PolicyESReadFullInvFrequency | Number | Optional | Yes | 1 to n minutes | Background Policy DB interval for Full data update check |
| Orchestration.Enabled | Boolean | Optional | No | true false | Indicates if the overall Orchestration capability is "Enabled" if all the subsequent "applications" are successfully installed and available |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--|---------|-----------------------|-------------------|----------------------------|--|
| Orchestration. ApplicationsInstalled. Ansible | Boolean | Optional | No | true false | Indicates if the "Ansible" application is enabled by being successfully installed and available |
| Orchestration. ApplicationsInstalled. Python3 | Boolean | Optional | No | true false | Indicates if the "Python3" application is enabled by being successfully installed and available |
| Orchestration. ApplicationsInstalled. WDCModuleInfo | Boolean | Optional | No | true false | Indicates if the "WDCModuleInfo" for the Ansible application is enabled by being successfully installed and available |
| Orchestration. ApplicationsInstalled. WDCModuleCommand | Boolean | Optional | No | true false | Indicates if the "WDCModuleCommand" for the Ansible application is enabled by being successfully installed and available |
| Orchestration. ApplicationsInstalled. Nslookup | Boolean | Optional | No | true false | Indicates if the "nslookup" application is enabled by being successfully installed and available |
| Version | String | Optional | No | maj.min.patch-build format | The current OCAPI version running on this system |
| LDAPSettings | Object | Optional | Yes | | Remote Account LDAP/AD settings |

GET /Query/InformationStructure/

GET /Query/InformationStructure/ retrieves the Information Structure information.

Table 8: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization. |

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header. |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Query/InformationStructure/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Query/InformationStructure/",
  "AuthenticationType": {
    "ID": 0,
    "Name": "Basic"
  },
  "HTTPPort": 80,
  "HTTPSPort": 443,
  "LogLevel": "debug",
  "MaximumThreads": 50,
  "Name": "Open Composable API",
  "OwningOrganization": "Copyright 2020-2023 Western Digital Corporation or its affiliates. All rights reserved.",
  "Status": "Released",
  "StructureDescription": "REST-based API for Device Management. Use HTTP OPTIONS with header {\"Documentation\": \"Schema\"} to get resource schema information based on URI. Use HTTP OPTIONS with header {\"Documentation\": \"Info\"} to get general information based on URI. ",
  "URI": "/Query/",
  "TimeoutMultiplier": 1,
  "Discovery": {
    "DiscoveryCycleTime": 60,
    "DiscoveryTimeout": 5,
    "QueryTimeout": 20,
    "Threads": 128,
    "Netmasks": [
      {
        "Netmask": "10.202.239.0/24",
        "Enabled": true
      },
      {
        "Netmask": "10.203.111.0/22",
        "Enabled": true
      },
      {
        "Netmask": "10.206.137.0/24",
        "Enabled": true
      },
      {
        "Netmask": "10.206.136.0/24",
        "Enabled": true
      },
      {
        "Netmask": "10.206.111.0/22",
```

```

        "Enabled": true
    },
    {
        "Netmask": "10.202.237.0/24",
        "Enabled": true
    }
],
"DiscoveryInvFrequency": 5,
"DiscoveryFullInvMultiple": 2,
"PolicyESReadInvFrequency": 10,
"PolicyESReadFullInvFrequency": 60
},
"Orchestration": {
    "Enabled": true,
    "ApplicationsInstalled": {
        "Ansible": true,
        "Python3": true,
        "WDCModuleInfo": true,
        "WDCModuleCommand": true,
        "Nslookup": true
    }
},
"Version": "1.5.8-103",
"LDAPSettings": {}
}

```

Table 9: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & Support resource information in the response body |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 403 | Forbidden | ClientFilter is preventing access and resource is not allowed to retrieved |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy, client should try again later |

PUT /Query/InformationStructure/

PUT /Query/InformationStructure/ modifies an attribute of the Information Structure.

Table 10: PUT Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization. |

| Header | Mandatory or Optional | Description |
|----------|-----------------------|--|
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header. |

Example PUT curl Command

```
curl
-i
-u admin:admin
-H "Content-Type: application/json"
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X PUT http://10.20.30.40/Query/InformationStructure/
--data '{
    "LogLevel": "info"
}'
```



Note: The If-Match conditional in this command requires the **ETag** from the GET Response Header.

Example PUT Request Body

```
{
  "HTTPPort": number,
  "HTTPSPort": number,
  "AuthenticationType": {
    "ID" : 0 | 1 | 2
  },
  "ClientFilter" : REGEX,
  "MaximumThreads": number,
  "RestartAPI": true,
  "LogLevel": "debug"|"info"|"warn"|"error",
  "TimeoutMultiplier": 1 - n (default: 1),
  "Discovery": {
    "DiscoveryCycleTime": 60,
    "DiscoveryTimeout": 5,
    "QueryTimeout": 20,
    "Threads": 128,
    "Netmasks": [
      {
        "Netmask": "10.202.239.0/24",
        "Enabled": true
      }, {
        "Netmask": "10.203.111.0/22",
        "Enabled": true
      }
    ],
    "DiscoveryInvFrequency": 5,
    "DiscoveryFullInvMultiple": 2,
    "PolicyESReadInvFrequency": 10,
    "PolicyESReadFullInvFrequency": 60
  }
}
```


Table 11: PUT Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|--|
| 200 | OK | OK & Volume information in the response body + ETag Header |
| 301 | Moved Permanently | URI Address has moved to a new location if the Port Number(s) are changed; provides new URI in "Location" header in the response |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is Busy; client should try again later |
| 500 | Internal Server Error | System could not process the request |

HEAD /Query/InformationStructure/

HEAD /Query/InformationStructure/ pings the Information Structure resource.

Table 12: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body + Header "Server: OpenFlex API" to help determine that the IP address response to the doorbell request |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Query/InformationStructure/

OPTIONS /Query/InformationStructure/ returns the allowable HTTP Methods list for this resource.

Table 13: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| None | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain tex |

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Documentation | Optional | Schema - Returns the schema information in formatted JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 14: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

2.5 /System/Query/

The /System/Query/ resource returns the dynamically-discovered list of device Query Doorbell responses in a single response body, to provide a single-point-of-management entry point.

HTTP Methods:

[GET](#)
[HEAD](#)
[OPTIONS](#)

Table 15: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|---------------------------------------|---|
| Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| Members | String Array | Optional | No | One or more discovered / Query bodies | Collection of discovered / Query doorbell resources |

GET /System/Query/

GET /System/Query/ returns the information of the System Query resource.

Table 16: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 17: GET Query Parameters

| Parameter | Description |
|-----------------------------|---|
| Netmask = {ip_address/cidr} | The IP address and CIDR code range for the sweep/scan process. Default sweep is system IP Address subnet (current IP subnet 10.20.30.xx, CIDR = 24). Note: CIDR determines "ip mask" range to scan; 0 - 32, smaller the number, the wider the scan range. |
| DiscoveryTimeout = {1-n} | The timeout value in seconds for the discovery process. Default = 5 seconds. 3 or more recommended. |
| QueryTimeout = {1-n} | The timeout value in seconds for the query process. Default = 20 seconds. 8 or more recommended. |
| Threads = {1-n} | The number of parallel /Query doorbell requests based on the number of IP Address/CIDR to send to the network (multi-threaded unicast). Default = 128. 1024 or less recommended. |

Example GET curl Command

```
curl
  -i
  -u admin:admin
  -X GET http://10.20.30.40/System/Query/
```

Example GET Response Body

```

{
  "Self": "http://10.20.30.40/System/Query/",
  "Members": [
    {
      "Self": "http://10.20.30.40/Query/",
      "SystemQuery": "http://10.20.30.40/System/Query/",
      "InformationStructure": {
        "Self": "http://10.20.30.40:80/Query/InformationStructure/",
        "AuthenticationType": {
          "ID": 0,
          "Name": "Basic"
        },
        "Name": "OpenFlex API",
        "HTTPPort": 80,
        "HTTPSPort": 443,
        "ID": "0123456789",
        "StructureDescription": "REST-based API for Device or System Management.
Use HTTP OPTIONS to get resource schema information based on URI.",
        "OwningOrganization": "WDC",
        "Status": "Preliminary",
        "URI": "/Query/",
        "Version": "0.9.11"
      },
      "Devices": {
        "Self": "http://10.20.30.40/Devices/",
        "Members": [
          {
            "Self": "http://10.20.30.40/Storage/Devices/0123456789/",
            "SystemType": {
              "ID": 2,
              "Name": "Storage"
            },
            "Name": "opnflx-6789",
            "ID": "blade_uuid_0123456789",
            "OperatingSystem": {
              "Self": "http://10.20.30.40/Storage/Devicess/0123456789/
OperatingSystem/",
              "Name": "Vendor Firmware",
              "OSType": {
                "ID": 0,
                "Name": "Unknown"
              },
              "Version": "blade-FW-Rev0"
            },
            "SerialNumber": "blade-SN-0123456789",
            "Model": "blade-MN-0123456789",
            "Manufacturer": "WDC",
            "Capabilities": {
              "Members": [
                {
                  "ID": 3,
                  "Name": "Storage",
                  "CapabilityDescription": "This device is a storage
provider."
                },
                {
                  "ID": 15,

```

```

        "Name": "Block Server",
        "CapabilityDescription": "This device provides block
storage."
    },
    {
        "ID": 28,
        "Name": "Management Controller",
        "CapabilityDescription": "This device provides
specialized hardware dedicated to systems management."
    },
    {
        "ID": 40,
        "Name": "Blade",
        "CapabilityDescription": "This device is a blade
device."
    }
]
},
"Status": {
    "State": {
        "ID": 16,
        "Name": "In service"
    },
    "Health": [
        {
            "ID": 5,
            "Name": "OK"
        }
    ],
    "Details": [
        "None"
    ]
},
"IPAddresses": {
    "Members": [
        {
            "IPAddress": "10.20.30.40"
        },
        {
            "IPAddress": "192.168.0.9"
        }
    ]
}
}
}
}
}
}
```

Example GET curl Command Across Disparate Subnets

Note: This example scans 10.20.30.0 thru 10.20.30.255 (1 subnet) and 10.202.236.0 thru 10.202.239.255 (4 subnets). The user can also enter a Netmask that does not include the Device doing the GET /System/Query/. In that case, the response will not include that Device, but all other discovered Devices in the scan.

```
curl
  -i
  -u admin:admin
  -X GET http://10.20.30.40/System/Query/?
Netmask=10.20.30.40/24&Netmask=10.202.236.0/22
```

Table 18: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & System Query resource information in the response body |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. Note: for /System/Query, the order of devices coming back may be different, so it is rare to get a 304. |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /System/Query/

HEAD /System/Query/ pings the System Query resource.

Table 19: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|-------------|
| Authorization | Mandatory | |

Table 20: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /System/Query/

OPTIONS /System/Query/ returns the allowable HTTP Methods list for this resource.

Table 21: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 22: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. Note: for /System/Query, the order of devices coming back may be different, so it is rare to get a 304. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |



Central Server Service

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3.1 System Level Resources

The OCAPI incorporates "system-level" resources to provide multiple "device resource" activities and operations such as FW Update, Reboot, etc. This requires the concept of "grouping device resource" into a new virtual resource called "System Groups" to allow the system to apply certain operations across multiple device resources at the same time. The System Jobs resource describes the current and completed "Jobs" that were enacted on a System Group.

- **/System/Groups/** - Returns the collection of System Groups - see [/System/Groups/ \(page 32\)](#)
- **/System/Jobs/** - Returns the collection of System Jobs - see [/System/Jobs/ \(page 43\)](#)

3.1.1 /System/Groups/

The Device-level methods and attributes of /System/Groups/ return information about the System Group(s) collection and enable management operations.

HTTP Methods:

[GET](#)[POST](#)[HEAD](#)[OPTIONS](#)

Table 23: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| Members | String Array | Mandatory | No | Resource Collection (1 - n entries) | The array of Resource Instances. See /System/Groups/{Id}/ (page 36) for Instance Attribute details |

GET /System/Groups/

GET /System/Groups/ returns the Collection of System Groups.

Table 24: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/System/Groups/
```

Table 25: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of System Groups + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

POST /System/Groups/

POST /System/Groups/ creates a new system group.

Example POST Request Body

```
{
  "Name": "name",
  "Description": "description",
  "Resources": [
    {
      "Self": "uri1"
    },
    {
      "Self": "uriN"
    }
  ]
}
```

Example POST curl Command

```
curl
-i
-u admin:admin
-H "Content-Type: application/json"
-X POST http://10.20.30.40/System/Groups/
--data '{
  "Name": "Data102 Group",
  "Description": "Data102 Group for Bulk FW Update"
  "Resources": [
    {
      "Self": "https://10.20.30.40/Storage/Devices/0123456789/?
IPAddress=10.20.30.50"
    },
    {
      "Self": "https://10.20.30.40/Storage/Devices/012345678912/?
IPAddress=10.20.30.51"
    },
    {
      "Self": "https://10.20.30.40/Storage/Devices/012345678933/?
IPAddress=10.20.30.52"
    }
  ],
}
```

Table 26: POST Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 201 | Created | Created & System Group information in the response body + ETag Header + new URI in Location Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 409 | Conflict | A new parameter value already exists (e.g., Name) |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /System/Groups/

HEAD /System/Groups/ pings the System Groups Collection.

Table 27: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 28: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /System/Groups/

OPTIONS /System/Groups/ returns the allowable HTTP Methods list for this resource.

Table 29: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 30: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.1.2 /System/Groups/{Id}/

The Device-level methods and attributes of /System/Groups/{Id}/ return information about a specific System Group, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

[GET](#)[PUT](#)[DELETE](#)[HEAD](#)[OPTIONS](#)

Table 31: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------|------------|-----------------------|-------------------|--------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | UUID Format | The Identifier this particular System Group |
| Name | String | Mandatory | Yes | Free-Form 64 Characters | Name of the Group |
| Description | String | Optional | Yes | Free-Form 256 Characters | Description of the Group |
| CreateDate | Datetime | Mandatory | No | "23-Feb-2022 09:35:47" | Creation datetime auto-generated upon POST /System/Groups |
| LastModified | Datetime | Mandatory | No | "23-Feb-2022 09:35:47" | LastModified datetime auto-generated upon POST /System/Groups or PUT /System/Groups/{id} |
| MixedResourceTypes | Boolean | Mandatory | No | true false | Indicates if there are members of the group that have differing "Model" and/or "OOB Interface" types |
| Resources[x].Self | URI String | Mandatory | Yes | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| Resources[x].IPAddress | String | Mandatory | No | Free-Form 128 Characters | IP Address that is provided from the Self URI repeated here (auto-generated) |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|---------------------------|--------|-----------------------|-------------------|--------------------------|---|
| Resources[x]. Hostname | String | Optional | Yes | Free-Form 128 Characters | Hostname based on the DNS lookup of the IP Address provided in the Self URI (auto-generated) or sent by web client as an option |

GET /System/Groups/{Id}/

GET /System/Groups/{Id}/ returns information regarding a specific System Group based on the {id} in the URI address string.

Table 32: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/System/Groups/087d9191-9cd0-7107-b24a-0afd619ef10f
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/System/Groups/087d9191-9cd0-7107-b24a-0afd619ef10f/",
  "ID": "087d9191-9cd0-7107-b24a-0afd619ef10f",
  "Name": "Data102 Group",
  "Description": "",
  "CreateDate": "20-Jul-2022 22:55:42",
  "LastModified": "20-Jul-2022 22:55:42",
  "MixedResourceTypes": false,
  "Resources": [
    {
      "Self": "http://10.20.30.40/Storage/Devices/THCLS00220EA0045-A/?
IPAddress=10.202.239.228",
      "IPAddress": "10.202.239.228",
      "Hostname": "oobm-00-0c-ca-07-0a-e3.hgst.com."
    },
    {
      "Self": "http://10.20.30.40/Storage/Devices/USCSJ04217EA0004/?
IPAddress=10.202.239.176",
      "IPAddress": "10.202.239.176",
      "Hostname": "oobm-00-0c-ca-04-00-28.hgst.com."
    }
  ]
}
```

```
{
  "Self": "http://10.20.30.40/Storage/Devices/USWSJ01119EZ002C/?
IPAddress=10.202.239.246",
  "IPAddress": "10.202.239.246",
  "Hostname": "oobm-00-0c-ca-08-1d-e8.hgst.com."
}
]
```

Table 33: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & System Group information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

PUT /System/Groups/{Id}/

PUT /System/Groups/{Id}/ modifies an attribute or executes an operation for this Group.

Table 34: PUT Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Optional | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example PUT curl Command



Note: The If-Match conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H 'If-Match: 3677651d2011428f32120a029b015e81'
-H 'Content-Type: application/json'
-X PUT http://10.20.30.40/System/Groups/
--data '{
  "Resources": [
    {
```



```

        "Self": "https://10.20.30.40/Storage/Devices/0123456789/?
IPAddress=10.20.30.50"
    },
    {
        "Self": "https://10.20.30.40/Storage/Devices/012345678912/?
IPAddress=10.20.30.51"
    },
    {
        "Self": "https://10.20.30.40/Storage/Devices/012345678933/?
IPAddress=10.20.30.52"
    },
    {
        "Self": "https://10.20.30.40/Storage/Devices/012345678933/?
IPAddress=10.20.30.53"
    }
],
    "Description": "Updated Data102 Group for Bulk FW Update"
},

```

Example PUT Request Body

```

{
    "Name": "name",
    "Description": "description",
    "Resources": [
        {
            "Self": "uril",
        },
        {
            "Self": "uriN",
        }
    ],
}

```

Table 35: PUT Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 200 | OK | OK & Account information in the response body + ETag Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

DELETE /System/Groups/{Id}/

DELETE /System/Groups/{Id}/ deletes this System Group.

Table 36: DELETE Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example DELETE curl Command

Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X DELETE http://10.20.30.40/System/Groups/12345
```

Table 37: DELETE Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 204 | No Content | Delete successful, no content in the response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /System/Groups/{Id}/

HEAD /System/Groups/{Id}/ pings this System Group.

Table 38: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 39: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /System/Groups/{Id}/

OPTIONS /System/Groups/{Id}/ returns the allowable HTTP Methods list for this resource.

Table 40: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 41: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.1.2.1 Bulk Operations for a Resource Group

The following are example curl commands to perform bulk operations on a resource group.

Bulk Firmware Update

```
curl
  -i
  -u admin:admin
  -H "Content-Type: application/json"
  -X POST http://10.20.30.40/System/Groups/0123456/OperatingSystem/
  --data '{
    "FirmwareFile": "http://location/of/file"
  }'
```

Bulk Reboot

```
curl
  -i
  -u admin:admin
  -H "Content-Type: application/json"
  -X POST http://10.20.30.40/System/Groups/0123456/Reboot/
  --data '{
    "Reboot": true
  }'
```

Bulk Power State Change

```
curl
  -i
  -u admin:admin
  -H "Content-Type: application/json"
  -X POST http://10.20.30.40/System/Groups/0123456/PowerState/
  --data '{
    "ID": 4
  }'
```



Note: ID=2 is "PowerOn", ID=4 is "Sleep".

Bulk Locate LED Toggle

```
curl
  -i
  -u admin:admin
  -H "Content-Type: application/json"
  -X POST http://10.20.30.40/System/Groups/0123456/IndicatorLED/
  --data '{
    "ID": 2
  }'
```



Note: ID=2 is "Lit", ID=4 is "Off".

3.1.3 /System/Jobs/

The Device-level methods and attributes of /System/Jobs/ return information about the System Job(s) collection and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 42: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (1 - n entries) | The array of Resource Instances. See /System/Jobs/{id}/ (page 46) for Instance Attribute details |

GET /System/Jobs/

GET /System/Jobs/ returns the Collection of System Jobs.

Table 43: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/System/Jobs/
```

Table 44: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of System Jobs + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /System/Jobs/

HEAD /System/Jobs/ pings the System Jobs collection.

Table 45: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 46: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /System/Jobs/

OPTIONS /System/Jobs/ returns the allowable HTTP Methods list for this resource.

Table 47: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 48: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.1.4 /System/Jobs/{id}/

The Device-level methods and attributes of /System/Jobs/{id}/ return information about the a specific System Job, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

[GET](#)[DELETE](#)[HEAD](#)[OPTIONS](#)

Table 49: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------------|------------|-----------------------|-------------------|--------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 64 Chars UUID Format | The Identifier this particular System Job. This ID is based on the prefix "GroupOperation" with a suffix of UNIX Epoch Time for uniqueness |
| StartTime | String | Mandatory | No | 23-Feb-2022 09:35:47 | The job start timestamp |
| ElapsedTime | String | Mandatory | No | 23-Feb-2022 09:46:04 | The job elapsed timestamp; updates during process; displays "end time" when job completed |
| Owner | URI String | Mandatory | No | Free-Form URI Format 256 Chars | The System Group URI used for this System Job |
| PercentComplete | Number | Mandatory | No | 0 - 100 | The percent complete status of the System Job |

| Attribute | Type | Mandatory or Optional | User Config- urable | Possible Values | Description |
|------------------------------|------------------|-----------------------------|---------------------------|---|---|
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" "Inoperative" "Write Protected" "Reboot Needed" "Activate Needed" "Activate with reboot needed" "Activate invalidated by reboot" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 65537 - 65542 | The current state value map of this Resource |
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries. |
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65537 - 65541 | The current health value map of this Resource. There can be 1 or more Id entries. |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|----------------------|-----------------|-----------------------|-------------------|---|--|
| Status. Details[] | String Array | Mandatory | No | Free-Form Array entry. If no entry, then "None" | <p>The current Health Details of the Resource. For System Jobs, the following Details may be rendered:</p> <ul style="list-style-type: none"> • 1st entry describes Operation Type • 2nd to Nth entry describes each of the System Group entries status/progress |

GET /System/Jobs/{id}/

GET /System/Jobs/{id}/ returns information regarding a specific System Job based on the {id} in the URI address string.

Table 50: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
  -i
  -u admin:admin
  -X GET http://10.20.30.40/System/Jobs/GroupOperation1812345
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/System/Jobs/GroupOperation1812345",
  "ID": "GroupOperation1812345",
  "StartTime": "23-Feb-2022 09:35:47",
  "ElapsedTime": "23-Feb-2022 09:46:04",
  "Owner": "http://10.20.30.40/System/Groups/12345",
  "PercentComplete": 100,
  "Status": {
    "State": {
      "ID": 8,
      "Name": "Completed"
    }
  }
}
```

```

    },
    "Health": [
      {
        "ID": 5,
        "Name": "OK"
      }
    ],
    "Details": [
      "OPERATION: System Group OS Update: http://fileserver/users/bob/
bundle4_0_13.tar.gz",
      "SUCCESS: Resource:oobm-00-0c-ca-08-1d-e8, Message:Action was successful,
      StatusCode:0",
      "SUCCESS: Resource:oobm-00-0c-ca-07-09-20, Message:Action was successful,
      StatusCode:0",
      "SUCCESS: Resource:oobm-00-0c-ca-07-09-02, Message:Action was successful,
      StatusCode:0"
    ]
  }
}

```

Table 51: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & System Job information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

DELETE /System/Jobs/{id}/

DELETE /System/Jobs/{id}/ deletes this System Job.

Table 52: DELETE Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example DELETE curl Command

Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X DELETE http://10.20.30.40/System/Jobs/GroupOperation1812345
```



Note: System Jobs cannot be deleted when in-progress (Percent Complete is less than 100%).



Note: System Jobs are automatically created with unique IDs when a System Group is used in a Group Operation (e.g. FW Update, Reboot, Power State, or Locate LED).

Table 53: DELETE Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 204 | No Content | Delete successful, no content in the response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /System/Jobs/{id}/

HEAD /System/Jobs/{id}/ pings this System Job.

Table 54: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 55: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /System/Jobs/{id}/

OPTIONS /System/Jobs/{id}/ returns the allowable HTTP Methods list for this resource.

Table 56: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 57: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.2 Physical Devices

The OCAPI's physical resource model includes the overall Compute Proxy Device. The topics in this section provide information for accessing and managing the features of these physical resources.

3.2.1 /Compute/Devices/

The Device-level methods and attributes of /Compute/Devices/ return information about the Devices collection and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 58: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Config-urable | Possible Values | Description |
|-----------|--------------|-----------------------|--------------------|-------------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/ (page 55) for Instance Attribute details |

GET /Compute/Devices/

GET /Compute/Devices/ returns the Collection of Devices.

Table 59: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/
```

Table 60: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Devices + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/

HEAD /Compute/Devices/ pings the Devices collection.

Table 61: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 62: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/

OPTIONS /Compute/Devices/ returns the allowable HTTP Methods list for this resource.

Table 63: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 64: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.2.2 /Compute/Devices/{id}/

The Device-level methods and attributes of /Compute/Devices/{id}/ return information about a specific Device, based on the {id} in the URI string, and enable management operations.

HTTP Methods:[GET](#)[HEAD](#)[OPTIONS](#)

Table 65: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------------------------|------------|-----------------------|-------------------|--------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| SystemType.Name | String | Mandatory | No | "Compute" | The domain type string indicating the type of Device Resource |
| SystemType.ID | Number | Mandatory | No | 1 | The domain type number indicating the type of Device Resource |
| Name | String | Mandatory | Yes | Free-Form 256 Chars | The user-defined Friendly Name for this Resource |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| OperatingSystem.Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Operating System Resource |
| OperatingSystem.Name | String | Mandatory | No | Free-Form URI | Resource Manager Data Center Edition Application Name |
| OperatingSystem.OSType.Name | String | Mandatory | No | "Winnt" "Linux" | Resource Manager Data Center Edition running on this OS Type string value |
| OperatingSystem.OSType.ID | Number | Mandatory | No | 18 36 | Resource Manager Data Center Edition running on this OS Type number value |
| OperatingSystem.Version | String | Mandatory | No | Free-Form URI | Resource Manager Data Center Edition Application Version |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--|---------------|-----------------------|-------------------|--|---|
| Model | String | Mandatory | No | "Resource Manager Data Center" | Resource Manager Data Center Edition application model |
| Manufacturer | String | Mandatory | No | "WDC" | Resource Manager Data Center Edition manufacturer |
| Capabilities.Members[].Name | String | Mandatory | No | "Access Server" "Management" | The capabilities information value(s) regarding the Resource |
| Capabilities.Members[].ID | Number | Mandatory | No | 9 14 | The capabilities information value map(s) regarding the Resource |
| Capabilities.Members[].CapabilitiesDescription | String | Mandatory | No | Free-form characters | Entry describing the capability |
| Status.State.Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status.State.ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status.Health[].Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries. |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|---|------------------|-----------------------|-------------------|---|--|
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536 - 65538 | The current health value map of this Resource. There can be 1 or more Id entries |
| Status. Details[] | String Array | Optional | No | Free-Form Array entry. If no entry, then "None" | The current Health Details of the Device |
| IPAddresses. Members[]. IPAddress | String Array | Mandatory | Yes | IPv4 or IPv6 pattern | The IP Address list for this Resource |
| InformationStructure. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Information Structure Resource |
| ApplicationSettings. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Application Settings Resource |
| Location. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Location Resource |
| Accounts. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Accounts Resource |
| Files. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Files Resource |
| Jobs. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Jobs Resource |
| SystemClock. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the System Clock Resource |
| Assets. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Assets Resource Collection |
| Notifications. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Notifications Resource |
| Policies. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Policies Resource |

GET /Compute/Devices/{id}/

GET /Compute/Devices/{id}/ returns information regarding a specific Device based on the {id} in the URI address string.

Table 66: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/",
  "SystemType": {
    "ID": 1,
    "Name": "Compute"
  },
  "Name": "rmdc-server",
  "ID": "0123456789",
  "OperatingSystem": {
    "Self": "http://10.20.30.40/Compute/Devices/0123456789/OperatingSystem/",
    "Name": "Resource Manager Data Center",
    "OSType": {
      "ID": 36,
      "Name": "Linux"
    },
    "Version": "1.0.0"
  },
  "Model": "Resource Manager Data Center",
  "Manufacturer": "WDC",
  "Capabilities": {
    "Members": [
      {
        "ID": 9,
        "Name": "Access Server",
        "CapabilityDescription": "This device is a server providing access to
resources directly attached or in a network."
      },
      {
        "ID": 14,
        "Name": "Management",
        "CapabilityDescription": "This device provides software system
management capabilities."
      }
    ]
  }
}
```

```

    },
    "Status": {
      "State": {
        "ID": 16,
        "Name": "In service"
      },
      "Health": [
        {
          "ID": 5,
          "Name": "OK"
        }
      ],
      "Details": [
        "None"
      ]
    },
    "IPAddresses": {
      "Members": [
        {
          "IPAddress": "10.20.30.40"
        },
        {
          "IPAddress": "192.168.0.6"
        }
      ]
    },
    "InformationStructure": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/InformationStructure/"
    },
    "ApplicationSettings": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/ApplicationSettings/"
    },
    "Location": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Location/"
    },
    "Accounts": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Accounts/"
    },
    "Files": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Files/"
    },
    "Jobs": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Jobs/"
    },
    "SystemClock": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/SystemClock/"
    },
    "Assets": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Assets/"
    },
    "Notifications": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Notifications/"
    },
    "Policies": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Policies/"
    }
  }
}

```

Table 67: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Device information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/

HEAD /Compute/Devices/{id}/ pings this Storage Device.

Table 68: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 69: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/

OPTIONS /Compute/Devices/{id}/ returns the allowable HTTP Methods list for this resource.



Note: There may be some attributes returned in the OPTIONS response schema that may not be directly supported by this resource.

Table 70: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|--------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 71: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3 Logical Devices

The OCAPI's logical and virtual resources model include those resources that are logical or virtual in nature. The topics in this section provide information for accessing and managing the features of these logical and virtual resources.

3.3.1 /Compute/Devices/{id}/Accounts/

The Device-level methods and attributes of /Compute/Devices/{id}/Accounts/ return information about the Accounts collection and enable management operations.

HTTP Methods:

[GET](#)
[POST](#)
[HEAD](#)
[OPTIONS](#)

Table 72: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Config-urable | Possible Values | Description |
|-----------|--------------|-----------------------|--------------------|-------------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (1 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/Accounts/{id}/ (page 66) for Instance Attribute details |

GET /Compute/Devices/{id}/Accounts/

GET /Compute/Devices/{id}/Accounts/ returns the Collection of Accounts.

Table 73: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/ComputeDevices/0123456789/Accounts/
```


Table 74: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Accounts + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

POST /Compute/Devices/{id}/Accounts/

POST /Compute/Devices/{id}/Accounts/ creates a new Account.

Table 75: POST Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Example POST curl Command

```
curl
-i
-u admin:admin
-H "Content-Type: application/json"
-X POST http://10.20.30.40/Compute/Devices/01234567890/Accounts/
--data '{
  "UserID": "new_username",
  "BasicAuthentication": {
    "UserPassword": "password"
  },
  "Role": {
    "ID": 0
  }
}'
```

Example POST Request Body

```
{
  "UserID": "user_id",
  "BasicAuthentication": {
    "UserPassword": "password"
  },
  "DigestAuthentication": {
    "UserPassword": "password"
  },
  "JWTAuthentication": {
    "UserPassword": "password"
  },
  "Role": {
    "ID": 0 | 1
  }
}
```

Table 76: POST Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 201 | Created | Created & Account information in the response body + ETag Header + new URI in Location Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 409 | Conflict | A new parameter value already exists (e.g., Name) |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/Accounts/

HEAD /Compute/Devices/{id}/Accounts/ pings the Accounts collection.

Table 77: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 78: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Accounts/

OPTIONS /Compute/Devices/{id}/Accounts/ returns the allowable HTTP Methods list for this resource.

Table 79: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 80: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3.2 /Compute/Devices/{id}/Accounts/{id}/

The Device-level methods and attributes of /Compute/Devices/{id}/Accounts/{id}/ return information about a specific Account, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

[GET](#)[PUT](#)[DELETE](#)[HEAD](#)[OPTIONS](#)

Table 81: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--|------------|-----------------------|-------------------|---|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 64 Chars Valid characters include: "a-z A-Z 0-9 _ -" | The Identifier this particular Account |
| BasicAuthentication. UserPassword SHA1Checksum | String | Mandatory | No | Free-Form 128 Characters | The basic authentication checksum |
| BasicAuthentication. UserPassword | String | Optional | Yes | Free-Form 128 Characters | The user password used to create the checksum (not shown in the GET response) |
| DigestAuthentication. UserPassword MD5Checksum | String | Mandatory | No | Free-Form 128 Characters | The digest authentication checksum |
| DigestAuthentication. UserPassword | String | Optional | Yes | Free-Form 128 Characters | The user password used to create the checksum (not shown in the GET response) |
| DigestAuthentication. Realm | String | Optional | No | Free-Form 128 Characters | The digest authentication realm |
| Role. Name | String | Mandatory | No | "Admin" | The Role type string for this Account |
| Role. ID | Number | Mandatory | No | 0 | The Role type value for this Account |
| UserID | String | Mandatory | Yes | Free-Form 64 Chars | The user identifier for this Account |

GET /Compute/Devices/{id}/Accounts/{id}/

GET /Compute/Devices/{id}/Accounts/{id}/ returns information regarding a specific Account based on the {id} in the URI address string.

Table 82: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Accounts/admin
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/Accounts/admin/",
  "ID": "admin",
  "BasicAuthentication": {
    "UserPasswordSHA1Checksum": "{SHA}0DPiKuNIrrVmD8IUCuwlhQxNqZc="
  },
  "DigestAuthentication": {
    "UserPasswordMD5Checksum": "97ebad852d0dabfd6b71ae26fff61fa3",
    "Realm": "Western Digital Corporation"
  },
  "JWTAuthentication": {
    "UserPasswordMD5Checksum": "b80648545a30e0999892b517127c0e17"
  },
  "Role": {
    "ID": 0,
    "Name": "Admin"
  },
  "UserID": "admin"
}
```

Table 83: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & Account information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

PUT /Compute/Devices/{id}/Accounts/{id}/

PUT /Compute/Devices/{id}/Accounts/{id}/ modifies an attribute or executes an operation for this Account.

Table 84: PUT Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example PUT curl Command



Note: The If-Match conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "Content-Type: application/json"
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X PUT http://10.20.30.40/Compute/Devices/0123456789/Accounts/test
--data '{
  "UserID": "test",
  "BasicAuthentication": {
    "UserPassword": "new_password"
  },
  "Role": {
    "ID": 1
  }
}'
```

Example PUT Request Body

```
{
  "UserId": "userId",
  "BasicAuthentication": {
    "UserPassword": "new_password"
  },
  "DigestAuthentication": {
    "UserPassword": "new_password"
  },
  "JWTAuthentication": {
    "UserPassword": "new_password"
  },
  "Role": {
    "ID": 0 | 1
  }
}
```

Table 85: PUT Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 200 | OK | OK & Account information in the response body + ETag Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

DELETE /Compute/Devices/{id}/Accounts/{id}/

DELETE /Compute/Devices/{id}/Accounts/{id}/ deletes this account.

Table 86: DELETE Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example DELETE curl Command

Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X DELETE http://10.20.30.40/Compute/Devices/0123456789/Accounts/test
```



Note: The last remaining "Admin" role account cannot be deleted to prevent loss of communication with the Device.

Table 87: DELETE Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 204 | No Content | Delete successful, no content in the response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 409 | Conflict | In the case of only one account, that last one cannot be deleted |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is Busy, client should try again later |

HEAD /Compute/Devices/{id}/Accounts/{id}/

HEAD /Compute/Devices/{id}/Accounts/{id}/ pings this Storage Account.

Table 88: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 89: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Accounts/{id}/

OPTIONS /Compute/Devices/{id}/Accounts/{id}/ returns the allowable HTTP Methods list for this resource.

Table 90: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 91: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3.3 /Compute/Devices/{id}/OperatingSystem/

The Device-level methods and attributes of /Compute/Devices/{id}/OperatingSystem/ return information about the Operating System (Application) and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 92: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-------------|--------|-----------------------|-------------------|--------------------------------|---|
| Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| Name | String | Mandatory | No | Free-Form 128 Chars | The Operating System or Firmware name |
| OSType.Name | String | Mandatory | No | "Winnt" "Linux" | The Operating System Type value |
| OSType.ID | Number | Mandatory | No | 18 36 | The Operating System Type value map |
| Version | String | Mandatory | No | Free-Form 128 Chars | The Operating System or Application Version |

GET /Compute/Devices/{id}/OperatingSystem/

GET /Compute/Devices/{id}/OperatingSystem/ returns the information of the Operating System resource.

Table 93: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/OperatingSystem/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/OperatingSystem/",
  "Name": "Resource Manager Data Center",
  "OSType": {
    "ID": 36,
    "Name": "Linux"
  },
  "Version": "1.0.0"
}
```

Table 94: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Operating System resource information in the response body |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/OperatingSystem/

HEAD /Compute/Devices/{id}/OperatingSystem/ pings the Operating System resource.

Table 95: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 96: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/OperatingSystem/

OPTIONS /Compute/Devices/{id}/OperatingSystem/ returns the allowable HTTP Methods list for this resource.

Table 97: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 98: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3.4 /Compute/Devices/{id}/ApplicationSettings/

The Device-level methods and attributes of /Compute/Devices/{id}/ApplicationSettings/ return information about the Application Settings and enable management operations.

HTTP Methods:

[GET](#)[PUT](#)[HEAD](#)[OPTIONS](#)

Table 99: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------|--------|-----------------------|-------------------|--------------------------------|---|
| Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Country | String | Optional | Yes | Free-Form 64 Chars | The Country name where this Device is located |
| Territory | String | Optional | Yes | Free-Form 64 Chars | The Territory name where this Device is located |
| State | String | Optional | Yes | Free-Form 64 Chars | The State name where this Device is located |
| City | String | Optional | Yes | Free-Form 64 Chars | The City name where this Device is located |
| Address1 | String | Optional | Yes | Free-Form 64 Chars | The first Address information where this Device is located |
| Address2 | String | Optional | Yes | Free-Form 64 Chars | The second Address information where this Device is located as needed |
| Address3 | String | Optional | Yes | Free-Form 64 Chars | The third Address information where this Device is located as needed |
| PostalCode | String | Optional | Yes | Free-Form 32 Chars | The Postal or Zip Code name where this Device is located |
| SiteName | String | Optional | Yes | Free-Form 32 Chars | The friendly Site Name |
| Building | String | Optional | Yes | Free-Form 32 Chars | The Building name or number where this Device is located |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-------------------|--------|-----------------------|-------------------|--|---|
| Room | String | Optional | Yes | Free-Form 32 Chars | The Room name or number in the Building where this Device is located |
| Pod | String | Optional | Yes | Free-Form 32 Chars | The Pod name or number in the Room this Device is located as needed |
| Row | String | Optional | Yes | Free-Form 32 Chars | The Row name or number in the Room or Pod this Device is located |
| Rack | String | Optional | Yes | Free-Form 32 Chars | The Rack name or number in the Row this Device is located |
| Shelf | String | Optional | Yes | Free-Form 32 Chars | The Shelf name or number of the Rack this Device is located |
| Device | String | Optional | Yes | Free-Form 32 Chars | The Device name or number of the Rack this Device is located |
| Item | String | Optional | Yes | Free-Form 32 Chars | The Item name indicating the Shelf units or dimension for this Device |
| GPSCoords | String | Optional | Yes | Decimal Latitude, Decimal Longitude Format | The GPS coordinates of the location of this Device |
| OtherLocationInfo | String | Optional | Yes | Free-Form 64 Chars | A place-holder for other location information |

GET /Compute/Devices/{id}/ApplicationSettings/

GET /Compute/Devices/{id}/ApplicationSettings/ returns the Application Settings information.

Table 100: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/ApplicationSettings/
```

Example GET Resonse Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/ApplicationSettings/",
  "Name": "Resource Manager Data Center",
  "Version": "1.0.0",
  "ClusterSettings": {
    "Nodes": [
      {
        "IPAddress": "localhost",
        "Username": "elastic",
        "Password": "password"
      }
    ]
  }
}
```

Table 101: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & ApplicationSettings information in the response body |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

PUT /Compute/Devices/{id}/ApplicationSettings/

PUT /Compute/Devices/{id}/ApplicationSettings/ modifies an attribute of the Application Settings.

Table 102: PUT Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

| Header | Mandatory or Optional | Description |
|----------|-----------------------|---|
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example PUT curl Command

Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "Content-Type: application/json"
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X PUT http://10.20.30.40/Compute/Devices/0123456789/ApplicationSettings/
--data '{
  "ClusterSettings": {
    "Nodes": [
      {
        "IPAddress": "10.20.30.40",
        "Username": "name",
        "Password": "password"
      }
    ]
  }
}'
```

Example PUT Request Body

```
{
  "ClusterSettings": {
    "Nodes": [
      {
        "IPAddress": "computer1",
        "Username": "elastic",
        "Password": "password"
      },
      {
        "IPAddress": "computer2",
        "Username": "elastic",
        "Password": "password"
      },
      {
        "IPAddress": "computer3",
        "Username": "elastic",
        "Password": "password"
      }
    ]
  }
}
```

Example PUT Response Body

```
{
  "Self": "http://10.202.237.60:80/Compute/Devices/0d1e357286a94bd083c1e3b89e7b7bd0/
ApplicationSettings/",
}
```



```

{
  "Name": "Resource Manager Data Center",
  "Version": "1.0.0",
  "ClusterSettings": {
    "Nodes": [
      {
        "IPAddress": "computer1",
        "Username": "elastic",
        "Password": "password"
      },
      {
        "IPAddress": "computer2",
        "Username": "elastic",
        "Password": "password"
      },
      {
        "IPAddress": "computer3",
        "Username": "elastic",
        "Password": "password"
      }
    ]
  }
}

```

Table 103: PUT Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 200 | OK | OK & ApplicationSettings information in the response body |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |
| 500 | Internal Server Error | Resource could not execute the request |

HEAD /Compute/Devices/{id}/ApplicationSettings/

HEAD /Compute/Devices/{id}/ApplicationSettings/ pings the Application Settings.

Table 104: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 105: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|------|--------------------------|
| 200 | OK | OK with no response body |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/ApplicationSettings/

OPTIONS /Compute/Devices/{id}/ApplicationSettings/ returns the allowable HTTP Methods list for this resource.

Table 106: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 107: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3.5 /Compute/Devices/{id}/Files/

The Device-level methods and attributes of /Compute/Devices/{id}/Files/ return information about the Files collection and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 108: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/Files/{id}/ (page 84) for Instance Attribute details |

GET /Compute/Devices/{id}/Files/

GET /Compute/Devices/{id}/Files/ returns the Collection of Files.

Table 109: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
  -i
  -u admin:admin
  -X GET http://10.20.30.40/Compute/Devices/0123456789/Files/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/Files/",
  "Members": [
    {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Files/auditlog/",
      "ID": "auditlog",
      "Description": "Audit log"
    }
  ]
}
```

```

    },
    {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Files/notices/",
      "ID": "notices",
      "Description": "Notices"
    },
    {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Files/eula/",
      "ID": "eula",
      "Description": "EULA"
    },
    {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Files/telemetry/",
      "ID": "telemetry",
      "Description": "Telemetry"
    }
  ],
  "TLSCertAndKey": {},
  "LDAPCert": {}
}

```

Table 110: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Files + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/Files/

HEAD /Compute/Devices/{id}/Files/ pings this Files collection.

Table 111: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 112: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Files/

OPTIONS /Compute/Devices/{id}/Files/ returns the allowable HTTP Methods list for this resource.

Table 113: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 114: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3.6 /Compute/Devices/{id}/Files/{id}/

The Device-level methods and attributes of /Compute/Devices/{id}/Files/{id}/ return information about a specific File and enable management operations.

HTTP Methods:

GET

POST

HEAD

OPTIONS

Table 115: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|------------|-----------------------|-------------------|--------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier |
| Name | String | Mandatory | No | Free-Form 256 Chars | The name of the file |

GET /Compute/Devices/{id}/Files/{id}/

GET /Compute/Devices/{id}/Files/{id}/ returns information regarding a specific File based on the {id} in the URI address string.

Table 116: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command – Audit Log

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Files/auditlog
```

Example GET Response Body – Audit Log

```
index:000001|
addr:[10.88.94.81:52974]|
type:Response|
statuscode:204|
user:admin|
path:/Compute/Devices/000af7957e01/Jobs/GroupOperation15798/
```

Table 117: Available Files

| File Type | Description |
|-------------------------------------|--|
| auditlog | Returns the current audit log entries as text to the requestor (content-type: text/plain) |
| notices | Returns the 3rd Party open-source software entries and their licensing used in this application |
| eula | Returns the End-User License Agreement documentation |
| telemetry | Returns a downloaded compressed bundle file called "telemetry_Compute_{id}_{timestamp}.tgz" to the requestor containing instantaneous GET of all the device info |
| cert_pem (204 No Content or 200 OK) | If the User uploaded a custom Cert/Key pair, returns the current SSL certificate entry as text to the requestor (content-type: text/plain) |
| key_pem (405 Method Not Allowed) | If the User uploaded a custom Cert/Key pair, SSL key GET not allowed for security of the key (403 Forbidden response) |

Table 118: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & File information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

POST /Compute/Devices/{id}/Files/{id}/

POST /Compute/Devices/{id}/Files/{id}/ updates the specific file.

Table 119: POST Request Headers

| Header | Mandatory or Optional | Description |
|-----------------------------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| Content-Type: multipart/form-data | Mandatory | The FW image file is of content type "multipart/form-data" |

Example POST curl Command – Adding an SSL Certificate & Key

```
curl
-i
-u admin:admin
-X POST http://10.20.30.40/Compute/Devices/0123456789/Files/TLSCertAndKey/
-H "Content-Type: multipart/form-data"
-F "cert.pem=@cert.pem"
-F "key.pem=@key.pem"
```

Example POST Request Body – Adding an SSL Certificate & Key

```
Content-Disposition: form-data; cert.pem="{file_name}"
{file body}
Content-Disposition: form-data; key.pem="{file_name}"
{file body}
```



Note: Both Certificate and Key files MUST be sent together in the same POST request.



Note: Once the Certificate and Key files are uploaded, the API will restart for the certificate/key to take effect. See PUT [/Query/InformationStructure/](#) (page 16) {"RestartAPI": true}.



Note: The Certificate and Key files cannot be validated, therefore the user must make sure the files are valid before uploading. If they are invalid, the result is the HTTPS service will not operate.

Example POST curl Command – Adding an LDAP Client SSL Certificate

```
curl
-i
-u admin:admin
-X POST http://10.20.30.40/Compute/Devices/0123456789/Files/LDAPCert/
-H "Content-Type: multipart/form-data"
-F "cert.pem=@ldapcert.pem"
```

Example POST Request Body – Adding an LDAP Client SSL Certificate

```
Content-Disposition: form-data; ldapcert.pem="{file_name}"
{file body}
```



Note: The Certificate file cannot be validated, therefore the user must make sure the files are valid before uploading. If they are invalid, the result is the LDAP service will not operate properly.

Table 120: POST Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 201 | Created | Created & File information in the response body + ETag Header + new URI in Location Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/Files/{id}/

HEAD /Compute/Devices/{id}/Files/{id}/ pings a specific Compute File.

Table 121: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 122: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Files/{id}/

OPTIONS /Compute/Devices/{id}/Files/{id}/ returns the allowable HTTP Methods list for this resource.

Table 123: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 124: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 204 | No Content | No Content & "Allow" list of methods in the response header. Some files will return 204 No Content indicating that there is no entity body |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3.7 /Compute/Devices/{id}/Location/

The Device-level methods and attributes of /Compute/Devices/{id}/Location/ return information about the resource Location and enable management operations.

HTTP Methods:

[GET](#)[PUT](#)[DELETE](#)[HEAD](#)[OPTIONS](#)

Table 125: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------|--------|-----------------------|-------------------|--------------------------------|---|
| Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Country | String | Optional | Yes | Free-Form 64 Chars | The Country name where this Device is located |
| Territory | String | Optional | Yes | Free-Form 64 Chars | The Territory name where this Device is located |
| State | String | Optional | Yes | Free-Form 64 Chars | The State name where this Device is located |
| City | String | Optional | Yes | Free-Form 64 Chars | The City name where this Device is located |
| Address1 | String | Optional | Yes | Free-Form 64 Chars | The first Address information where this Device is located |
| Address2 | String | Optional | Yes | Free-Form 64 Chars | The second Address information where this Device is located as needed |
| Address3 | String | Optional | Yes | Free-Form 64 Chars | The third Address information where this Device is located as needed |
| PostalCode | String | Optional | Yes | Free-Form 32 Chars | The Postal or Zip Code name where this Device is located |
| SiteName | String | Optional | Yes | Free-Form 32 Chars | The friendly Site Name |
| Building | String | Optional | Yes | Free-Form 32 Chars | The Building name or number where this Device is located |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-------------------|--------|-----------------------|-------------------|--|---|
| Room | String | Optional | Yes | Free-Form 32 Chars | The Room name or number in the Building where this Device is located |
| Pod | String | Optional | Yes | Free-Form 32 Chars | The Pod name or number in the Room this Device is located as needed |
| Row | String | Optional | Yes | Free-Form 32 Chars | The Row name or number in the Room or Pod this Device is located |
| Rack | String | Optional | Yes | Free-Form 32 Chars | The Rack name or number in the Row this Device is located |
| Shelf | String | Optional | Yes | Free-Form 32 Chars | The Shelf name or number of the Rack this Device is located |
| Device | String | Optional | Yes | Free-Form 32 Chars | The Device name or number of the Rack this Device is located |
| Item | String | Optional | Yes | Free-Form 32 Chars | The Item name indicating the Shelf units or dimension for this Device |
| GPSCoords | String | Optional | Yes | Decimal Latitude, Decimal Longitude Format | The GPS coordinates of the location of this Device |
| OtherLocationInfo | String | Optional | Yes | Free-Form 64 Chars | A place-holder for other location information |

GET /Compute/Devices/{id}/Location/

GET /Compute/Devices/{id}/Location/ returns the Location information.

Table 126: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Location/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/Location/",
  "Country": "USA",
  "Territory": "",
  "State": "Colorado",
  "City": "Colorado Springs",
  "Address1": "9950 Federal Drive",
  "Address2": "Suite 100",
  "Address3": "",
  "PostalCode": "80921",
  "SiteName": "WD COS DataCenter 1",
  "Building": "9950",
  "Room": "159",
  "Pod": "p2",
  "Rack": "r02",
  "Shelf": "30",
  "Device": "5",
  "Item": "Rack Units",
  "GPSCoords": "38.9838684,-104.8040493",
  "OtherLocationInfo": "This is other info"
}
```

Table 127: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Location information + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

PUT /Compute/Devices/{id}/Location/

PUT /Compute/Devices/{id}/Location/ modifies an attribute of the Location.

Table 128: PUT Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example PUT curl Command

Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "Content-Type: application/json"
-H "If-Match: 3677651d2011428f32120a029b015e80"
-X PUT http://10.20.30.40/Compute/Devices/0123456789/Location/
--data '{
  "Address1": "9950 Federal Drive",
  "Address2": "Suite 100",
  "Address3": "North",
  "Building": "9950",
  "City": "Colorado Springs",
  "Country": "USA",
  "Device": "255",
  "GPSCoords": "38.9838643,-104.806244",
  "Item": "Rack Units",
  "OtherLocationInfo": "More Info",
  "Pod": "2",
  "PostalCode": "80921",
  "Rack": "2",
  "Room": "159",
  "Row": "2",
  "Shelf": "24",
  "SiteName": "WDC COS DataCenter",
  "State": "Colorado",
  "Territory": "El Paso"
}'
```

Example PUT Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/Location/"
  "Address1": "9950 Federal Drive",
  "Address2": "Suite 100",
  "Address3": "North",
  "Building": "9950",
  "City": "Colorado Springs",
  "Country": "USA",
  "Device": "255",
  "GPSCoords": "38.9838643,-104.806244",
  "Item": "Rack Units",
  "OtherLocationInfo": "More Info",
```

```

"Pod": "2",
"PostalCode": "80921",
"Rack": "2",
"Room": "159",
"Row": "2",
"Shelf": "24",
"SiteName": "WDC COS DataCenter",
"State": "Colorado",
"Territory": "El Paso"
}

```

Table 129: PUT Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 200 | OK | OK & Location information with no response body |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |
| 500 | Internal Server Error | Resource could not execute the request |

DELETE /Compute/Devices/{id}/Location/

DELETE /Compute/Devices/{id}/Location/ deletes Location information.

Table 130: DELETE Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example DELETE curl Command



Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```

curl
-i
-u admin:admin
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X DELETE http://10.20.30.40/Compute/Devices/0123456789/Location/

```

Table 131: DELETE Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 204 | No Content | Delete successful, no content in the response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |
| 500 | Internal Server Error | System could not process the request |

HEAD /Compute/Devices/{id}/Location/

HEAD /Compute/Devices/{id}/Location/ pings the Location resource.

Table 132: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 133: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Location/

OPTIONS /Compute/Devices/{id}/Location/ returns the allowable HTTP Methods list for this resource.

Table 134: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 135: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3.8 /Compute/Devices/{id}/SystemClock/

The Device-level methods and attributes of /Compute/Devices/{id}/SystemClock/ return information about the System Clock and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 136: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|---------------------|--------|-----------------------|-------------------|-----------------------------------|---|
| Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Uptime. Duration | String | Mandatory | No | | The current uptime value in ISO 8601 format |
| Uptime. Days | Number | Mandatory | No | 0 - n | The current uptime Days since boot |
| Uptime. Hours | Number | Mandatory | No | 0 - 23 | The current uptime Hours since boot |
| Uptime. Minutes | Number | Mandatory | No | 0 - 59 | The current uptime Minutes since boot |
| Uptime. Seconds | Number | Mandatory | No | 0 - 59 | The current uptime Seconds since boot |

GET /Compute/Devices/{id}/SystemClock/

GET /Compute/Devices/{id}/SystemClock/ returns the System Clock information.

Table 137: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/SystemClock/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/SystemClock/",
  "Date": "17-Aug-2022",
  "Time": "12:34:13",
  "TimeZone": "(UTC-6.00) MDT",
  "TimeZoneSetting": "MDT",
  "DST": "Enabled",
  "Uptime": {
    "Duration": "P82DT1H26M51S",
    "Days": 82,
    "Hours": 1,
    "Minutes": 26,
    "Seconds": 51
  }
}
```

Table 138: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & System Clock information + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. Note: Due to the time changing every second, catching a 304 response will be very rare |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/SystemClock/

HEAD /Compute/Devices/{id}/SystemClock/ pings the System Clock resource.

Table 139: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 140: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/SystemClock/

OPTIONS /Compute/Devices/{id}/SystemClock/ returns the allowable HTTP Methods list for this resource.

Table 141: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 142: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3.9 /Compute/Devices/{id}/Jobs/

The Device-level methods and attributes of /Compute/Devices/{id}/Jobs/ return information about the Jobs collection and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 143: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Optional | No | Resource Collection (1 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/Jobs/{id}/ (page 102) for Instance Attribute details |

GET /Compute/Devices/{id}/Jobs/

GET /Compute/Devices/{id}/Jobs/ returns the Collection of Jobs.

Table 144: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
  -i
  -u admin:admin
  -X GET http://10.20.30.40/Compute/Devices/0123456789/Jobs/
```

Table 145: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Jobs + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/Jobs/

HEAD /Compute/Devices/{id}/Jobs/ pings the Jobs collection.

Table 146: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 147: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Jobs/

OPTIONS /Compute/Devices/{id}/Jobs/ returns the allowable HTTP Methods list for this resource.

Table 148: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 149: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource collection does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3.10 /Compute/Devices/{id}/Jobs/{id}/

The Device-level methods and attributes of /Compute/Devices/{id}/Jobs/{id}/ return information about a specific Job, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

[GET](#)[DELETE](#)[HEAD](#)[OPTIONS](#)

Table 150: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|---------------------|------------|-----------------------|-------------------|---|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | "FactoryReset" | The Name of this particular Job |
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" "Inoperative" "Write Protected" "Reboot Needed" "Activate Needed" "Activate with reboot needed" "Activate invalidated by reboot" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0-16 65537-65542 | The current state value map of this Resource |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|------------------|-----------------------|-------------------|---|---|
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non- recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more Id entries |
| Status. Details[] | String Array | Optional | No | Free-Form Array entry. If no entry, then "None" | The current Health Details of the Device |
| PercentComplete | Number | Mandatory | No | 0-100 | The percent complete status of the Job |

GET /Compute/Devices/{id}/Jobs/{id}/

GET /Compute/Devices/{id}/Jobs/{id}/ returns information regarding a specific Job based on the {id} in the URI address string.

Table 151: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Jobs/FactoryReset_0123456789/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/Jobs/
FactoryReset_0123456789/",
  "ID": "FactoryReset_0123456789",
  "StartTime": "02-Oct-2023 16:49:07",
  "ElapsedTime": "02-Oct-2023 16:49:22",
  "Owner": "http://10.20.30.40/Compute/Devices/0123456789/",
```

```

    "PercentComplete": 100,
    "Status": {
      "State": {
        "ID": 8,
        "Name": "Completed"
      },
      "Health": [
        {
          "ID": 5,
          "Name": "OK"
        }
      ]
    }
  }
}

```

Table 152: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Job information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

DELETE /Compute/Devices/{id}/Jobs/{id}/

DELETE /Compute/Devices/{id}/Jobs/{id}/ deletes a specific Job.



Note: **NOTE:** When deleting firmware-related jobs, the recommended order is to delete FirmwareUpdate before FirmwareActivate.



Note: Jobs cannot be deleted when in-progress (i.e. when PercentComplete is less than 100%).

Table 153: DELETE Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example DELETE curl Command

Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
  -i
  -u admin:admin
  -H "If-Match: 3677651d2011428f32120a029b015e81"
  -X DELETE http://10.20.30.40/Storage/Devices/0123456789/Jobs/
  FactoryReset_0123456789
```

Table 154: DELETE Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 204 | No Content | Delete successful; no content in the response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 409 | Conflict | If job is still in progress |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/Jobs/{id}/

HEAD /Compute/Devices/{id}/Jobs/{id}/ pings this specific Job.

Table 155: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 156: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Jobs/{id}/

OPTIONS /Compute/Devices/{id}/Jobs/{id}/ returns the allowable HTTP Methods list for this resource.

Table 157: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 158: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3.11 /Compute/Devices/{id}/Assets/

The Device-level methods and attributes of /Compute/Devices/{id}/Assets/ return information about the Asset(s) collection and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 159: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (1 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/Assets/{id}/ (page 110) for Instance Attribute details |

GET /Compute/Devices/{id}/Assets/

GET /Compute/Devices/{id}/Assets/ returns the Collection of Assets.

Table 160: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Assets/
```

Table 161: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Assets + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/Assets/

HEAD /Compute/Devices/{id}/Assets/ pings the Assets Collection.

Table 162: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 163: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Assets/

OPTIONS /Compute/Devices/{id}/Assets/ returns the allowable HTTP Methods list for this resource.

Table 164: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 165: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3.12 /Compute/Devices/{id}/Assets/{id}/

The Device-level methods and attributes of /Compute/Devices/{id}/Assets/{id}/ return information about a specific Asset, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

[GET](#)
[PUT](#)
[HEAD](#)
[OPTIONS](#)

Table 166: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------|--------------|-----------------------|-------------------|--|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | UUID Format | The Identifier this particular Asset |
| Name | String | Mandatory | No | Free-Form 256 Chars | The name of the Asset. Must be unique to this Asset Collection |
| Description | String | Optional | No | Free-Form 256 Characters | The description of this Asset |
| Type. ID | Number | Mandatory | No | | |
| Type. Name | String | Mandatory | No | | |
| Accounts | Object Array | Optional | Yes | BasicAuthentication: {"UserPassword": "<password>"}, "UserID": "<username>"} | Provides a username and password pair to tell Resource Manager Data Center Edition how to connect to a remote/proxied Device (typically the Redfish-based Devices) |
| SubType. ID | Number | Mandatory | No | | |
| SubType. Name | String | Mandatory | No | | |
| AssetInformation | Object | Mandatory | No | Device GET Full information | Contains one or more discovered Devices' GET /Full information |

GET /Compute/Devices/{id}/Assets/{id}/

GET /Compute/Devices/{id}/Assets/{id}/ returns information regarding a specific Asset based on the {id} in the URI address string.

Table 167: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Assets/5000ccab0410a180/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/Assets/5000ccab0410a180/",
  "ID": "5000ccab0410a180",
  "Name": "5000ccab0410a180",
  "Accounts": [
    {
      "BasicAuthentication": {
        "UserPassword": " ***** "
      },
      "UserID": "admin"
    }
  ],
  "Description": "Full Device Asset Information",
  "Type": {
    "ID": 2,
    "Name": "Storage"
  },
  "SubType": {
    "ID": 1,
    "Name": "Enclosure"
  },
  "AssetInformation": {
    "Accounts": {...},
    "Adapters": {...},
    "Capabilities": {...},
    "ChassisPackageType": {...},
    "Connectors": {...},
    "Controllers": {...},
    "DurableName": "5000CCAB0410A180",
    "Expanders": {...},
    "Fans": {...},
    "Files": {...},
    "Format": {...},
    "Hostname": "oobm-00-0c-ca-08-39-3c",
```

```

    "ID": "5000ccab0410a180",
    "IPAddresses": {...},
    "IndicatorLED": {...},
    "InformationStructure": {...},
    "Jobs": {...},
    "Location": {...},
    "Manufacturer": "HGST",
    "Media": {...},
    "Model": "H4102-J",
    "Name": "5000ccab0410a180",
    "OperatingSystem": {...},
    "Ports": {...},
    "PowerState": {...},
    "Sanitize": {...},
    "Self": "http://10.20.30.40:80/Storage/Devices/5000ccab0410a180/?
IPAddress=10.20.30.40",
    "Sensors": {...},
    "SerialNumber": "THCLS00220EA0059",
    "SlotNumber": 2,
    "Status": {...},
    "SystemType": {...},
    "TotalCapacity": 150012470231040,
    "ZoneSets": {...},
  }
}

```

Table 168: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Asset information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

PUT /Compute/Devices/{id}/Assets/{id}/

PUT /Compute/Devices/{id}/Assets/{id}/ modifies an attribute or executes an operation for this Asset.

Table 169: PUT Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

| Header | Mandatory or Optional | Description |
|----------|-----------------------|---|
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example PUT curl Command

Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "Content-Type: application/json"
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X PUT http://10.20.30.40/Compute/Devices/0123456789/Assets/123456
--data '{
  "Accounts": [
    {
      "BasicAuthentication": {
        "UserID": "name",
        "UserPassword": "password"
      }
    }
  ]
}'
```

Example PUT Request Body

```
{
  "Accounts": [
    {
      "BasicAuthentication": {
        "UserPassword": "password"
      },
      "UserID": "username"
    }
  ]
}
```

Table 170: PUT Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 200 | OK | OK & Asset information in the response body + ETag Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/Assets/{id}/

HEAD /Compute/Devices/{id}/Assets/{id}/ pings this Asset.

Table 171: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 172: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Assets/{id}/

OPTIONS /Compute/Devices/{id}/Assets/{id}/ returns the allowable HTTP Methods list for this resource.

Table 173: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 174: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3.13 /Compute/Devices/{id}/Policies/

The Device-level methods and attributes of /Compute/Devices/{id}/Policies/ return information about the Policies collection and enable management operations.

HTTP Methods:

[GET](#)[POST](#)[HEAD](#)[OPTIONS](#)

Table 175: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (1 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/Policies/{id}/ (page 121) for Instance Attribute details |

GET /Compute/Devices/{id}/Policies/

GET /Compute/Devices/{id}/Policies/ returns the Collection of Policies.

Table 176: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Policies/
```

Table 177: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Policies + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

POST /Compute/Devices/{id}/Policies/

POST /Compute/Devices/{id}/Policies/ creates a new Policy.

Table 178: POST Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Example POST curl Command

```
curl
-i
-u admin:admin
-H "Content-Type: application/json"
-X POST http://10.20.30.40/Compute/Devices/01234567890/Policies/
--data '{
  "Name": "Policy 1",
  "Description": "This is a Policy",
  "Enabled": true,
  "Rules": [
    {
      "Name": "Rule1",
      "Log": "Triggered Check Health not OK on Device ID 0123456789",
      "Description": "Check Health not OK on Device ID 0123456789",
      "Saliency": 1,
      "Conditions": [
        {
          "Member": "Health_ID",
          "Operator": "!=",
          "ValueInt": 5,
          "IsEnd": false
        },
        {
          "Member": "ID",
          "Operator": "==",
          "ValueString": "0123456789",
          "IsEnd": true
        }
      ],
      "ActionMethods": [
        {
          "Name": "SendMail"
        }
      ],
      "ConditionsOperator": [
```

```

        "&&"
    ]
}
]
},

```

Example POST Request Body

```

{
  "Name": "Policy3",
  "Description": "Policy to track inventory",
  "Enabled": true|false,
  "Rules": [
    {
      "Name": "CheckHealth",
      "Description": "Check the Health values",
      "Saliency": 0 - 100,
      "Conditions": [
        {
          "Member": "Health_ID",
          "Operator": "!=",
          "ValueInt": 5,
          "ValueString": "",
          "ValueBool": true|false,
          "IsEnd": true|false
        }
      ],
      "ConditionsOperator": [
        "=="
      ],
      "ActionMethods": [
        {
          "Name": "SendMail",
        }
      ],
      "Log": "CheckHealth is performed"
    }
  ]
}

```

Table 179: POST Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 201 | Created | Created & Account information in the response body + ETag Header + new URI in Location Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 409 | Conflict | A new parameter value already exists (e.g., Name) |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/Policies/

HEAD /Compute/Devices/{id}/Policies/ pings this Policies Collection.

Table 180: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 181: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Policies/

OPTIONS /Compute/Devices/{id}/Policies/ returns the allowable HTTP Methods list for this resource.

Table 182: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 183: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3.14 /Compute/Devices/{id}/Policies/{id}/

The Device-level methods and attributes of /Compute/Devices/{id}/Policies/{id}/ return information about a specific Policy, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

[GET](#)[PUT](#)[DELETE](#)[HEAD](#)[OPTIONS](#)

Table 184: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|---------------|------------|-----------------------|-------------------|--|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | UUID Format | The identifier for this particular Policy |
| Name | String | Mandatory | Yes | The name of the Policy. Must be unique to this Policy Collection | The user-defined Friendly Name for this Resource |
| Description | String | Optional | Yes | Free-Form 256 Characters | The description of this Policy |
| CreateDate | String | Mandatory | No | datetime | Displays when this Policy was created |
| LastModified | String | Mandatory | No | datetime | Displays when this Policy was last modified |
| Type. ID | Number | Mandatory | No | 0 1 | Type of Policy: User-Defined = 0 System-Defined=1 Default = 0. Only "User-Defined" will be returned when Users create new Policies. |
| Type. Name | String | Mandatory | No | "User-Defined" "System-Defined" | Type of Policy: User-Defined = 0 System-Defined=1 Default = 0. Only "User-Defined" will be returned when Users create new Policies. |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|----------------------------------|---------|-----------------------|-------------------|---------------------------------------|--|
| Enabled | Boolean | Mandatory | Yes | true false | Indicates or Sets the Policy as enabled or disabled |
| Rules[].Name | String | Mandatory | Yes | Free-Form 256 Characters | The name of this Rule. Note: Must be unique to this collection of Rules |
| Rules[].Description | String | Mandatory | Yes | Free-Form 256 Characters | Description for this Rule |
| Rules[].Salience | Number | Mandatory | Yes | 0 - 100 | Salience determines how focused this rule is to be considered |
| Rules[].Conditions[].Member | String | Mandatory | Yes | Free-Form 256 Characters | Condition Member name or alias |
| Rules[].Conditions[].Operator | String | Mandatory | Yes | "==" "!=" ">=" "<=" ">" "<" | Operator type for the Condition of this Rule |
| Rules[].Conditions[].ValueInt | Number | Mandatory or Optional | Yes | -n to n | Indicates an "integer" value to test against Note: At least one Rules[].Conditions is required |
| Rules[].Conditions[].ValueString | String | Mandatory or Optional | Yes | Free-Form 256 Characters | Indicates a "string" value to test against Note: At least one Rules[].Conditions is required |
| Rules[].Conditions[].ValueBool | Boolean | Mandatory or Optional | Yes | true false | Indicates a "boolean" value to test against Note: At least one Rules[].Conditions is required |
| Rules[].Conditions[].IsEnd | Boolean | Mandatory or Optional | Yes | true false | Indicates if there are more Conditions after this one |
| Rules[].ConditionsOperator | String | Mandatory | Yes | "&&" " " | Indicates the overall type of operator for this Rule between each Rule Conditions Member entry |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------------------------------|--------------|-----------------------|-------------------|--------------------------|--|
| Rules[ActionsMethods[Name | String Array | Mandatory | Yes | "SendMail" "SendTrap" | Name of the Action; can be one or the other or both as separate "Name" entries |
| Rules[Log | String | Optional | Yes | Free-Form 256 Characters | Log information for this Rule |
| Notifications | String | Mandatory | No | Free-Form URI pattern | Link to any Notifications associations. This link is automatically generated |

GET /Compute/Devices/{id}/Policies/{id}/

GET /Compute/Devices/{id}/Policies/{id}/ returns information regarding a specific Policy based on the {id} in the URI address string.

Table 185: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/
Policies/9285b6f7-42b6-2a53-9c2e-37767e1b7300
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/
Policies/9285b6f7-42b6-2a53-9c2e-37767e1b7300/",
  "ID": "9285b6f7-42b6-2a53-9c2e-37767e1b7300",
  "Name": "Policy3",
  "Description": "Policy to track inventory",
  "CreateDate": "12-Feb-2023 22:23:33",
  "LastModified": "17-Feb-2023 06:43:56",
  "Enabled": true,
  "Priority": 0,
  "TimePeriod": "202302120T222333/THISANDFUTURE",
  "Type": {
    "ID": 0,
```

```

    "Name": "User-Defined"
  },
  "DecisionStrategy": {
    "ID": 0,
    "Name": "Unknown"
  },
  "Rules": [
    {
      "Name": "CheckHealth",
      "Description": "Check the Health values",
      "Salience": 10,
      "Conditions": [
        {
          "Member": "Health_ID",
          "Operator": "!=",
          "ValueInt": 5,
          "IsEnd": false
        },
        {
          "Member": "Health_Name",
          "Operator": "!=",
          "ValueString": "OK",
          "IsEnd": true
        }
      ],
      "ConditionsOperator": [
        "&&"
      ],
      "ActionMethods": [
        {
          "Name": "SendMail"
        }
      ],
      "Log": "CheckHealth is performed"
    },
    {
      "Name": "CheckMedia",
      "Description": "Description dummy rule2",
      "Salience": 99,
      "Conditions": [
        {
          "Member": "PowerState_Name",
          "Operator": "==",
          "ValueString": "Off",
          "IsEnd": false
        },
        {
          "Member": "IndicatorLED_Name",
          "Operator": "==",
          "ValueString": "On",
          "IsEnd": true
        }
      ],
      "ConditionsOperator": [
        "||"
      ],
      "ActionMethods": [
        {
          "Name": "SendTrap"
        }
      ]
    }
  ]
}

```

```

    },
    "Log": "CheckMedia is performed"
  },
  ],
  "Notifications": "http://10.20.30.40/Compute/Devices/0123456789/Notifications/?
Policies=9285b6f7-42b6-2a53-9c2e-37767e1b7300"
}

```

Table 186: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Policy information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

PUT /Compute/Devices/{id}/Policies/{id}/

PUT /Compute/Devices/{id}/Policies/{id}/ modifies an attribute or executes an operation for this Policy.

Table 187: PUT Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example PUT curl Command

Note: The If-Match conditional in this command requires the **ETag** from the GET Response Header.

```

curl
-i
-u admin:admin
-H "Content-Type: application/json"
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X PUT http://10.20.30.40/Compute/Devices/0123456789/Policies/123456
--data '{
  "Name": "Policy 123",
  "Description": "Add new rule to this is a Policy",
  "Enabled": true,

```

```

"Rules": [
  {
    "Name": "Rule1",
    "Description": "Check Health not OK on Device ID 0123456789",
    "Salience": 1,
    "Conditions": [
      {
        "Member": "Health_ID",
        "Operator": "!=" ,
        "ValueInt": 5,
        "IsEnd": false
      },
      {
        "Member": "ID",
        "Operator": "==",
        "ValueString": "0123456789",
        "IsEnd": true
      }
    ],
    "ConditionsOperator": [
      "&&"
    ],
    "ActionMethods": [
      {
        "Name": "SendMail"
      }
    ],
    "Log": "Triggered Check Health not OK on Device ID 0123456789"
  },
  {
    "Name": "Rule2",
    "Description": "Check Sensor Temperature",
    "Salience": 1,
    "Conditions": [
      {
        "Member": "Type",
        "Operator": "==",
        "ValueString": "Sensor",
        "IsEnd": false
      },
      {
        "Member": "SensorType_ID",
        "Operator": "==",
        "ValueInt": 2,
        "IsEnd": false
      },
      {
        "Member": "CurrentReading",
        "Operator": ">",
        "ValueInt": 60,
        "IsEnd": true
      }
    ],
    "ActionMethods": [
      {
        "Name": "SendTrap"
      }
    ],
    "Log": "Triggered Check Sensor Temperature above 60 C",
  }
]

```



```

        "ConditionsOperator": [
            "&&",
            "&&"
        ]
    }
]
},

```

Example PUT Request Body

```

{
  "Name": "Policy_newname",
  "Description": "Policy to track inventory",
  "Enabled": true|false,
  "Rules": [
    {
      "Name": "CheckHealth",
      "Description": "Check the Health values",
      "Saliency": 0 - 100,
      "Conditions": [
        {
          "Member": "Health_ID",
          "Operator": "!=",
          "ValueInt": 5,
          "IsEnd": true|false
        }
      ],
      "ConditionsOperator": [
        "=="
      ],
      "ActionMethods": [
        {
          "Name": "SendMail"
        }
      ],
      "Log": "CheckHealth is performed"
    }
  ]
}

```

Table 188: PUT Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 200 | OK | OK & Policy information in the response body + ETag Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

DELETE /Compute/Devices/{id}/Policies/{id}/

DELETE /Compute/Devices/{id}/Policies/{id}/ deletes a specific Policy.

Table 189: DELETE Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example DELETE curl Command

Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X DELETE http://10.20.30.40/Compute/Devices/0123456789/Policies/123456
```

Table 190: DELETE Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 204 | No Content | Delete successful; no content in the response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 409 | Conflict | If job is still in progress |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/Policies/{id}/

HEAD /Compute/Devices/{id}/Policies/{id}/ pings this Policy.

Table 191: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 192: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Policies/{id}/

OPTIONS /Compute/Devices/{id}/Policies/{id}/ returns the allowable HTTP Methods list for this resource.

Table 193: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 194: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3.15 /Compute/Devices/{id}/Notifications/

The Device-level methods and attributes of /Compute/Devices/{id}/Notifications/ return information about the Notification(s) collection and enable management operations.

HTTP Methods:

[GET](#)[POST](#)[HEAD](#)[OPTIONS](#)

Table 195: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (1 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/Notifications/{id}/ (page 135) for Instance Attribute details |

GET /Compute/Devices/{id}/Notifications/

GET /Compute/Devices/{id}/Notifications/ returns the Collection of Notifications.

Table 196: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Notifications/
```

Table 197: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Notifications + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

POST /Compute/Devices/{id}/Notifications/

POST /Compute/Devices/{id}/Notifications/ creates a new Notification.

Table 198: POST Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Example POST curl Command

```
curl
-i
-u admin:admin
-H "Content-Type: application/json"
-X POST http://10.20.30.40/Compute/Devices/01234567890/Notifications/
--data '{
  "Name": "Notification1",
  "Type": {
    "ID": 1,
    "Name": "SMTPAlert"
  },
  "Description": "This is an email notification",
  "SMTPSettings": {
    "Server": "mail-server.com",
    "Subject": "This is a Notification",
    "Port": 25,
    "Username": "admin",
    "Password": "password",
    "From": "This Device"
  },
  "Distributions": [
    {
      "Name": "Admin",
      "Recipients": [
        "admin@test.com"
      ]
    }
  ]
}
```

Example POST Request Body – SMTPAlert

```
{
  "Name": "notification_name",
  "Description": "description",
```

```

    "Type": {
      "ID": 1
    },
    "SMTPSettings": {
      "Server": "email_server",
      "Subject": "email_subjectline",
      "Port": 25,
      "Username": "user",
      "Password": "password",
      "From": "From this Device"
    },
    "Distributions" : [
      {
        "Name": "Admin" | "Operator",
        "Recipients": [
          {
            "recip1",
            "recip2",
            ...
            "recipN"
          }
        ]
      }
    ]
  },
}

```

Example POST Request Body – SNMP Trap

```

{
  "Name": "notification_name"
  "Description": "description",
  "Type": {
    "ID": 2
  },
  "SNMPSettings": {
    "TargetIP": "10.20.30.40",
    "TargetPort": 162,
    "Version": "Version1 | Version2c | Version3",
    "Community": "public",
    (Selecting Version3 additional below)
    "UserName": "user",
    "EngineID": 1234,
    "AuthenticationProtocol": "SHA",
    "AuthenticationPassphrase": "password",
    "PrivacyProtocol": "DES",
    "PrivacyPassphrase": "password"
  }
}

```

Table 199: POST Response Codes

| Response Code | Name | Definition |
|---------------|-------------|--|
| 201 | Created | Created & Notification information in the response body + ETag Header + new URI in Location Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 409 | Conflict | A new parameter value already exists (e.g., Name) |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/Notifications/

HEAD /Compute/Devices/{id}/Notifications/ pings the Notifications collection.

Table 200: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 201: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Notifications/

OPTIONS /Compute/Devices/{id}/Notifications/ returns the allowable HTTP Methods list for this resource.

Table 202: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 203: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3.16 /Compute/Devices/{id}/Notifications/{id}/

The Device-level methods and attributes of /Compute/Devices/{id}/Notifications/{id}/ return information about a specific Notification, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

[GET](#)[PUT](#)[DELETE](#)[HEAD](#)[OPTIONS](#)

Table 204: General Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--------------|------------|-----------------------|-------------------|--------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | UUID Format | The Identifier for this particular Notification |
| Name | String | Mandatory | Yes | Free-Form 256 Chars | The name of the Notification. Must be unique to this Notifications Collection |
| Description | String | Optional | Yes | Free-Form 256 Characters | The description of this Notification |
| CreateDate | String | Mandatory | No | datetime | Displays when the Notification was created |
| LastModified | String | Mandatory | No | datetime | Displays when the Notification was last modified |
| Type. ID | Number | Mandatory | Yes | 1 2 | Type of Notification: SMTPAlert = 1 SNMPTrap = 2 |
| Type. Name | String | Mandatory | No | "SMTPAlert" "SNMPTrap" | Type of Notification SMTPAlert = 1 SNMPTrap = 2 |

Table 205: SMTP Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|----------------------------------|--------------|-----------------------|-------------------|---|--|
| SMTPSettings. Server | String | Mandatory | Yes | Free-Form 256 Characters of an IP Address or Hostname | Indicates the current Email Target Server IP Address or Hostname location. Use if Type is SMTPAlert |
| SMTPSettings. Subject | String | Optional | Yes | Free-Form 256 Characters | The "subject line" for any outgoing email alerts or reports |
| SMTPSettings. Port | Number | Optional | Yes | Integer value; Default = 25 | This is the target email server SMTP Port Number where 25 is the IANA default |
| SMTPSettings. Username | String | Mandatory | Yes | Username string value | This is the Username entry for the target email server |
| SMTPSettings. Password | String | Mandatory | Yes | Password format (displays "*****") | This is the Password entry for the target email server |
| SMTPSettings. From | String | Optional | Yes | Free-Form 64 Characters | This is the "From" entry for the email to be sent |
| Distributions[]. Name | String Array | Mandatory | Yes | "Admin" "Operator" | The name of this Distribution List. #There are two choices, either "Admin" or "Operator" distribution list names |
| Distributions[]. Recipients[] | String Array | Mandatory | Yes | Email Format entries | The Recipients array for this "Name". Format is either IP Addresses, Email Address, or Hostnames depending on the Type |

Table 206: SNMP Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-------------------------|--------|-----------------------|-------------------|--|--|
| SNMPSettings.TargetIP | String | Mandatory | Yes | IPv4 Formatted entry or Hostname formatted entry | This is the target or destination server IP Address or Hostname to send the trap |
| SNMPSettings.TargetPort | Number | Mandatory | Yes | Integer Port number; Default is IANA Port 162 | This is the target or destination server Port Number to send the trap |
| SNMPSettings.Version | String | Mandatory | Yes | Version1, Version2c, Version3 | This is the SNMP Version to send the trap. Version 3 requires more attribute entries |
| SNMPSettings.Community | String | Mandatory | Yes | "public" (default) | This is the "Community" for the SNMP Trap information |

Table 207: Additional SNMP Resource Attributes (Version 3)

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--|--------|-----------------------|-------------------|------------------------------------|---|
| SNMPSettings.UserName | String | Mandatory | Yes | Username value | Username for the secure SNMP v3 entry |
| SNMPSettings.EngineID | Number | Mandatory | Yes | Integer number | Engine identifier located at the target or destination SNMP Listener server |
| SNMPSettings.Authentication Protocol | String | Mandatory | Yes | "SHA" (default) | Authentication protocol type for the SNMP v3 transfer |
| SNMPSettings.Authentication Passphrase | String | Mandatory | Yes | Password format (displays "*****") | Authentication passphrase for the SNMP v3 transfer |
| SNMPSettings.PrivacyProtocol | String | Mandatory | Yes | "DES" (default) | Privacy protocol type for the SNMP v3 transfer |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------------|--------|-----------------------|-------------------|------------------------------------|---|
| SNMPSettings. PrivacyPassphrase | String | Mandatory | Yes | Password format (displays "*****") | Privacy passphrase for the SNMP v3 transfer |

GET /Compute/Devices/{id}/Notifications/{id}/

GET /Compute/Devices/{id}/Notifications/{id}/ returns information regarding a specific Notification based on the {id} in the URI address string.

Table 208: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Notifications/6202d750
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/Notifications/6202d750/",
  "ID": "6202d750-fe5c-dff5-68ec-d8cc7fc9fb79",
  "Name": "Email Alert 1",
  "Description": "Test",
  "CreateDate": "07-Sep-2023 12:49:08",
  "LastModified": "07-Sep-2023 19:09:56",
  "Type": {
    "ID": 1,
    "Name": "SMTPAlert"
  },
  "SMTPSettings": {
    "Server": "mail@server.com",
    "Subject": "This is an Email Alert",
    "Port": 25,
    "Username": "admin",
    "Password": "*****",
    "From": "Device 12345"
  },
  "SNMPSettings": {},
  "Distributions": [
    {
      "Name": "Admin",
      "Recipients": [
        "bill@wdc.com"
      ]
    }
  ]
}
```

```

    ],
    {
      "Name": "Operator",
      "Recipients": [
        "ted@wd.com"
      ]
    }
  ]
}

```

Table 209: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Notification information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

PUT /Compute/Devices/{id}/Notifications/{id}/

PUT /Compute/Devices/{id}/Notifications/{id}/ modifies an attribute or executes an operation for this Notification.

Table 210: PUT Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example PUT curl Command

Note: The If-Match conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "Content-Type: application/json"
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X PUT http://10.20.30.40/Compute/Devices/0123456789/Notifications/123456
--data '{
  "Description": "This is an email notification with updated distribution list",
  "Distributions": [
    {
      "Name": "Admin",
      "Recipients": [
        "another@test.com",
        "admin@test.com"
      ]
    }
  ]
}'
```

Example PUT Request Body – SMTPAlert

```
{
  "Name": "notification_name",
  "Description": "description",
  "SMTPSettings": {
    "Server": "email_server",
    "Subject": "email_subjectline",
    "Port": 25,
    "Username": "user",
    "Password": "password",
    "From": "From this Device"
  }
  "Distributions" : [
    {
      "Name": "Admin" | "Operator",
      "Recipients": [
        {
          "recip1",
          "recip2",
          ...
          "recipN"
        }
      ]
    }
  ]
}
```

Example PUT Request Body – SNMPTrap

```
{
  "Name": "notification_name",
  "Description": "description",
  "SNMPSettings": {
```

```

    "TargetIP": "10.20.30.40",
    "TargetPort": 162,
    "Version": "Version1 | Version2c | Version3",
    "Community": "public"(),
    (Selecting Version3 additional below)
    "UserName": "user",
    "EngineID": 1234,
    "AuthenticationProtocol": "SHA",
    "AuthenticationPassphrase": "password",
    "PrivacyProtocol": "DES",
    "PrivacyPassphrase": "password"
  }
}

```

Table 211: PUT Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 200 | OK | OK & Notification information in the response body + ETag Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

DELETE /Compute/Devices/{id}/Notifications/{id}/

DELETE /Compute/Devices/{id}/Notifications/{id}/ deletes a specific Notification.

Table 212: DELETE Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example DELETE curl Command

Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X DELETE http://10.20.30.40/Compute/Devices/0123456789/Notifications/123456
```

Table 213: DELETE Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 204 | No Content | Delete successful; no content in the response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 409 | Conflict | In the case of only one notification, that last one cannot be deleted |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/Notifications/{id}/

HEAD /Compute/Devices/{id}/Notifications/{id}/ pings this Notification.

Table 214: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 215: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Notifications/{id}/

OPTIONS /Compute/Devices/{id}/Notifications/{id}/ returns the allowable HTTP Methods list for this resource.

Table 216: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 217: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3.17 /Compute/Devices/{id}/Analytics/

The Device-level methods and attributes of /Compute/Devices/{id}/Analytics/ return information about the Analytic(s) collection and enable management operations.

HTTP Methods:

[GET](#)[POST](#)[HEAD](#)[OPTIONS](#)

Table 218: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (1 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/Analytics/{id}/ (page 148) for Instance Attribute details |

GET /Compute/Devices/{id}/Analytics/

GET /Compute/Devices/{id}/Analytics/ returns the collection of Analytics.



Note: This will not return the "AnalyticInformation" but only the collection of Analytics and their attributes, unless the query parameter is sent. The query parameter `?Analytics=true` will add the "AnalyticInformation" objects to all the Analytics Instances in the Collection.

Table 219: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Analytics/
```

Table 220: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Analytics + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

POST /Compute/Devices/{id}/Analytics/

POST /Compute/Devices/{id}/Analytics/ creates a new Analytic.

Table 221: POST Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Example POST curl Command

```
curl
-i
-u admin:admin
-X POST http://10.20.30.40/Compute/Devices/0123456789/Analytics/
--data '{
  "Name": "Enclosure 5000ccab04105300 Controller B Health Status",
  "Description": "Show Enclosure 5000ccab04105300 Controller B Health status of
the Device over 10 Days",
  "AnalyticAttributes": {
    "TargetEnclosureID": "5000ccab04105300",
    "TargetComponent": "Controllers",
    "TargetComponentID": "IOModuleBFRU",
    "TargetAttribute": "Health",
    "StartTimestamp": "2023-11-20T12:00:00Z",
    "EndTimestamp": "2023-11-29T12:00:00Z"
  }
}'
```

Example POST Request Body

```
{
  "Name": "name",
  "Description": "description",
  "AnalyticAttributes": {
    "TargetEnclosureID": "5000ccab04105300",
    "TargetComponent": "Controllers",
    "TargetComponentID": "IOModuleBFRU",
    "TargetAttribute": "Health",
    "StartTimestamp": "2023-11-20T12:00:00Z",
```

```

    "EndTimeStamp": "2023-11-29T12:00:00Z"
  }
}

```

Table 222: POST Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 201 | Created | Created & Analytic information in the response body + ETag Header + new URI in Location Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 409 | Conflict | A new parameter value already exists (e.g., Name) |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/Analytics/

HEAD /Compute/Devices/{id}/Analytics/ pings the Analytics collection.

Table 223: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 224: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Analytics/

OPTIONS /Compute/Devices/{id}/Analytics/ returns the allowable HTTP Methods list for this resource.

Table 225: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|--------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 226: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3.18 /Compute/Devices/{id}/Analytics/{id}/

The Device-level methods and attributes of /Compute/Devices/{id}/Analytics/{id}/ return information about a specific Analytic, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

[GET](#)[PUT](#)[DELETE](#)[HEAD](#)[OPTIONS](#)

Table 227: General Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--------------|------------|-----------------------|-------------------|--|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | UUID Format | The Identifier for this particular Analytic |
| Name | String | Mandatory | Yes | Free-Form 256 Chars | The name of the Analytic. Must be unique to this Analytics Collection |
| Description | String | Optional | Yes | Free-Form 256 Characters | The description of this Analytic |
| CreateDate | String | Mandatory | No | datetime | Displays when the Analytic was created |
| LastModified | String | Mandatory | No | datetime | Displays when the Analytic was last modified |
| Type. ID | Number | Mandatory | Yes | 1 - 4 | Type of Analytic (see Type.Name): 1=Descriptive 2=Diagnostic 3=Predictive 4=Prescriptive |
| Type. Name | String | Mandatory | No | "Descriptive Data Analytics" "Diagnostic Data Analytics" "Predictive Data Analytics" "Prescriptive Data Analytics" | Descriptive=Trending Diagnostic=Anomaly detection Predictive=Correlation of anomalies and trending to predict future issues Prescriptive=Provides solutions based on predictions |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--------------------------------------|--------------|-----------------------|-------------------|--|---|
| AnalyticAttributes.TargetEnclosureID | String | Mandatory | Yes | UUID or other string format | Apply Analytic to this Device based on its ID |
| AnalyticAttributes.TargetComponent | String | Mandatory | Yes | "Enclosure" "Connectors" "Controllers" "Expanders" "Fans" "Media" "Ports" "PowerSupplies" "Sensors" "CoolingDevices" | Apply Analytic to this Device's supported Component Type |
| AnalyticAttributes.TargetComponentID | String | Mandatory | Yes | UUID or other string format | Apply Analytic to this Device's Component ID |
| AnalyticAttributes.TargetAttribute | String | Mandatory | Yes | "Health" "Capacity" "CurrentReading" "CurrentSpeed" "Speed" | Supported Attribute type to focus Analytic data |
| AnalyticAttributes.StartTimestamp | String | Optional | Yes | datetime | Starting time for the range of data for this Analytic |
| AnalyticAttributes.EndTimestamp | String | Optional | Yes | datetime | End time for the range of data for this Analytic |
| AnalyticInformation[] | String Array | Mandatory | No | ID Name Status (Health and State) Timestamp Speed (b/s) Capacity (Bytes) CurrentReading (Temp, Volts, Current, RPM) CurrentSpeed (b/s) | Analytic Data array containing Target attribute information across the time range |

GET /Compute/Devices/{id}/Analytics/{id}/

GET /Compute/Devices/{id}/Analytics/{id}/ returns information regarding a specific Analytic based on the {id} in the URI address string.



Note: This will trigger returning the actual "AnalyticInformation" data from the Persistent Storage based on the AnalyticAttributes.

Table 228: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Analytics/884c4e20/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/Analytics/884c4e20/",
  "ID": "884c4e20",
  "Name": "Health Check 5000ccab04110780 PS A",
  "Description": "Check the health of PS A on 5000ccab04110780",
  "CreateDate": "18-Jan-2024 14:00:33 UTC",
  "LastModified": "18-Jan-2024 14:00:33 UTC",
  "Type": {
    "ID": 1,
    "Name": "Descriptive Data Analytics"
  },
  "AnalyticAttributes": {
    "TargetEnclosureID": "5000ccab04110780",
    "TargetComponent": "PowerSupplies",
    "TargetComponentID": "PowerSupplyAFRU",
    "TargetAttribute": "Health",
    "StartTimestamp": "2023-12-19T07:00:33.608013532-07:00",
    "EndTimestamp": "2023-12-19T13:00:33.608013532-07:00"
  },
  "AnalyticInformation": [
    {
      "ID": "PowerSupplyAFRU",
      "Name": "PSU A",
      "Status": {
        "Health": [
          {
            "ID": 5,
            "Name": "OK"
          }
        ],
        "State": {
          "ID": 16,
          "Name": "In service"
        }
      },
      "Timestamp": "2023-12-19T07:51:59.618315942-07:00"
    },
    {
      "ID": "PowerSupplyAFRU",
```



```

    "Name": "PSU A",
    "Status": {
      "Health": [
        {
          "ID": 5,
          "Name": "OK"
        }
      ],
      "State": {
        "ID": 16,
        "Name": "In service"
      }
    },
    "Timestamp": "2023-12-19T09:30:01.218909477-07:00"
  },
  {
    "ID": "PowerSupplyAFRU",
    "Name": "PSU A",
    "Status": {
      "Health": [
        {
          "ID": 5,
          "Name": "OK"
        }
      ],
      "State": {
        "ID": 16,
        "Name": "In service"
      }
    },
    "Timestamp": "2023-12-19T10:11:57.343891158-07:00"
  },
  {
    "ID": "PowerSupplyAFRU",
    "Name": "PSU A",
    "Status": {
      "Health": [
        {
          "ID": 5,
          "Name": "OK"
        }
      ],
      "State": {
        "ID": 16,
        "Name": "In service"
      }
    },
    "Timestamp": "2023-12-19T10:50:38.002312545-07:00"
  },
  {
    "ID": "PowerSupplyAFRU",
    "Name": "PSU A",
    "Status": {
      "Health": [
        {
          "ID": 5,
          "Name": "OK"
        }
      ],
      "State": {
        "ID": 16,
        "Name": "In service"
      }
    },
    "Timestamp": "2023-12-19T10:50:38.002312545-07:00"
  }
]

```

```

        "State": {
            "ID": 16,
            "Name": "In service"
        }
    },
    "Timestamp": "2023-12-19T12:07:19.03363914-07:00"
},
{
    "ID": "PowerSupplyAFRU",
    "Name": "PSU A",
    "Status": {
        "Health": [
            {
                "ID": 5,
                "Name": "OK"
            }
        ],
        "State": {
            "ID": 16,
            "Name": "In service"
        }
    },
    "Timestamp": "2023-12-19T12:14:02.243513553-07:00"
}
]
}

```

Table 229: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Analytic information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

PUT /Compute/Devices/{id}/Analytics/{id}/

PUT /Compute/Devices/{id}/Analytics/{id}/ modifies an attribute or executes an operation for this Analytic.

Table 230: PUT Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

| Header | Mandatory or Optional | Description |
|----------|-----------------------|---|
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example PUT curl Command

Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
  -i
  -u admin:admin
  -X PUT http://10.20.30.40/Compute/Devices/0123456789/Analytics/
  --data '{
    "Name": "DEVICE 5000ccab04105300 Controller B Health Status",
    "Description": "Show DEVICE 5000ccab04105300 Controller B Health status of the
Device over 10 Days"
  }'
```

Example PUT Request Body

```
{
  "Name": "new_name",
  "Description": "new_description",
  "AnalyticAttributes": {
    "TargetEnclosureID": "5000ccab04105301",
    "TargetComponent": "PowerSupplies",
    "TargetComponentID": "PS A",
    "TargetAttribute": "Health",
    "StartTimestamp": "2023-11-20T12:00:00Z",
    "EndTimestamp": "2024-01-19T12:00:00Z"
  }
}
```

Table 231: PUT Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 200 | OK | OK & Analytic information in the response body + ETag Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

DELETE /Compute/Devices/{id}/Analytics/{id}/

DELETE /Compute/Devices/{id}/Analytics/{id}/ deletes a specific Analytic.

Table 232: DELETE Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example DELETE curl Command

Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X DELETE http://10.20.30.40/Compute/Devices/0123456789/Analytics/123456
```

Table 233: DELETE Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 204 | No Content | Delete successful; no content in the response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 409 | Conflict | In the case of only one notification, that last one cannot be deleted |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/Analytics/{id}/

HEAD /Compute/Devices/{id}/Analytics/{id}/ pings a specific Analytic.

Table 234: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 235: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Analytics/{id}/

OPTIONS /Compute/Devices/{id}/Analytics/{id}/ returns the allowable HTTP Methods list for this resource.

Table 236: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 237: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3.19 /Compute/Devices/{id}/Reports/

The Device-level methods and attributes of /Compute/Devices/{id}/Reports/ return information about the Reports(s) and carry out specific operations.

HTTP Methods:

[GET](#)[POST](#)[HEAD](#)[OPTIONS](#)

Table 238: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (1 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/Analytics/{id}/ (page 148) for Instance Attribute details |

GET /Compute/Devices/{id}/Reports/

GET /Compute/Devices/{id}/Reports/ returns the collection of Reports.



Note: This will not return the "ReportInformation" but only the collection of Reports and their attributes unless the Query Parameter is sent.

Table 239: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Reports/
```

Table 240: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Analytics + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

POST /Compute/Devices/{id}/Reports/

POST /Compute/Devices/{id}/Reports/ creates a new Report.

Table 241: POST Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Example POST curl Command

```
curl
-i
-u admin:admin
-X POST http://10.20.30.40/Compute/Devices/0123456789/Analytics/
--data '{
  "Name": "DEVICE 5000ccab04105300 Controller B Health Status",
  "Description": "Show DEVICE 5000ccab04105300 Controller B Health status of the
Device over 10 Days"
}'
'{"Name":"Report1","Description":"Included Analytics: Analytics1,
Analytics2","ReportAttributes":
  {"Capability":{"ID":2},"Type":{"ID":1}}, "Resources":
[{"Self":"http://10.20.30.40/Compute/Devices/0123456789/Analytics/8382835b7f22/"},
  {"Self":"http://10.20.30.40/Compute/Devices/0123456789/
Analytics/72badd62eaca/"}],
  "StartTimestamp":"2024-05-08T02:44:57Z","EndTimestamp":"2024-04-08T02:44:57Z"}'
-X POST http://10.20.30.40/Compute/Devices/0123456789/Reports/
```

Example POST Request Body

```
{
  "Name": "name",
  "Description": "description",
  "ReportAttributes": {
    "Type": {"ID", 1|2},
    "Capability": {"ID": 1|2},
  }
}
```



```

"StartTimestamp": "2023-11-20T12:00:00Z",
"EndTimestamp": "2023-11-29T12:00:00Z",

"Resources" : [ {"Self":"analytic_uri1"}, {"Self":"analytic_uri2"}, ...]
}

```

Table 242: POST Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 201 | Created | Created & Analytic information in the response body + ETag Header + new URI in Location Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 409 | Conflict | A new parameter value already exists (e.g., Name) |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/Reports/

HEAD /Compute/Devices/{id}/Reports/ pings the Reports collection.

Table 243: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 244: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Reports/

OPTIONS /Compute/Devices/{id}/Reports/ returns the allowable HTTP Methods list for this resource.

Table 245: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|--------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 246: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3.20 /Compute/Devices/{id}/Reports/{id}/

The Device-level methods and attributes of /Compute/Devices/{id}/Reports/{id}/ return information about the Reports(s), based on the {id} in the URI string, and carry out specific operations.

HTTP Methods:

GET

PUT

DELETE

HEAD

OPTIONS

Table 247: General Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--------------------------------|------------|-----------------------|-------------------|--------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | UUID Format | The Identifier for this particular Report |
| Name | String | Mandatory | Yes | Free-Form 64 Chars | The name of the Report. Must be unique to this Reports Collection |
| Description | String | Optional | Yes | Free-Form 512 Characters | The description of this Report |
| CreateDate | String | Mandatory | No | datetime | Displays when the Report was created |
| LastModified | String | Mandatory | No | datetime | Displays when the Report was last modified |
| ReportAttributes.Type.ID | Number | Mandatory | Yes | 1 2 | Type of Report |
| ReportAttributes.Type.Name | String | Mandatory | No | "JSON" "CSV" | JSON Formatted Data CSV Formatted Data (within the JSON response wrapper) |
| ReportAttributes.Capability.ID | Number | Mandatory | Yes | 1 2 | Capability ID representing the kind of Report where Dynamic is a sliding timestamp window and the Snapshot is a fixed and saved timestamp range. Use this attribute to create or modify the Report Capability |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|----------------------------------|--------------|---|-------------------|-------------------------------|---|
| ReportAttributes.Capability.Name | String | Mandatory | No | "Dynamic" "Snapshot" | Capability Name representing the kind of Report where Dynamic is a sliding timestamp window and the Snapshot is a fixed and saved timestamp range |
| StartTimestamp | String | Optional | Yes | datetime | Starting time for the range of data for this Report |
| EndTimestamp | String | Optional | Yes | datetime | Ending time for the range of data for this Report |
| Resources | String Array | Mandatory | Yes | Analytic Self Entries | Array of one or more Analytic entries for the Report |
| Associations | String Array | Mandatory | No | Reports ID Analytics ID(s) | Shows association between the Report and any Analytic(s) that it might be used in |
| Analytic.Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Analytic Resource(s) regarding this Report |
| ReportInformation[] | String Array | Optional (Collection) Mandatory (Instance) | No | Analytic Data Entries | Report Data array containing Analytics Data information across the time range |

GET /Compute/Devices/{id}/Reports/{id}/

GET /Compute/Devices/{id}/Reports/{id}/ returns information regarding a specific Analytic based on the {id} in the URI address string.



Note: This will trigger returning the actual "ReportInformation" data from the Persistent Storage based on the ReportAttributes.

Table 248: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Reports/123456/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/Reports/89de5ac92d93/",
  "ID": "89de5ac92d93",
  "Name": "Report1",
  "Description": "Included Analytics - Analytics2, Analytics3",
  "CreateDate": "08-May-2024 02:56:06 UTC",
  "LastModified": "08-May-2024 02:56:06 UTC",
  "ReportAttributes": {
    "Type": {
      "ID": 1,
      "Name": "JSON"
    },
    "Capability": {
      "ID": 1,
      "Name": "Dynamic"
    },
    "StartTimestamp": "2024-04-07T21:12:45.995834841-06:00",
    "EndTimestamp": "2024-05-07T21:12:45.995834841-06:00"
  },
  "Resources": [
    {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Analytics/8382835b7f22/"
    },
    {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Analytics/72badd62eaca/"
    }
  ],
  "Associations": {
    "Analytics": [
      "8382835b7f22",
      "72badd62eaca"
    ],
    "Reports": [
      "89de5ac92d93"
    ]
  }
},
```

```

    "Analytics": "http://10.20.30.40/Compute/Devices/0123456789/Analytics/?
Reports=89de5ac92d93",
    "ReportInformation": [
        {
            "Self": "http://10.20.30.40/Compute/Devices/0123456789/
Reports/89de5ac92d93/Analytics/8382835b7f22/",
            "ID": "8382835b7f22",
            "Name": "Analytics2",
            "Description": "Server4: Processors: CPU1: Load Percentage",
            "CreateDate": "08-May-2024 02:26:50 UTC",
            "LastModified": "08-May-2024 02:26:50 UTC",
            "Type": {
                "ID": 1,
                "Name": "Descriptive Data Analytics"
            },
            "Associations": {
                "Analytics": [
                    "60e12334-f111-a460-2925-8382835b7f22"
                ],
                "Reports": [
                    "e6c691f1-378e-738d-350c-a3e340b25534",
                    "6b692fa0-14f9-75a3-6cf7-89de5ac92d93"
                ]
            },
            "Reports": "http://10.20.30.40/Compute/Devices/0123456789/
Reports/89de5ac92d93/Reports/?Analytics=8382835b7f22",
            "AnalyticAttributes": {
                "TargetEnclosureID": "3537972c02794b8d968e6bcb22262286",
                "TargetComponent": "Processors",
                "TargetComponentID": "CPU1",
                "TargetAttribute": "LoadPercentage",
                "StartTimestamp": "2024-04-07T21:12:45.995834841-06:00",
                "EndTimestamp": "2024-05-07T21:12:45.995834841-06:00"
            },
            "AnalyticInformation": [
                {
                    "Architecture": "x86_64",
                    "Cores": 10,
                    "ID": "CPU1",
                    "LoadPercentage": 0,
                    "LogicalProcessors": 20,
                    "Name": "CPU1",
                    "ProcessorID": "BFEBFBFF000306F2",
                    "Timestamp": "2024-04-11T14:04:56.768616776Z"
                },
                {
                    "Architecture": "x86_64",
                    "Cores": 10,
                    "ID": "CPU1",
                    "LoadPercentage": 10.16,
                    "LogicalProcessors": 20,
                    "Name": "CPU1",
                    "ProcessorID": "BFEBFBFF000306F2",
                    "Timestamp": "2024-04-11T14:21:04.850948626Z"
                }
            ]
        },
        {

```

```

"Self": "http://10.20.30.40/Compute/Devices/0123456789/
Reports/89de5ac92d93/Analytics/72badd62eaca/",
"ID": "72badd62eaca",
"Name": "Analytics3",
"Description": "Server5: Processors: CPU1: Load Percentage",
"CreateDate": "08-May-2024 02:28:25 UTC",
"LastModified": "08-May-2024 02:28:25 UTC",
"Type": {
  "ID": 1,
  "Name": "Descriptive Data Analytics"
},
"Associations": {
  "Analytics": [
    "72badd62eaca"
  ],
  "Reports": [
    "a3e340b25534",
    "89de5ac92d93"
  ]
},
"Reports": "http://10.20.30.40/Compute/Devices/0123456789/
Reports/89de5ac92d93/Reports/?Analytics=72badd62eaca",
"AnalyticAttributes": {
  "TargetEnclosureID": "1ace035696544fe38b1149ccd18d3ca1",
  "TargetComponent": "Processors",
  "TargetComponentID": "CPU1",
  "TargetAttribute": "LoadPercentage",
  "StartTimestamp": "2024-04-07T21:12:45.995834841-06:00",
  "EndTimestamp": "2024-05-07T21:12:45.995834841-06:00"
},
"AnalyticInformation": [
  {
    "Architecture": "x86_64",
    "Cores": 10,
    "ID": "CPU1",
    "LoadPercentage": 0.1,
    "LogicalProcessors": 20,
    "Name": "CPU1",
    "ProcessorID": "BFEBFBFF000306F2",
    "Timestamp": "2024-04-11T14:04:08.156343903Z"
  },
  {
    "Architecture": "x86_64",
    "Cores": 10,
    "ID": "CPU1",
    "LoadPercentage": 0.03,
    "LogicalProcessors": 20,
    "Name": "CPU1",
    "ProcessorID": "BFEBFBFF000306F2",
    "Timestamp": "2024-04-11T14:19:01.700714765Z"
  },
  {
    "Architecture": "x86_64",
    "Cores": 10,
    "ID": "CPU1",
    "LoadPercentage": 0.1,
    "LogicalProcessors": 20,
    "Name": "CPU1",
    "ProcessorID": "BFEBFBFF000306F2",

```

```
    "Timestamp": "2024-04-11T14:30:38.5508993Z"
  }
]
}
```

Table 249: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Analytic information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

PUT /Compute/Devices/{id}/Reports/{id}/

PUT /Compute/Devices/{id}/Reports/{id}/ modifies an attribute or executes an operation for this Report.

Table 250: PUT Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example PUT curl Command



Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
'{"Name": "new_name": "new_description"}'
-X PUT http://10.20.30.40/Compute/Devices/0123456789/Reports/123456
```


Example PUT Request Body

```
{
  "Name": "name",
  "Description": "description",
  "ReportAttributes": {
    "Type": {"ID": 1|2},
    "Capability": {"ID": 1|2},
  }
  "StartTimestamp": "2023-11-20T12:00:00Z",
  "EndTimestamp": "2023-11-29T12:00:00Z",

  "Resources" : [ {"Self":"analytic_uri1"}, {"Self":"analytic_uri2"}, ... ]
}
```

Table 251: PUT Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 200 | OK | OK & Analytic information in the response body + ETag Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

DELETE /Compute/Devices/{id}/Reports/{id}/

DELETE /Compute/Devices/{id}/Reports/{id}/ deletes a specific Report.

Table 252: DELETE Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example DELETE curl Command

Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X DELETE http://10.20.30.40/Compute/Devices/0123456789/Reports/123456
```

Table 253: DELETE Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 204 | No Content | Delete successful; no content in the response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 409 | Conflict | In the case of only one notification, that last one cannot be deleted |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/Reports/{id}/

HEAD /Compute/Devices/{id}/Reports/{id}/ pings a specific Report.

Table 254: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 255: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Reports/{id}/

OPTIONS /Compute/Devices/{id}/Reports/{id}/ returns the allowable HTTP Methods list for this resource.

Table 256: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 257: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

3.3.21 /Compute/Devices/{id}/Telemetry/

The Device-level methods and attributes of /Compute/Devices/{id}/Telemetry/ return information about the Telemetry resource and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 258: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--------------|--------------|-----------------------|-------------------|--------------------------------|---|
| Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| LastAccessed | String | Mandatory | No | datetime based on UTC | The UTC time of the request |
| Members[] | String Array | Mandatory | No | Member Entry | This is the instantaneous, fully expanded metadata from this Device |

GET /Compute/Devices/{id}/Telemetry/

GET /Compute/Devices/{id}/Telemetry/ returns the information of the Telemetry resource.

Table 259: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Telemetry/
```

Example GET Response Body

```
{
  "Self": "http://10.41.100.60:80/Compute/Devices/
A0A9CB7F-7D63-4075-8826-48E0ADF3F2C0/Telemetry/",
  "LastAccessed": "05-Oct-2023 18:47:33 UTC",
  "Members": [
    {
      "Self": "http://10.41.100.60:80/Compute/Devices/
A0A9CB7F-7D63-4075-8826-48E0ADF3F2C0/",
      "SystemType": {...},
      "Name": "WDAP-LGWPTOMIDK",
      "ID": "A0A9CB7F-7D63-4075-8826-48E0ADF3F2C0",
      "OperatingSystem": {...},
      "Model": "Resource Manager Data Center",
      "Manufacturer": "WDC",
      "Capabilities": {...},
      "Status": {...},
      "IPAddresses": {...},
      "InformationStructure": {...},
      "ApplicationSettings": {...},
      "Location": {...},
      "Accounts": {...},
      "Files": {...},
      "Jobs": {...},
      "SystemClock": {...},
      "Assets": {...},
      "Analytics": {...},
      "Notifications": {...},
      "Policies": {...},
      "Reports": {...},
      "Telemetry": {...}
    }
  ]
}
```

Table 260: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Telemetry resource information in the response body |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/Telemetry/

HEAD /Compute/Devices/{id}/Telemetry/ pings the Telemetry resource.

Table 261: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 262: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Telemetry/

OPTIONS /Compute/Devices/{id}/Telemetry/ returns the allowable HTTP Methods list for this resource.

Table 263: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 264: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |



Compute Device Service

In This Chapter:

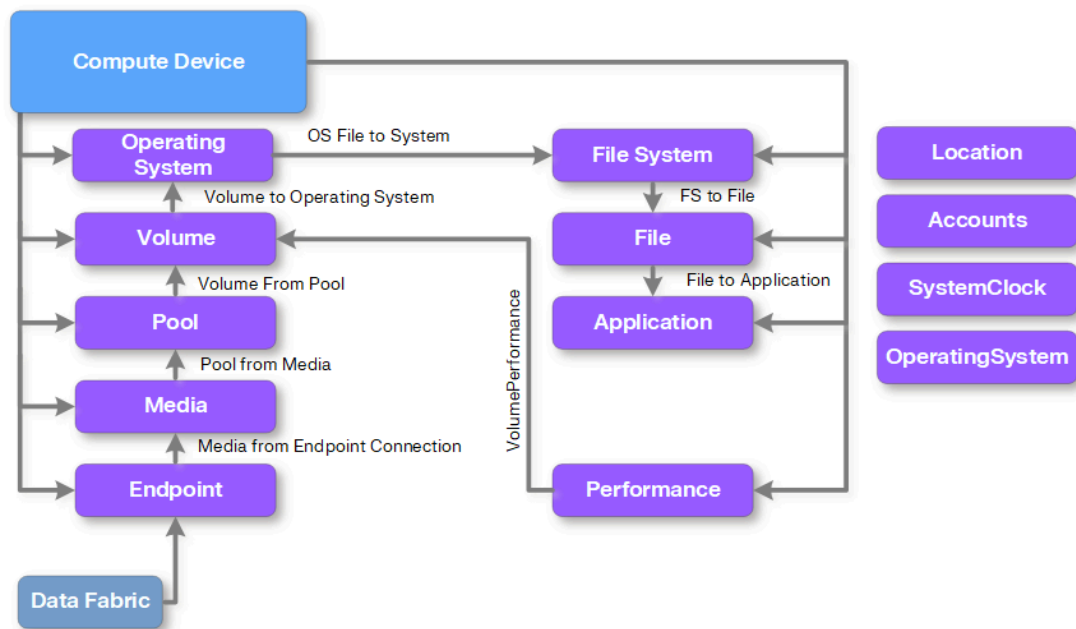
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4.1 Modeling Compute Device Resources

The Compute Device modeling includes both physical and logical/virtual resources. The physical resource model includes the overall Compute Device that contains a collection of processors, power supplies and fans, and the attached Storage Media (Storage and/or Memory). A Chassis Device may provide the power and cooling resources separately if the Compute Device is separate from the enclosure services. These physical resources are represented in the figure below.

The logical and virtual resources model include those resources that are logical or virtual in nature. These include Storage Pools, Storage Volumes, Storage Endpoints, File System, and Performance.

Figure 2: Compute Resource Physical and Virtual/Logical Model



4.2 Physical Devices

The OCAPI's physical resource model includes the overall Compute Proxy Device. The topics in this section provide information for accessing and managing the features of these physical resources.

4.2.1 /Compute/Devices/

The Device-level methods and attributes of /Compute/Devices/ return information about the Devices collection and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 265: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/ (page 179) for Instance Attribute details |

GET /Compute/Devices/

GET /Compute/Devices/ returns the Collection of Devices.

Table 266: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/
```

Table 267: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Devices + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/

HEAD /Compute/Devices/ pings the Devices collection.

Table 268: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 269: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/

OPTIONS /Compute/Devices/ returns the allowable HTTP Methods list for this resource.

Table 270: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 271: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

4.2.2 /Compute/Devices/{id}/

The Device-level methods and attributes of /Compute/Devices/{id}/ return information about a specific Device, based on the {id} in the URI string, and enable management operations.

HTTP Methods:**GET****HEAD****OPTIONS***Table 272: Resource Attributes*

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------------------------|------------|-----------------------|-------------------|--------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| SystemType.Name | String | Mandatory | No | "Compute" | The domain type string indicating the type of Device Resource |
| SystemType.ID | Number | Mandatory | No | 1 | The domain type number indicating the type of Device Resource |
| Name | String | Mandatory | Yes | Free-Form 256 Chars | The user-defined Friendly Name for this Resource |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| OperatingSystem.Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Operating System Resource |
| OperatingSystem.Name | String | Mandatory | No | Free-Form URI | Resource Manager Data Center Edition Application Name |
| OperatingSystem.OSType.Name | String | Mandatory | No | "Winnt" "Linux" | Resource Manager Data Center Edition running on this OS Type string value |
| OperatingSystem.OSType.ID | Number | Mandatory | No | 18 36 | Resource Manager Data Center Edition running on this OS Type number value |
| OperatingSystem.Version | String | Mandatory | No | Free-Form URI | Resource Manager Data Center Edition Application Version |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--|---------------|-----------------------|-------------------|--|---|
| Serial Number | String | Mandatory | No | Free-Form 64 Chars | The Compute Node Serial Number |
| Model | String | Mandatory | No | "Resource Manager Data Center" | Compute Node application model |
| Manufacturer | String | Mandatory | No | "WDC" | Compute Node manufacturer |
| Capabilities.Members[].Name | String | Mandatory | No | "Management" "File Server", "Server", "Central Processor Device" | The capabilities information value(s) regarding the Resource |
| Capabilities.Members[].ID | Number | Mandatory | No | 14 16 39 47101 | The capabilities information value map(s) regarding the Resource |
| Capabilities.Members[].CapabilitiesDescription | String | Mandatory | No | Free-form characters | Entry describing the capability |
| Status.State.Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status.State.ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status.Health[].Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries. |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|---------------------------------|---------------|-----------------------|-------------------|---|--|
| Status.Health[].ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536 - 65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| Status.Details[] | String Array | Optional | No | Free-Form Array entry. If no entry, then "None" | The current Health Details of the Device |
| IPAddresses.Members[].IPAddress | String Array | Mandatory | No | IPv4 or IPv6 pattern | The IP Address list for this Resource |
| Architecture | String | Optional | No | Free-form characters | The Compute Architecture type |
| Bios.Manufacturer | String | Mandatory | No | Free-form characters | The BIOS Manufacturer information |
| Bios.Version | String | Mandatory | No | Free-form characters | The BIOS Version information |
| Bios.ReleaseDate | String | Mandatory | No | Free-form characters | The BIOS Release Date |
| ChassisPackageType.Name | String | Optional | No | "Other" "Unknown" "Desktop" "Low Profile Desktop" "Pizza Box" "Mini Tower" "Tower" "Portable" "Laptop" "Notebook" "Hand Held" "Docking Station" "All in One" "Sub Notebook" "Space-Saving" "Lunch Box" "Main System Chassis" "Expansion Chassis" "SubChassis" "Bus Expansion Chassis" "Peripheral Chassis" "Storage Chassis" "Rack Mount Chassis" "Sealed-Case PC" "Multi-system Chassis" | The Compute Node chassis package value information |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|---------------------------|--------|-----------------------|-------------------|------------------------------|---|
| ChassisPackageType.ID | Number | Optional | No | 1 - 25 | The Compute Node chassis package value map |
| Domain | String | Mandatory | No | Free-Form 64 Chars | The Domain that this Compute Node is a member of |
| Memory | Number | Mandatory | No | Integer in Bytes | The total memory on this Compute Node in Bytes |
| RemainingMemory | Number | Mandatory | No | Integer in Bytes | The remaining (not used) memory on this Compute Node in Bytes |
| Rackmountable.Name | | | | "Unknown" "False" "True" | The Rackmountable value based on ChassisType |
| Rackmountable.ID | Number | Optional | No | 1 - 25 | The Rackmountable value map based on ChassisType value map |
| InformationStructure.Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Information Structure Resource |
| Location.Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Location Resource |
| Accounts.Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Accounts Resource |
| Files.Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Files Resource |
| SystemClock.Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the System Clock Resource |
| Adapters.Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Adapters Resource collection |
| Media.Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Media Resource |
| Performance.Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Performance Resource |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------|--------|-----------------------|-------------------|-----------------|---|
| Ports. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Ports Resource |
| PowerSupplies. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Power Supplies Resource |
| Processors. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Prooessors Resource |
| Volumes. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Volumes Resource |

GET /Compute/Devices/{id}/

GET /Compute/Devices/{id}/ returns information regarding a specific Device based on the {id} in the URI address string.

Table 273: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/",
  "SystemType": {
    "ID": 1,
    "Name": "Compute"
  },
  "Name": "cos-r16-s1",
  "ID": "0123456789",
  "OperatingSystem": {
    "Self": "http://10.20.30.40/Compute/Devices/0123456789/OperatingSystem/",
    "Name": "Linux",
    "Architecture": "x86_64",
    "OSDescription": "Ubuntu 22.04 (Jammy Jellyfish) 5.15.0-69-generic",
    "SerialNumber": "0123456789",
    "OSType": {
```

```

        "ID": 36,
        "Name": "Linux"
    },
    "Version": "Ubuntu 22.04 (Jammy Jellyfish) 5.15.0-69-generic",
    "Status": {
        "State": {
            "ID": 16,
            "Name": "In service"
        },
        "Health": [
            {
                "ID": 5,
                "Name": "OK"
            }
        ]
    },
    "SerialNumber": "S199310X5A12689",
    "Model": "SSG-5028R-ElCR12L-CE010",
    "Manufacturer": "Supermicro",
    "Capabilities": {
        "Members": [
            {
                "ID": 14,
                "Name": "Management",
                "CapabilityDescription": "This device provides software system
management capabilities."
            },
            {
                "ID": 16,
                "Name": "File Server",
                "CapabilityDescription": "This device is a file server."
            },
            {
                "ID": 39,
                "Name": "Server",
                "CapabilityDescription": "This device is a compute server."
            },
            {
                "ID": 47101,
                "Name": "Central Processor Device",
                "CapabilityDescription": "This device provides general purpose CPU-
based compute processors."
            }
        ]
    },
    "Status": {
        "State": {
            "ID": 16,
            "Name": "In service"
        },
        "Health": [
            {
                "ID": 5,
                "Name": "OK"
            }
        ]
    },
    "Details": [
        "None"
    ]
}

```

```

    ],
    "IPAddresses": {
      "Members": [
        {
          "IPAddress": "10.202.239.211"
        }
      ]
    },
    "Architecture": "x86_64",
    "Bios": {
      "Manufacturer": "American Megatrends Inc.",
      "Version": "2.0b",
      "ReleaseDate": "04/14/2017"
    },
    "ChassisPackageType": {
      "ID": 1,
      "Name": "Other"
    },
    "InformationStructure": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/InformationStructure/"
    },
    "Domain": "",
    "Memory": 134961729536,
    "RemainingMemory": 128453312512,
    "Rackmountable": {
      "ID": 1,
      "Name": "Unknown"
    },
    "Location": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Location/"
    },
    "Accounts": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Accounts/"
    },
    "Adapters": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Adapters/"
    },
    "Files": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Files/"
    },
    "Media": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Media/"
    },
    "Performance": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Performance/"
    },
    "Ports": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Ports/"
    },
    "PowerSupplies": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/PowerSupplies/"
    },
    "Processors": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Processors/"
    },
    "SystemClock": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/SystemClock/"
    }
  },

```

```

    "Volumes": {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Volumes/"
    }
  }
}

```

Table 274: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Device information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/

HEAD /Compute/Devices/{id}/ pings this Storage Device.

Table 275: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 276: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/

OPTIONS /Compute/Devices/{id}/ returns the allowable HTTP Methods list for this resource.



Note: There may be some attributes returned in the OPTIONS response schema that may not be directly supported by this resource.

Table 277: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 278: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

4.2.3 /Compute/Devices/{id}/Processors/

The Device-level methods and attributes of /Compute/Devices/{id}/Processors/ return information about the Processors collection and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 279: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/Processors/{id}/ (page 190) for Instance Attribute details |

GET /Compute/Devices/{id}/Processors/

GET /Compute/Devices/{id}/Processors/ returns the Collection of Controllers.

Table 280: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Processors/
```

Table 281: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Controllers + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |

| Response Code | Name | Definition |
|---------------|--------------|---|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |

HEAD /Compute/Devices/{id}/Processors/

HEAD /Compute/Devices/{id}/Processors/ pings the Controllers collection.

Table 282: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 283: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |

OPTIONS /Compute/Devices/{id}/Processors/

OPTIONS /Compute/Devices/{id}/Processors/ returns the allowable HTTP Methods list for this resource.

Table 284: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-----------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |

4.2.4 /Compute/Devices/{id}/Processors/{id}/

The Device-level methods and attributes of /Compute/Devices/{id}/Processors/{id}/ return information about a specific Processor, based on the {id} in the URI string, and enable management operations.

HTTP Methods:[GET](#)[HEAD](#)[OPTIONS](#)

Table 285: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|------------------|-----------------------|-------------------|---|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| Name | String | Mandatory | Yes | Free-Form 256 Chars | The user-defined Friendly Name for this Resource |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--------------------------------------|------------------|-----------------------|-------------------|--|--|
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| Architecture | String | Mandatory | No | Free-form string indicating the architecture | The architecture type for the processor |
| Cores | Number | Mandatory | No | Unsigned Integer | The number of processor cores |
| DataWidth | String | Mandatory | No | Free-form string indicating the data width in bits | The number of processor cores |
| ProcessorDescription | String | Mandatory | No | Free-form 256 Chars | The number of processor cores |
| Family | Number | Mandatory | No | Unsigned Integer | The processor family value |
| LogicalProcessors | Number | Mandatory | No | Unsigned Integer | The number of logical processors |
| Manufacturer | String | Mandatory | No | Free-form 64 Chars | The processor manufacturer |
| Model | Number | Mandatory | No | Unsigned Integer | The processor model name or number |
| ProcessorID | String | Mandatory | No | Hex String | The processor unique identifier |
| ProcessorSpeed. BaseUnits | String | Mandatory | No | MHz | The base units for the processor speed |
| ProcessorSpeed. CurrentClockSpeed | Number | Mandatory | No | 0 - n | The current speed of the processor |
| ProcessorSpeed. MaxClockSpeed | Number | Mandatory | No | 0 - n | The maximum speed of the processor |
| Stepping | Number | Mandatory | No | Unsigned Integer | The processor stepping value |
| Revision | String | Mandatory | No | Free-form 64 Chars | The processor version |
| LoadPercentage | Number | Mandatory | No | 0 - 100 | The processor stepping value |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------|-----------------------|-------------------|---|--------------------|
| Role | String | Mandatory | No | "Central Processor" "Math Processor" "Graphics Processing Unit" "Field-Programmable Gate Array" | The processor role |

GET /Compute/Devices/{id}/Processors/{id}/

GET /Compute/Devices/{id}/Processors/{id}/ returns information regarding a specific Controller based on the {id} in the URI address string.

Table 286: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Processors/CPU1
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/Processors/CPU1/",
  "Status": {
    "State": {
      "ID": 16,
      "Name": "In service"
    },
    "Health": [
      {
        "ID": 5,
        "Name": "OK"
      }
    ],
    "Details": [
      "None"
    ]
  },
  "Architecture": "x86_64",
  "Cores": 10,
  "DataWidth": "64-bit",
  "ProcessorDescription": "Type 0, Family 6, Model 63, Stepping 2",
  "Family": 6,
```

```

    "ID": "CPU1",
    "LogicalProcessors": 20,
    "Manufacturer": "Intel",
    "Model": 63,
    "Name": "Intel(R) Xeon(R) CPU E5-2650 v3 @ 2.30GHz",
    "ProcessorID": "BFEBFBFF000306F2",
    "ProcessorSpeed": {
      "BaseUnits": "MHz",
      "CurrentClockSpeed": 2300,
      "MaxClockSpeed": 4000
    },
    "Stepping": 2,
    "Revision": "Intel(R) Xeon(R) CPU E5-2650 v3 @ 2.30GHz",
    "LoadPercentage": 0,
    "Role": "Central Processor"
  }

```

Table 287: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 200 | OK | OK & Controller information in the response body + ETag Header |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |

HEAD /Compute/Devices/{id}/Processors/{id}/

HEAD /Compute/Devices/{id}/Processors/{id}/ pings this Controller.

Table 288: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 289: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |

OPTIONS /Compute/Devices/{id}/Processors/{id}/

OPTIONS /Compute/Devices/{id}/Processors/{id}/ returns the allowable HTTP Methods list for this resource.

Table 290: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-----------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |

4.2.5 /Compute/Devices/{id}/Adapters/

The Device-level methods and attributes of /Compute/Devices/{id}/Adapters/ return information about the Adapters collection and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 291: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Optional | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/Adapters/{id}/ (page 197) for Instance Attribute details |

GET /Compute/Devices/{id}/Adapters/

GET /Compute/Devices/{id}/Adapters/ returns the Collection of Adapters.

Table 292: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Adapters
```

Table 293: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Adapters + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |

| Response Code | Name | Definition |
|---------------|--------------|---|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |

HEAD /Compute/Devices/{id}/Adapters/

HEAD /Compute/Devices/{id}/Adapters/ pings the Adapters collection.

Table 294: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 295: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |

OPTIONS /Compute/Devices/{id}/Adapters/

OPTIONS /Compute/Devices/{id}/Adapters/ returns the allowable HTTP Methods list for this resource.

Table 296: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-----------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |

4.2.6 /Compute/Devices/{id}/Adapters/{id}/

The Device-level methods and attributes of /Compute/Devices/{id}/Adapters/{id}/ return information about a specific Adapter, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 297: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|----------------------|---------------|-----------------------|-------------------|--|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| Status.State.Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status.State.ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status.Health[].Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |
| Status.Health[].ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| Associations | String Array | Mandatory | No | Adapter Ports | The associations among resources based on resource IDs |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------|--------|-----------------------|-------------------|-----------------------------------|---|
| Ports.Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Ports associated with this Adapter |

GET /Compute/Devices/{id}/Adapters/{id}/

GET /Compute/Devices/{id}/Adapters/{id}/ returns information regarding a specific Adapter based on the {id} in the URI address string.

Table 298: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Adapters/enol/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/Adapters/enol/",
  "ID": "enol",
  "Status": {
    "State": {
      "ID": 0,
      "Name": "Unknown"
    },
    "Health": [
      {
        "ID": 5,
        "Name": "OK"
      }
    ]
  },
  "Associations": {
    "Adapters": [
      "enol"
    ],
    "Ports": [
      "0c_c4_7a_68_e5_60_enol_inet",
      "0c_c4_7a_68_e5_60_enol_inet611"
    ]
  }
},
```



```
{
  "Ports": "http://10.20.30.40/Compute/Devices/0123456789/Ports/?Adapters=enol"
}
```

Table 299: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 200 | OK | OK & Adapter information in the response body + ETag Header |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |

HEAD /Compute/Devices/{id}/Adapters/{id}/

HEAD /Compute/Devices/{id}/Adapters/{id}/ pings this Adapter.

Table 300: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 301: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |

OPTIONS /Compute/Devices/{id}/Adapters/{id}/

OPTIONS /Compute/Devices/{id}/Adapters/{id}/ returns the allowable HTTP Methods list for this resource.

Table 302: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-----------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |

4.2.7 /Compute/Devices/{id}/Adapters/{id}/Ports/

The Device-level methods and attributes of /Compute/Devices/{id}/Adapters/{id}/Ports/ return information about the Ports collection and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 303: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Optional | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/Adapters/{id}/Ports/{id}/ (page 202) for Instance Attribute details |

GET /Compute/Devices/{id}/Adapters/{id}/Ports/

GET /Compute/Devices/{id}/Adapters/{id}/Ports/ returns the Collection of Ports.

Table 304: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
  -i
  -u admin:admin
  -X GET http://10.20.30.40/Compute/Devices/0123456789/Adapters/management/Ports
```

Table 305: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Ports + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |

| Response Code | Name | Definition |
|---------------|--------------|---|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |

HEAD /Compute/Devices/{id}/Adapters/{id}/Ports/

HEAD /Compute/Devices/{id}/Adapters/{id}/Ports/ pings the Ports collection.

Table 306: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 307: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |

OPTIONS /Compute/Devices/{id}/Adapters/{id}/Ports/

OPTIONS /Compute/Devices/{id}/Adapters/{id}/Ports/ returns the allowable HTTP Methods list for this resource.

Table 308: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-----------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |

4.2.8 /Compute/Devices/{id}/Adapters/{id}/Ports/{id}/

The Device-level methods and attributes of /Compute/Devices/{id}/Adapters/{id}/Ports/{id}/ return information about a specific Port, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

GET

PUT

HEAD

OPTIONS

Table 309: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|----------------------|---------------|-----------------------|-------------------|--|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| Status.State.Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status.State.ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status.Health[].Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |
| Status.Health[].ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| AddressOrigin.Name | String | Mandatory | Yes | "UNKNOWN" "OTHER" "NOT APPLICABLE" "STATIC" "DHCP" | Information value as to where the address is supplied |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------|--------------|-----------------------|-------------------|---|--|
| AddressOrigin.ID | Number | Mandatory | Yes | 0 - 4 | Information value map as to where the address is supplied |
| IPv4Address | String | Mandatory | Yes | IPv4 4-Octet pattern + CIDR mask | The IPv4 Network IP Address for this Device. Note: 0.0.0.0/8 & 127.0.0.0/8 are reserved and rejected. |
| IPGateway | String | Optional | Yes | IPv4 4-Octet pattern | The Network IP Gateway address setting |
| MACAddress | String | Mandatory | No | 6-hex digit HW address | |
| NetworkType.Name | String | Mandatory | No | "LAN" "WLAN" "WAN" "MAN" "SAN" "VLAN" "Ethernet Network" "IP Network" "IPv4 Network" "IPv6 Network" | The network type value |
| NetworkType.ID | Number | Mandatory | No | 0 - 8 | The network type value map |
| MTUBytes | Number | Mandatory | Yes | Range: 46 - 9216 (default: 1500) | The current Maximum Transfer Bytes value |
| DNS | String Array | Optional | Yes | IPv4 4-Octet pattern | List of DNS server addresses |

GET /Compute/Devices/{id}/Adapters/{id}/Ports/{id}/

GET /Compute/Devices/{id}/Adapters/{id}/Ports/{id}/ returns information regarding a specific Port based on the {id} in the URI address string.

Table 310: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
  -i
  -u admin:admin
  -X GET http://10.20.30.40/Compute/Devices/0123456789/Adapters/management/
Ports/01_0a_f7_95_79_3c
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/Adapters/management/Ports/01_0a_f7_95_79_3c/",
  "ID": "01_0a_f7_95_79_3c",
  "Status": {
    "State": {
      "ID": 16,
      "Name": "In service"
    },
    "Health": [
      {
        "ID": 5,
        "Name": "OK"
      }
    ]
  },
  "AddressOrigin": {
    "ID": 4,
    "Name": "DHCP"
  },
  "IPv4Address": "10.20.30.40/22",
  "IPGateway": "",
  "MACAddress": "01:0a:f7:95:79:3c",
  "NetworkType": {
    "ID": 8,
    "Name": "IPv4 Network"
  },
  "MTUBytes": 1500
}
```

Table 311: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 200 | OK | OK & Adapter information in the response body + ETag Header |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |

PUT /Compute/Devices/{id}/Adapters/{id}/Ports/{id}/

PUT /Compute/Devices/{id}/Adapters/{id}/Ports/{id}/ modifies an attribute or executes an operation for this Port.

Table 312: PUT Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

| Header | Mandatory or Optional | Description |
|----------|-----------------------|---|
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example PUT Response Body

```
{
  "AddressOrigin": {
    "ID": number,
    "Name": "DHCP | STATIC"
  },
  "IPv4Address": "ipv4_address/cidr",
  "IPGateway": "ipv4_gateway",
  "MTUBytes": 1500,
  "DNS": [
    "ipv4_address"
  ]
}
```

Table 313: PUT Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 200 | OK | OK & Port information in the response body + ETag Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 500 | Internal Server Error | System could not process the request |

HEAD /Compute/Devices/{id}/Adapters/{id}/Ports/{id}/

HEAD /Compute/Devices/{id}/Adapters/{id}/Ports/{id}/ pings this Port.

Table 314: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 315: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-----------|--|
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |

OPTIONS /Compute/Devices/{id}/Adapters/{id}/Ports/{id}/

OPTIONS /Compute/Devices/{id}/Adapters/{id}/Ports/{id}/ returns the allowable HTTP Methods list for this resource.

Table 316: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-----------|---|
| 200 | OK | OK & the “Allow” list of methods in the response header. The response body provides the JSON Schema for this resource |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |

4.2.9 /Compute/Devices/{id}/PowerSupplies/

The Device-level methods and attributes of /Compute/Devices/{id}/PowerSupplies/ return information about the Power Supplies collection and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 317: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/PowerSupplies/{id}/ (page 209) for Instance Attribute details |

GET /Compute/Devices/{id}/PowerSupplies/

GET /Compute/Devices/{id}/PowerSupplies/ returns the Collection of Power Supplies.

Table 318: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
  -i
  -u admin:admin
  -X GET http://10.20.30.40/Storage/Devices/0123456789/PowerSupplies
```

Table 319: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Power Supplies + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/PowerSupplies/

HEAD /Compute/Devices/{id}/PowerSupplies/ pings the Power Supplies collection.

Table 320: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 321: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/PowerSupplies/

OPTIONS /Compute/Devices/{id}/PowerSupplies/ returns the allowable HTTP Methods list for this resource.

Table 322: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

4.2.10 /Compute/Devices/{id}/PowerSupplies/{id}/

The Device-level methods and attributes of /Compute/Devices/{id}/PowerSupplies/{id}/ return information about a specific Adapter, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

GET

PUT

HEAD

OPTIONS

Table 323: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|---------------------|------------|-----------------------|-------------------|--|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| Name | String | Mandatory | No | Free-Form 64 Chars | |
| IndicatorLED. Name | String | Mandatory | No | "Off" "Lit" | The current state value of the Indicator LED for this Resource |
| IndicatorLED. ID | Number | Mandatory | Yes | 4 2 | The current state value map of the Indicator LED for this Resource |
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|------------------|-----------------------|-------------------|--|---|
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| Status. Details[] | String Array | Optional | No | Free-Form 32 Characters per Array entry. If no entry, then "None" | The current Health Details of the Power Supply |
| PartNumber | String | Mandatory | No | Free-Form 32 Characters | The Part Number for this Power Supply |
| SerialNumber | String | Mandatory | No | Free-Form 32 Characters | The Serial Number of this Power Supply |
| Manufacturer | String | Mandatory | No | Free-Form 32 Characters | The Manufacturer of this Power Supply |
| TotalOutputPower | Number | Optional | No | Number in Watts | The total output power in watts |
| BaseUnits. ID | Number | Optional | No | 7 | The Base Units value map |
| BaseUnits. Name | String | Optional | No | Watts | The Base Units value as Watts |
| RateUnits. ID | Number | Optional | No | 0 | The Rate Units value map |
| RateUnits. Name | String | Optional | No | None | The Rate Units value |
| UnitModifier | Number | Optional | No | 0 | The Unit Modifier to determine order of magnitude to multiply the Total Power Output as Base 10 * Unit Modifier |

GET /Compute/Devices/{id}/PowerSupplies/{id}/

GET /Compute/Devices/{id}/PowerSupplies/{id}/ returns information regarding a specific Power Supply based on the {id} in the URI address string.

Table 324: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/PowerSupplies/1
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/PowerSupplies/1/",
  "ID": "1",
  "Name": "PowerSupply 1",
  "Status": {
    "State": {
      "ID": "16",
      "Name": "In service"
    },
    "Health": [
      {
        "ID": "5",
        "Name": "OK"
      }
    ]
  },
  "PartNumber": " PWS-920P-SQ",
  "SerialNumber": " P9212CF32AT4462",
  "Manufacturer": " SUPERMICRO",
  "TotalOutputPower": 920,
  "BaseUnits": {
    "ID": "7",
    "Name": "Watts"
  },
  "RateUnits": {
    "ID": "0",
    "Name": "None"
  },
  "UnitModifier": 0
}
```

Table 325: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Power Supply information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

PUT /Compute/Devices/{id}/PowerSupplies/{id}/

PUT /Compute/Devices/{id}/PowerSupplies/{id}/ modifies an attribute or executes an operation for this Power Supply.

Table 326: PUT Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example PUT curl Command

Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "If-Match: 3677651d2011428f32120a029b015e80"
-X PUT http://10.20.30.40/Storage/Devices/0123456789/PowerSupplies/
PowerSupplyAFRU/?IPAddress=10.20.30.41
--data '{
  "IndicatorLED": {
    "ID": 2
  }
}'
```

Table 327: PUT Response Codes

| Response Code | Name | Definition |
|---------------|------|--|
| 200 | OK | OK & Power Supply information in the response body + ETag Header |

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/PowerSupplies/{id}/

HEAD /Compute/Devices/{id}/PowerSupplies/{id}/ pings this Power Supply.

Table 328: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 329: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/PowerSupplies/{id}/

OPTIONS /Compute/Devices/{id}/PowerSupplies/{id}/ returns the allowable HTTP Methods list for this resource.

Table 330: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 331: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

4.2.11 /Compute/Devices/{id}/Media/

The Device-level methods and attributes of /Compute/Devices/{id}/Media/ return information about the Media collection and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 332: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Optional | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/Media/{id}/ (page 217) for Instance Attribute details |

GET /Compute/Devices/{id}/Media/

GET /Compute/Devices/{id}/Media/ returns the Collection of Media.

Table 333: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 334: GET Query Parameters

| Query Parameter | Description |
|-----------------|---|
| ?SmartLog=true | Adds the "SmartLog" JSON object attributes based on the particular protocol type (e.g, ATA, SCSI, and NVMe) for all the Media Instances |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Media/
```

Table 335: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Media + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |

HEAD /Compute/Devices/{id}/Media/

HEAD /Compute/Devices/{id}/Media/ pings the Media collection.

Table 336: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 337: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |

OPTIONS /Compute/Devices/{id}/Media/

OPTIONS /Compute/Devices/{id}/Media/ returns the allowable HTTP Methods list for this resource.

Table 338: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-----------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |

4.2.12 /Compute/Devices/{id}/Media/{id}/

The Device-level methods and attributes of /Compute/Devices/{id}/Media/{id}/ return information about a specific Medium, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 339: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|----------------|------------|-----------------------|-------------------|---|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| SerialNumber | String | Mandatory | No | Free-Form 64 Chars | The serial number for this Resource |
| Model | String | Mandatory | No | Free-Form 64 Chars | The vendor name for this Resource |
| Version | String | Mandatory | No | Free-Form 32 Chars | The Operating System or Firmware Version |
| Manufacturer | String | Mandatory | No | Free-Form 64 Chars | The vendor name for this Resource |
| Protocol. Name | String | Mandatory | No | "Universal Serial Bus" "Serial ATA" "SAS" "Nvme" "NvmeoF" | The Media Protocol Name |
| Protocol. ID | Number | Mandatory | No | 15 47 65536-65538 | The Media Protocol ID value map |
| DiskType. Name | String | Mandatory | No | "Unknown" "Other" "HDD" "SSD" "Hybrid" "CD-DVD" | The Media Disk Type Name |
| DiskType. ID | Number | Mandatory | No | 0 - 5 | The Media Disk Type ID value map |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|------------------|-----------------------|-------------------|---|--|
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more Id entries |
| Status. Details[] | String Array | Mandatory | No | Free-Form 32 Characters per Array entry. If no entry, then "None" | The current Health Details of the Device |
| Capacity | Number | Mandatory | No | Integer value in Bytes | The total capacity of the Medium Resource in Bytes |
| DeviceHandle | String | Optional | No | Free-Form Characters | The current Device Handle name attached to this Medium Resource |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------------------|--------------|-----------------------|-------------------|--------------------------------|---|
| MultiplePathsDetected | Boolean | Optional | No | true false | Indicates if this Media Resource has multiple paths detected |
| DurableName | String | Optional | No | WWN or UUID Format | The in-band data path identifier |
| Associations | String Array | Mandatory | No | Media Volumes | Indicates the associations among linked resources based on ID |
| Volumes. Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Volumes associated with this Medium resource |

GET /Compute/Devices/{id}/Media/{id}/

GET /Compute/Devices/{id}/Media/{id}/ returns information regarding a specific Medium based on the {id} in the URI address string.

Table 340: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 341: GET Query Parameters

| Query Parameter | Description |
|-----------------|---|
| ?SmartLog=true | Adds the "SmartLog" JSON object attributes based on the particular protocol type (e.g, ATA, SCSI, and NVMe) for all the Media Instances |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Media/BTWA53140407240AGN
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/Media/BTWA53140407240AGN/" ,
```

```

    "ID": "BTWA53140407240AGN",
    "Name": "",
    "Status": {
      "State": {
        "ID": 16,
        "Name": "In service"
      },
      "Health": [
        {
          "ID": 5,
          "Name": "OK"
        }
      ]
    },
    "Associations": {
      "Media": [
        "BTWA53140407240AGN"
      ],
      "Volumes": [
        "4D4B-2427",
        "e5a11a79-bd5e-49de-balb-7ba7977878bf"
      ]
    },
    "Capacity": 240057409536,
    "AlternateDeviceHandle": "/dev/sda",
    "DeviceHandle": "/dev/sg0",
    "Manufacturer": "INTEL",
    "Model": "SSDSC2BB24",
    "MultiplePathsDetected": false,
    "Protocol": {
      "ID": 47,
      "Name": "Serial ATA"
    },
    "DiskType": {
      "ID": 2,
      "Name": "HDD"
    },
    "Version": "0130",
    "SerialNumber": "BTWA53140407240AGN",
    "DurableName": "",
    "Volumes": "http://10.20.30.40/Compute/Devices/0123456789/Volumes/?Media=BTWA53140407240AGN"
  }
}

```

Table 342: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 200 | OK | OK & Media information in the response body + ETag Header |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |

HEAD /Compute/Devices/{id}/Media/{id}/

HEAD /Compute/Devices/{id}/Media/{id}/ pings this Medium.

Table 343: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 344: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |

OPTIONS /Compute/Devices/{id}/Media/{id}/

OPTIONS /Compute/Devices/{id}/Media/{id}/ returns the allowable HTTP Methods list for this resource.

Table 345: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-----------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |

4.3 Logical Devices

The OCAPI's logical and virtual resources model include those resources that are logical or virtual in nature. The topics in this section provide information for accessing and managing the features of these logical and virtual resources.

4.3.1 /Compute/Devices/{id}/Volumes/

The Device-level methods and attributes of /Compute/Devices/{id}/Volumes/ return information about the Storage Volume(s) and enable management operations.

HTTP Methods:

GET

POST

HEAD

OPTIONS

Table 346: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Optional | No | Resource Collection (0 - n entries) | The array of Resource Instances. See / Compute/Devices/{id}/Volumes/{id}/ (page 225) for Instance Attribute details |

GET /Compute/Devices/{id}/Volumes/

GET /Compute/Devices/{id}/Volumes/ returns the Collection of Volumes.

Table 347: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Volumes/
```

Table 348: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Volume + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |

POST /Compute/Devices/{id}/Volumes/

POST /Compute/Devices/{id}/Volumes/ creates a new Volume.

Table 349: POST Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Example POST Request Body

```
{
  "Name": "volume_name",
  "Capacity" : bytes,
  "Description": "desc",
  "PoolID": pool_id
}
```

Table 350: POST Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|--|
| 201 | Created | Created & Volume information in the response body + ETag Header + new URI in Location Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 409 | Conflict | A new parameter value already exists (e.g., Name) |
| 500 | Internal Server Error | System could not process the request |

HEAD /Compute/Devices/{id}/Volumes/

HEAD /Compute/Devices/{id}/Volumes/ pings the Volume collection.

Table 351: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 352: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |

OPTIONS /Compute/Devices/{id}/Volumes/

OPTIONS /Compute/Devices/{id}/Volumes/ returns the allowable HTTP Methods list for this resource.

Table 353: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-----------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |

4.3.2 /Compute/Devices/{id}/Volumes/{id}/

The Device-level methods and attributes of /Compute/Devices/{id}/Volumes/{id}/ return information about a specific Storage Volume, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

[GET](#)[PUT](#)[DELETE](#)[HEAD](#)[OPTIONS](#)

Table 354: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-------------------|--------------|-----------------------|-------------------|--------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| Name | String | Mandatory | Yes | Free-Form 256 Chars | The user-defined name of this Volume |
| UUID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| Capacity | Number | Mandatory | No | Integer Bytes | The total number of raw bytes for this Volume from the FS point of view |
| RemainingCapacity | Number | Mandatory | No | Integer Bytes | The total number of raw remaining bytes for this Volume from the FS point of view |
| BlockSize | Number | Optional | No | Integer Bytes | The block size for this Volume |
| DeviceHandle | String | Optional | No | Free-Form 64 Chars | The operating system connection to this Volume |
| FsType | String | Mandatory | No | "ext4" "NTFS" | The Filesystem Type formatted onto this Volume |
| MountPoint | String | Mandatory | No | Free-Form 64 Chars | The Volume mount point name on this system |
| Associations | String Array | Mandatory | No | Media Volumes | The associations among resources based on ID |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|------------------|-----------------------|-------------------|---|--|
| Status. State. Name | String Array | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more Id entries |
| Media. Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link to the Media for this Volume |

GET /Compute/Devices/{id}/Volumes/{id}/

GET /Compute/Devices/{id}/Volumes/{id}/ returns information regarding a specific Volume based on the {id} in the URI address string.

Table 355: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Volumes/4D4B-2427
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/Volumes/4D4B-2427/",
  "ID": "4D4B-2427",
  "Status": {
    "State": {
      "ID": 0,
      "Name": "Unknown"
    },
    "Health": [
      {
        "ID": 5,
        "Name": "OK"
      }
    ]
  },
  "BlockSize": 512,
  "Capacity": 1124995072,
  "RemainingCapacity": 1118629888,
  "DeviceHandle": "/dev/sda1",
  "FsType": "vfat",
  "MountPoint": "/boot/efi",
  "UUID": "4D4B-2427",
  "Associations": {
    "Media": [
      "BTWA53140407240AGN"
    ],
    "Volumes": [
      "4D4B-2427"
    ]
  },
  "Media": "http://10.20.30.40/Compute/Devices/0123456789/Media/?Volumes=4D4B-2427"
}
```

Table 356: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 200 | OK | OK & Volume information in the response body + ETag Header |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-----------|--|
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |

PUT /Compute/Devices/{id}/Volumes/{id}/

PUT /Compute/Devices/{id}/Volumes/{id}/ modifies an attribute or executes an operation for this Volume.

Table 357: PUT Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example PUT curl Command



Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "Content-Type: application/json"
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X PUT http://10.20.30.40/Compute/Devices/0123456789/Volumes/4D4B-2427
--data '{
    "Name": "volume_name",
    "Description": "desc",
}'
```

Table 358: PUT Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 200 | OK | OK & Volume information in the response body + ETag Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 409 | Conflict | A new parameter value already exists (e.g., Name) |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |

| Response Code | Name | Definition |
|---------------|-----------------------|--------------------------------------|
| 500 | Internal Server Error | System could not process the request |

DELETE /Compute/Devices/{id}/Volumes/{id}/

DELETE /Compute/Devices/{id}/Volumes/{id}/ deletes this Volume.

Table 359: DELETE Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example DELETE curl Command

Note: The If-Match conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X DELETE http://10.20.30.40/Compute/Devices/0123456789/Accounts/test
```



Note: The last remaining "Admin" role account cannot be deleted to prevent loss of communication with the Device.

Table 360: DELETE Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 204 | No Content | Delete successful, no content in the response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 500 | Internal Server Error | System could not process the request |

HEAD /Compute/Devices/{id}/Volumes/{id}/

HEAD /Compute/Devices/{id}/Volumes/{id}/ pings this Volume.

Table 361: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 362: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |

OPTIONS /Compute/Devices/{id}/Volumes/{id}/

OPTIONS /Compute/Devices/{id}/Volumes/{id}/ returns the allowable HTTP Methods list for this resource.

Table 363: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-----------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |

4.3.3 /Compute/Devices/{id}/Accounts/

The Device-level methods and attributes of /Compute/Devices/{id}/Accounts/ return information about the Accounts collection and enable management operations.

HTTP Methods:

[GET](#)[POST](#)[HEAD](#)[OPTIONS](#)

Table 364: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (1 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/Accounts/{id}/ (page 235) for Instance Attribute details |

GET /Compute/Devices/{id}/Accounts/

GET /Compute/Devices/{id}/Accounts/ returns the Collection of Accounts.

Table 365: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/ComputeDevices/0123456789/Accounts/
```

Table 366: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Accounts + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

POST /Compute/Devices/{id}/Accounts/

POST /Compute/Devices/{id}/Accounts/ creates a new Account.

Table 367: POST Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Example POST curl Command

```
curl
-i
-u admin:admin
-H "Content-Type: application/json"
-X POST http://10.20.30.40/Compute/Devices/01234567890/Accounts/
--data '{
  "UserID": "user_id",
  "BasicAuthentication": {
    "UserPassword": "password"
  },
  "DigestAuthentication": {
    "UserPassword": "password"
  },
  "JWTAuthentication": {
    "UserPassword": "password"
  },
  "Role": {
    "ID": 0 | 1
  }
}'
```

Table 368: POST Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 201 | Created | Created & Account information in the response body + ETag Header + new URI in Location Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 409 | Conflict | A new parameter value already exists (e.g., Name) |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/Accounts/

HEAD /Compute/Devices/{id}/Accounts/ pings the Accounts collection.

Table 369: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 370: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Accounts/

OPTIONS /Compute/Devices/{id}/Accounts/ returns the allowable HTTP Methods list for this resource.

Table 371: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 372: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

4.3.4 /Compute/Devices/{id}/Accounts/{id}/

The Device-level methods and attributes of /Compute/Devices/{id}/Accounts/{id}/ return information about a specific Account, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

GET

PUT

DELETE

HEAD

OPTIONS

Table 373: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--|------------|-----------------------|-------------------|---|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 64 Chars Valid characters include: "a-z A-Z 0-9 _ -" | The Identifier this particular Account |
| BasicAuthentication. UserPassword SHA1Checksum | String | Mandatory | No | Free-Form 128 Characters | The basic authentication checksum |
| BasicAuthentication. UserPassword | String | Optional | Yes | Free-Form 128 Characters | The user password used to create the checksum (not shown in the GET response) |
| DigestAuthentication. UserPassword MD5Checksum | String | Mandatory | No | Free-Form 128 Characters | The digest authentication checksum |
| DigestAuthentication. UserPassword | String | Optional | Yes | Free-Form 128 Characters | The user password used to create the checksum (not shown in the GET response) |
| DigestAuthentication. Realm | String | Optional | No | Free-Form 128 Characters | The digest authentication realm |
| Role. Name | String | Mandatory | No | "Admin" | The Role type string for this Account |
| Role. ID | Number | Mandatory | No | 0 | The Role type value for this Account |
| UserID | String | Mandatory | Yes | Free-Form 64 Chars | The user identifier for this Account |

GET /Compute/Devices/{id}/Accounts/{id}/

GET /Compute/Devices/{id}/Accounts/{id}/ returns information regarding a specific Account based on the {id} in the URI address string.

Table 374: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Accounts/admin
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/Accounts/admin/",
  "ID": "admin",
  "BasicAuthentication": {
    "UserPasswordSHA1Checksum": "{SHA}0DPiKuNIrrVmD8IUCuwlhQxNqZc="
  },
  "DigestAuthentication": {
    "UserPasswordMD5Checksum": "97ebad852d0dabfd6b71ae26fff61fa3",
    "Realm": "Western Digital Corporation"
  },
  "JWTAuthentication": {
    "UserPasswordMD5Checksum": "b80648545a30e0999892b517127c0e17"
  },
  "Role": {
    "ID": 0,
    "Name": "Admin"
  },
  "UserID": "admin"
}
```

Table 375: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & Account information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

PUT /Compute/Devices/{id}/Accounts/{id}/

PUT /Compute/Devices/{id}/Accounts/{id}/ modifies an attribute or executes an operation for this Account.

Table 376: PUT Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example PUT curl Command



Note: The If-Match conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "Content-Type: application/json"
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X PUT http://10.20.30.40/Compute/Devices/0123456789/Accounts/test
--data '{
  "UserID": "test",
  "BasicAuthentication": {
    "UserPassword": "new_password"
  },
  "Role": {
    "ID": 1
  }
}'
```

Table 377: PUT Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & Account information in the response body + ETag Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

DELETE /Compute/Devices/{id}/Accounts/{id}/

DELETE /Compute/Devices/{id}/Accounts/{id}/ deletes this Account.

Table 378: DELETE Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example DELETE curl Command



Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X DELETE http://10.20.30.40/Compute/Devices/0123456789/Accounts/test
```



Note: The last remaining "Admin" role account cannot be deleted to prevent loss of communication with the Device.

Table 379: DELETE Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 204 | No Content | Delete successful, no content in the response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 409 | Conflict | In the case of only one account, that last one cannot be deleted |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 429 | Too Many Requests | Indicates API service is Busy, client should try again later |

HEAD /Compute/Devices/{id}/Accounts/{id}/

HEAD /Compute/Devices/{id}/Accounts/{id}/ pings this Account.

Table 380: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 381: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Accounts/{id}/

OPTIONS /Compute/Devices/{id}/Accounts/{id}/ returns the allowable HTTP Methods list for this resource.

Table 382: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 383: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

4.3.5 /Compute/Devices/{id}/OperatingSystem/

The Device-level methods and attributes of /Compute/Devices/{id}/OperatingSystem/ return information about the Operating System (Application) and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 384: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-------------------|--------|-----------------------|-------------------|--|--|
| Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| Name | String | Mandatory | No | Free-Form 128 Chars | The Operating System or Firmware name |
| Architecture | String | Optional | No | "x84_64" | The Operating System platform CPU Architecture information |
| OSDescription | String | Optional | No | Free-Form 128 Chars | The Operating System description information |
| OSType.Name | String | Mandatory | No | "Winnt" "Linux" | The Operating System Type value |
| OSType.ID | Number | Mandatory | No | 18 36 | The Operating System Type value map |
| SerialNumber | String | Optional | No | Free-Form 128 Chars | The Operating System serial Number |
| Version | String | Mandatory | No | Free-Form 128 Chars | The Operating System or Application Version |
| Status.State.Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status.State.ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|------------------|-----------------------|-------------------|---|---|
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more Id entries |

GET /Compute/Devices/{id}/OperatingSystem/

GET /Compute/Devices/{id}/OperatingSystem/ returns the information of the Operating System resource.

Table 385: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/OperatingSystem/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/OperatingSystem/",
  "Name": "Linux",
  "Architecture": "x86_64",
  "OSDescription": "Ubuntu 22.04 (Jammy Jellyfish) 5.15.0-69-generic",
  "SerialNumber": "0123456789",
  "OSType": {
    "ID": 36,
    "Name": "Linux"
  },
  "Version": "Ubuntu 22.04 (Jammy Jellyfish) 5.15.0-69-generic",
  "Status": {
    "State": {
      "ID": 16,
      "Name": "In service"
    },
    "Health": [
      {
        "ID": 5,
        "Name": "OK"
      }
    ]
  }
}
```

Table 386: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Operating System resource information in the response body |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/OperatingSystem/

HEAD /Compute/Devices/{id}/OperatingSystem/ pings the Operating System resource.

Table 387: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 388: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/OperatingSystem/

OPTIONS /Compute/Devices/{id}/OperatingSystem/ returns the allowable HTTP Methods list for this resource.

Table 389: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 390: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

4.3.6 /Compute/Devices/{id}/Files/

The Device-level methods and attributes of /Compute/Devices/{id}/Files/ return information about the Files collection and enable management operations.

HTTP Methods:[GET](#)[HEAD](#)[OPTIONS](#)

Table 391: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Optional | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/Files/{id}/ (page 249) for Instance Attribute details |

GET /Compute/Devices/{id}/Files/

GET /Compute/Devices/{id}/Files/ returns the Collection of Files.

Table 392: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Files/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/Files/",
  "Members": [
    {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Files/auditlog/",
      "ID": "auditlog",
      "Description": "Audit Log"
    }
  ]
}
```

```

    },
    {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Files/syslog/",
      "ID": "syslog",
      "Description": "System Log"
    },
    {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Files/authlog/",
      "ID": "authlog",
      "Description": "Auth Log"
    },
    {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Files/kernlog/",
      "ID": "kernlog",
      "Description": "Kernel Log"
    },
    {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Files/notices/",
      "ID": "notices",
      "Description": "Notices"
    },
    {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Files/eula/",
      "ID": "eula",
      "Description": "EULA"
    },
    {
      "Self": "http://10.20.30.40/Compute/Devices/0123456789/Files/telemetry/",
      "ID": "telemetry",
      "Description": "Telemetry"
    }
  ],
  "TLSCertAndKey": {},
  "LDAPCert": {}
}

```



Note: If a custom TLS/SSL Certificate and/or an LDAP Client Certificate have been uploaded, these will also be listed in the GET /Files response with links to retrieve them.



Note: The Compute Device connection returns the GET /Telemetry JSON information (with local Media SmartLog info along with any in-band attached Storage Device GET /Telemetry JSON information with Media SmartLog info) and with the above Log Files within the GET /Files/telemetry download bundle.

Table 393: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Files + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/Files/

HEAD /Compute/Devices/{id}/Files/ pings this Files collection.

Table 394: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 395: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Files/

OPTIONS /Compute/Devices/{id}/Files/ returns the allowable HTTP Methods list for this resource.

Table 396: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 397: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

4.3.7 /Compute/Devices/{id}/Files/{id}/

The Device-level methods and attributes of /Compute/Devices/{id}/Files/{id}/ return information about a specific File and enable management operations.

HTTP Methods: GET POST HEAD OPTIONS

Table 398: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|------------|-----------------------|-------------------|--------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier |
| Name | String | Mandatory | No | Free-Form 256 Chars | The name of the file |

GET /Compute/Devices/{id}/Files/{id}/

GET /Compute/Devices/{id}/Files/{id}/ returns information regarding a specific File based on the {id} in the URI address string.

Table 399: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command – Audit Log

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Files/auditlog
```

Example GET Response Body – Audit Log

```
datetime:20231003_140317+00
addr:[10.20.30.40:59634]
type:Response
status code:401
user:
path:/Compute/Devices/0123456789/
```

Table 400: Available Files

| OS | File Type | Description |
|---------|-------------------------------------|--|
| All | auditlog | Returns the current audit log entries as text to the requestor (content-type: text/plain) |
| | notices | Returns the 3rd Party open-source software entries and their licensing used in this application |
| | eula | Returns the End-User License Agreement documentation |
| | cert_pem (204 No Content or 200 OK) | If the User uploaded a custom Cert/Key pair, returns the current SSL certificate entry as text to the requestor (content-type: text/plain) |
| | key_pem (405 Method Not Allowed) | If the User uploaded a custom Cert/Key pair, SSL key GET not allowed for security of the key (403 Forbidden response) |
| Linux | syslog | Returns system log |
| | authlog | Returns authorization log |
| | kernlog | Returns the kernel log |
| Windows | syslog | Returns system log |
| | applicationlog | Returns the list of Open Source usage upon request |
| | securitylog | Returns the EULA license agreement |



Note: Specifying "telemetry" in the GET operation will return a compressed file bundle of several system files and the GET /Telemetry JSON full data. The web client should wait for the HTTP response before trying to request telemetry again. All the other files will return their "text/plain" output to the web client.

Table 401: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & File information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

POST /Compute/Devices/{id}/Files/{id}/

POST /Compute/Devices/{id}/Files/{id}/ updates the requested file.

Table 402: POST Request Headers

| Header | Mandatory or Optional | Description |
|-----------------------------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| Content-Type: multipart/form-data | Mandatory | The FW image file is of content type "multipart/form-data" |

Example POST curl Command – Adding an SSL Certificate & Key

```
curl
-i
-u admin:admin
-X POST http://10.20.30.40/Compute/Devices/0123456789/Files/TLSCertAndKey/
-H "Content-Type: multipart/form-data"
-F "cert.pem=@cert.pem"
-F "key.pem=@key.pem"
```

Example POST Request Body – Adding an SSL Certificate & Key

```
Content-Disposition: form-data; cert="{file_name}"
{file body}
Content-Disposition: form-data; key="{file_name}"
{file body}
```



Note: Both Certificate and Key files MUST be sent together in the same POST request.



Note: Once the Certificate and Key files are uploaded, the API will restart for the certificate/key to take effect. See PUT [/Query/InformationStructure/](#) (page 16) {"RestartAPI": true}.



Note: The Certificate and Key files cannot be validated, therefore the user must make sure the files are valid before uploading. If they are invalid, the result is the HTTPS service will not operate.

Example POST curl Command – Adding an LDAP Client SSL Certificate

```
curl
-i
-u admin:admin
-X POST http://10.20.30.40/Compute/Devices/0123456789/Files/LDAPCert/
-H "Content-Type: multipart/form-data"
-F "cert.pem=@ldapcert.pem"
```

Example POST Request Body – Adding an LDAP Client SSL Certificate

```
Content-Disposition: form-data; ldapcert.pem="{file_name}"
{file body}
```



Note: The Certificate file cannot be validated, therefore the user must make sure the files are valid before uploading. If they are invalid, the result is the LDAP service will not operate properly.

Table 403: POST Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 201 | Created | Created & File information in the response body + ETag Header + new URI in Location Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/Files/{id}/

HEAD /Compute/Devices/{id}/Files/{id}/ pings a specific Compute File.

Table 404: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 405: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Files/{id}/

OPTIONS /Compute/Devices/{id}/Files/{id}/ returns the allowable HTTP Methods list for this resource.

Table 406: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 407: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 204 | No Content | No Content & "Allow" list of methods in the response header. Some files will return 204 No Content indicating that there is no entity body |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

4.3.8 /Compute/Devices/{id}/Location/

The Device-level methods and attributes of /Compute/Devices/{id}/Location/ return information about the resource Location and enable management operations.

HTTP Methods:

[GET](#)[PUT](#)[DELETE](#)[HEAD](#)[OPTIONS](#)

Table 408: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------|--------|-----------------------|-------------------|--------------------------------|---|
| Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Country | String | Optional | Yes | Free-Form 64 Chars | The Country name where this Device is located |
| Territory | String | Optional | Yes | Free-Form 64 Chars | The Territory name where this Device is located |
| State | String | Optional | Yes | Free-Form 64 Chars | The State name where this Device is located |
| City | String | Optional | Yes | Free-Form 64 Chars | The City name where this Device is located |
| Address1 | String | Optional | Yes | Free-Form 64 Chars | The first Address information where this Device is located |
| Address2 | String | Optional | Yes | Free-Form 64 Chars | The second Address information where this Device is located as needed |
| Address3 | String | Optional | Yes | Free-Form 64 Chars | The third Address information where this Device is located as needed |
| PostalCode | String | Optional | Yes | Free-Form 32 Chars | The Postal or Zip Code name where this Device is located |
| SiteName | String | Optional | Yes | Free-Form 32 Chars | The friendly Site Name |
| Building | String | Optional | Yes | Free-Form 32 Chars | The Building name or number where this Device is located |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-------------------|--------|-----------------------|-------------------|--|---|
| Room | String | Optional | Yes | Free-Form 32 Chars | The Room name or number in the Building where this Device is located |
| Pod | String | Optional | Yes | Free-Form 32 Chars | The Pod name or number in the Room this Device is located as needed |
| Row | String | Optional | Yes | Free-Form 32 Chars | The Row name or number in the Room or Pod this Device is located |
| Rack | String | Optional | Yes | Free-Form 32 Chars | The Rack name or number in the Row this Device is located |
| Shelf | String | Optional | Yes | Free-Form 32 Chars | The Shelf name or number of the Rack this Device is located |
| Device | String | Optional | Yes | Free-Form 32 Chars | The Device name or number of the Rack this Device is located |
| Item | String | Optional | Yes | Free-Form 32 Chars | The Item name indicating the Shelf units or dimension for this Device |
| GPSCoords | String | Optional | Yes | Decimal Latitude, Decimal Longitude Format | The GPS coordinates of the location of this Device |
| OtherLocationInfo | String | Optional | Yes | Free-Form 64 Chars | A place-holder for other location information |

GET /Compute/Devices/{id}/Location/

GET /Compute/Devices/{id}/Location/ returns the Location information.

Table 409: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Location/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/Location/",
  "Country": "USA",
  "Territory": "",
  "State": "Colorado",
  "City": "Colorado Springs",
  "Address1": "9950 Federal Drive",
  "Address2": "Suite 100",
  "Address3": "",
  "PostalCode": "80921",
  "SiteName": "WD COS DataCenter 1",
  "Building": "9950",
  "Room": "159",
  "Pod": "p2",
  "Rack": "r02",
  "Shelf": "30",
  "Device": "5",
  "Item": "Rack Units",
  "GPSCoords": "38.9838684,-104.8040493",
  "OtherLocationInfo": "This is other info"
}
```

Table 410: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Location information + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

PUT /Compute/Devices/{id}/Location/

PUT /Compute/Devices/{id}/Location/ modifies an attribute of the Location.

Table 411: PUT Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example PUT curl Command

Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "Content-Type: application/json"
-H "If-Match: 3677651d2011428f32120a029b015e80"
-X PUT http://10.20.30.40/Compute/Devices/0123456789/Location/
--data '{
  "Address1": "9950 Federal Drive",
  "Address2": "Suite 100",
  "Address3": "North",
  "Building": "9950",
  "City": "Colorado Springs",
  "Country": "USA",
  "Device": "255",
  "GPSCoords": "38.9838643,-104.806244",
  "Item": "Rack Units",
  "OtherLocationInfo": "More Info",
  "Pod": "2",
  "PostalCode": "80921",
  "Rack": "2",
  "Room": "159",
  "Row": "2",
  "Shelf": "24",
  "SiteName": "WDC COS DataCenter",
  "State": "Colorado",
  "Territory": "El Paso"
}'
```

Example PUT Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/Location/"
  "Address1": "9950 Federal Drive",
  "Address2": "Suite 100",
  "Address3": "North",
  "Building": "9950",
  "City": "Colorado Springs",
  "Country": "USA",
  "Device": "255",
  "GPSCoords": "38.9838643,-104.806244",
  "Item": "Rack Units",
  "OtherLocationInfo": "More Info",
```

```

"Pod": "2",
"PostalCode": "80921",
"Rack": "2",
"Room": "159",
"Row": "2",
"Shelf": "24",
"SiteName": "WDC COS DataCenter",
"State": "Colorado",
"Territory": "El Paso"
}

```

Table 412: PUT Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 200 | OK | OK & Location information with no response body |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |
| 500 | Internal Server Error | Resource could not execute the request |

DELETE /Compute/Devices/{id}/Location/

DELETE /Compute/Devices/{id}/Location/ deletes Location information.

Table 413: DELETE Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example DELETE curl Command



Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```

curl
-i
-u admin:admin
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X DELETE http://10.20.30.40/Compute/Devices/0123456789/Location/

```

Table 414: DELETE Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 204 | No Content | Delete successful, no content in the response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |
| 500 | Internal Server Error | System could not process the request |

HEAD /Compute/Devices/{id}/Location/

HEAD /Compute/Devices/{id}/Location/ pings the Location resource.

Table 415: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 416: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Location/

OPTIONS /Compute/Devices/{id}/Location/ returns the allowable HTTP Methods list for this resource.

Table 417: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 418: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

4.3.9 /Compute/Devices/{id}/SystemClock/

The Device-level methods and attributes of /Compute/Devices/{id}/SystemClock/ return information about the System Clock and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 419: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|---------------------|--------|-----------------------|-------------------|-----------------------------------|---|
| Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Uptime. Duration | String | Mandatory | No | | The current uptime value in ISO 8601 format |
| Uptime. Days | Number | Mandatory | No | 0 - n | The current uptime Days since boot |
| Uptime. Hours | Number | Mandatory | No | 0 - 23 | The current uptime Hours since boot |
| Uptime. Minutes | Number | Mandatory | No | 0 - 59 | The current uptime Minutes since boot |
| Uptime. Seconds | Number | Mandatory | No | 0 - 59 | The current uptime Seconds since boot |

GET /Compute/Devices/{id}/SystemClock/

GET /Compute/Devices/{id}/SystemClock/ returns the System Clock information.

Table 420: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/SystemClock/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/SystemClock/",
  "Date": "17-Aug-2022",
  "Time": "12:34:13",
  "TimeZone": "(UTC-6.00) MDT",
  "TimeZoneSetting": "MDT",
  "DST": "Enabled",
  "Uptime": {
    "Duration": "P82DT1H26M51S",
    "Days": 82,
    "Hours": 1,
    "Minutes": 26,
    "Seconds": 51
  }
}
```

Table 421: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & System Clock information + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. Note: Due to the time changing every second, catching a 304 response will be very rare |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/SystemClock/

HEAD /Compute/Devices/{id}/SystemClock/ pings the System Clock resource.

Table 422: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 423: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/SystemClock/

OPTIONS /Compute/Devices/{id}/SystemClock/ returns the allowable HTTP Methods list for this resource.

Table 424: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 425: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

4.3.10 /Compute/Devices/{id}/Performance/

The Device-level methods and attributes of /Compute/Devices/{id}/Performance/ return information about the System Clock and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 426: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Config-urable | Possible Values | Description |
|--------------------------------------|------------|-----------------------|--------------------|-----------------------------------|--|
| Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Diskstats[].Name | String | Mandatory | No | Free-Form 64 Chars | Name of the device |
| Diskstats[].UnixNano | Number | Mandatory | No | Integer epoch time | Epoch Nanoseconds |
| Diskstats[].BusMaj | Number | Mandatory | No | 0 - n | Major Bus Number |
| Diskstats[].BusMin | Number | Mandatory | No | 0 - n | Minor Bus Number |
| Diskstats[].Device | URI String | Mandatory | No | Free-Form URI Format 256 Chars | URI to the Device as Volume or Media |
| Diskstats[].DeviceHandle | String | Mandatory | No | Free-Form 64 Chars | The system connection to this Volume |
| Diskstats[].ReadsComplete | Number | Mandatory | No | 0 - n | Integer counter for number of bytes read |
| Diskstats[].ReadsMerged | Number | Mandatory | No | 0 - n | Number of requests collapsed into one single read request |
| Diskstats[].SectorsRead | Number | Mandatory | No | 0 - n | Number of sectors read |
| Diskstats[].MillisecondsSpentReading | Number | Mandatory | No | 0 - n | Read time in milliseconds |
| Diskstats[].WritesComplete | Number | Mandatory | No | 0 - n | Integer counter for number of bytes written |
| Diskstats[].WritesMerged | Number | Mandatory | No | 0 - n | Number of requests collapsed into one single write request |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--|--------|-----------------------|-------------------|-----------------|--|
| Diskstats[].SectorsWritten | Number | Mandatory | No | 0 - n | Number of sectors written |
| Diskstats[].MillisecondsSpentWriting | Number | Mandatory | No | 0 - n | Write time in milliseconds |
| Diskstats[].IOsInProgress | Number | Mandatory | No | 0 - n | Current number of IO operations in progress |
| Diskstats[].MillisecondsSpentDoingIO | Number | Mandatory | No | 0 - n | Time spent doing IO in milliseconds |
| Diskstats[].WeightedNumberOfMillisecondsSpentDoingIO | Number | Mandatory | No | 0 - n | Field is incremented by the time spent doing I/O multiplied by the number of I/O requests in progress, to provide time weighted by number of active requests |

GET /Compute/Devices/{id}/Performance/

GET /Compute/Devices/{id}/Performance/ returns the information of the Performance resource.

Table 427: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Compute/Devices/0123456789/Performance
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Compute/Devices/0123456789/Performance/",
  "DiskStats": [
    {
      "UnixNano": 1697050529417774300,
      "BusMaj": 8,
      "BusMin": 1,
      "Device": "http://10.20.30.40/Compute/Devices/0123456789/Performance/
Volumes/4D4B-2427/",
      "DeviceHandle": "/dev/sda1",
      "ReadsComplete": 1359,
      "ReadsMerged": 8891,
      "SectorsRead": 135260,
      "MillisecondsSpentReading": 427,
      "WritesComplete": 2,
      "WritesMerged": 0,
      "SectorsWritten": 2,
      "MillisecondsSpentWriting": 0,
      "IOsInProgress": 0,
      "MillisecondsSpentDoingIO": 3896,
      "WeightedNumberOfMillisecondsSpentDoingIO": 2894
    }
  ]
}
```

Table 428: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & Performance information in the response body |
| 304 | Not Modified | |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |

HEAD /Compute/Devices/{id}/Performance/

HEAD /Compute/Devices/{id}/Performance/ pings the Performance resource.

Table 429: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 430: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|------|--------------------------|
| 200 | OK | OK with no response body |

| Response Code | Name | Definition |
|---------------|--------------|--|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |

OPTIONS /Compute/Devices/{id}/Performance/

OPTIONS /Compute/Devices/{id}/Performance/ returns the allowable HTTP Methods list for this resource.

Table 431: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-----------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |

4.3.11 /Compute/Devices/{id}/Telemetry/

The Device-level methods and attributes of /Compute/Devices/{id}/Telemetry/ return information about the Telemetry resource and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 432: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--------------|--------------|-----------------------|-------------------|-----------------------------------|---|
| Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| LastAccessed | String | Mandatory | No | datetime based on UTC | The UTC time of the request |
| Members[] | String Array | Mandatory | No | Member Entry | This is the instantaneous, fully expanded metadata from this Device |

GET /Compute/Devices/{id}/Telemetry/

GET /Compute/Devices/{id}/Telemetry/ returns the information of the Telemetry resource.

Table 433: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
  -i
  -u admin:admin
  -X GET http://10.202.237.61:80/Compute/Devices/78dde6b28cc44503bbdc446d8c85b3e/Telemetry/
```

Example GET Response Body

Note: In this example, the Compute Device is proxy managing 3 other Storage Devices, so this Telemetry response includes those as well.

```
{
  "Self": "http://10.202.237.61:80/Compute/Devices/78dde6b28cc44503bbdc446d8c85b3e/Telemetry/",
  "LastAccessed": "26-Jan-2024 12:48:34 UTC",
  "Members": [
    {
      "Self": "http://10.202.237.61:80/Compute/Devices/78dde6b28cc44503bbdc446d8c85b3e/",
      "SystemType": {...},
      "Name": "cos-r16-s2",
      "ID": "78dde6b28cc44503bbdc446d8c85b3e",
      "OperatingSystem": {...},
      "SerialNumber": "0123456789",
      "Model": "Super Server",
      "Manufacturer": "Supermicro",
      "Capabilities": {...},
      "Status": {...},
      "IPAddresses": {...},
      "Architecture": "x86_64",
      "InformationStructure": {...},
      "Domain": "",
      "Memory": 134951862272,
      "RemainingMemory": 130660556800,
      "Rackmountable": {...},
      "Location": {...},
      "Accounts": {...},
      "Adapters": {...},
      "Files": {...},
      "Media": {...},
      "Performance": {...},
      "Ports": {...},
      "PowerSupplies": {...},
      "Processors": {...},
      "SystemClock": {...},
      "Volumes": {...},
      "Telemetry": {...}
    },
    {...},
    {...},
    {...}
  ]
}
```

Table 434: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & Telemetry resource information in the response body |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Compute/Devices/{id}/Telemetry/

HEAD /Compute/Devices/{id}/Telemetry/ pings the Telemetry resource.

Table 435: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 436: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Compute/Devices/{id}/Telemetry/

OPTIONS /Compute/Devices/{id}/Telemetry/ returns the allowable HTTP Methods list for this resource.

Table 437: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 438: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |



Proxied Node Storage In-Band

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5.1 Physical Devices

The OCAPI's physical resource model includes the overall Compute Proxy Device. The topics in this section provide information for accessing and managing the features of these physical resources.

5.1.1 /Storage/Devices/

The Device-level methods and attributes of /Storage/Devices/ return information about the Devices collection and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 439: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Config-urable | Possible Values | Description |
|-----------|--------------|-----------------------|--------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/ (page 179) for Instance Attribute details |

GET /Storage/Devices/

GET /Storage/Devices/ returns the Collection of Devices.

Table 440: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/
```

Table 441: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Devices + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/

HEAD /Storage/Devices/ pings the Devices collection.

Table 442: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 443: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/

OPTIONS /Storage/Devices/ returns the allowable HTTP Methods list for this resource.

Table 444: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 445: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.1.2 /Storage/Devices/{id}/

The Device-level methods and attributes of /Storage/Devices/{id}/ return information about a specific Device, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 446: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------------------------|------------|-----------------------|-------------------|--------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| SystemType.Name | String | Mandatory | No | "Compute" | The domain type string indicating the type of Device Resource |
| SystemType.ID | Number | Mandatory | No | 1 | The domain type number indicating the type of Device Resource |
| Name | String | Mandatory | Yes | Free-Form 256 Chars | The user-defined Friendly Name for this Resource |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| OperatingSystem.Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Operating System Resource |
| OperatingSystem.Name | String | Mandatory | No | Free-Form URI | Resource Manager Data Center Edition Application Name |
| OperatingSystem.OSType.Name | String | Mandatory | No | "Winnt" "Linux" | Resource Manager Data Center Edition running on this OS Type string value |
| OperatingSystem.OSType.ID | Number | Mandatory | No | 18 36 | Resource Manager Data Center Edition running on this OS Type number value |
| OperatingSystem.Version | String | Mandatory | No | Free-Form URI | Resource Manager Data Center Edition Application Version |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--|---------------|-----------------------|-------------------|--|---|
| Serial Number | String | Mandatory | No | Free-Form 64 Chars | The Compute Node Serial Number |
| Model | String | Mandatory | No | "Resource Manager Data Center" | Compute Node application model |
| Manufacturer | String | Mandatory | No | "WDC" | Compute Node manufacturer |
| Capabilities.Members[].Name | String | Mandatory | No | "Management" "File Server", "Server", "Central Processor Device" | The capabilities information value(s) regarding the Resource |
| Capabilities.Members[].ID | Number | Mandatory | No | 14 16 39 47101 | The capabilities information value map(s) regarding the Resource |
| Capabilities.Members[].CapabilitiesDescription | String | Mandatory | No | Free-form characters | Entry describing the capability |
| Status.State.Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status.State.ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status.Health[].Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries. |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|---|------------------|-----------------------|-------------------|---|--|
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536 - 65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| Status. Details[] | String Array | Optional | No | Free-Form Array entry. If no entry, then "None" | The current Health Details of the Device |
| IPAddresses. Members[]. IPAddress | String Array | Mandatory | No | IPv4 or IPv6 pattern | The IP Address list for this Resource |
| Architecture | String | Optional | No | Free-form characters | The Compute Architecture type |
| Location. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Location Resource |
| Adapters. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Adapters Resource collection |
| Ports. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Ports Resource |
| PowerSupplies. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Power Supplies Resource |
| Processors. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Proecessors Resource |
| Volumes. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Volumes Resource |
| Connectors. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to Connectors Resource Collection |
| Controllers. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to Controllers Resource Collection |
| Expanders. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to Expanders Resource Collection |
| Fans. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to Fan Resource Collection |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-------------------|---------|-----------------------|-------------------|-----------------|---|
| Sensors. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Sensor Resource |
| Jobs. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Jobs Resource |
| Files. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Files Resource |
| ZoneSets. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the ZoneSets Resource |
| Reboot | Boolean | WriteOnly | Yes | true | Directs this device to reboot |
| FirmwareActivate | Boolean | WriteOnly | Yes | true | Directs this device to Activate the previously uploaded Device OS image |

GET /Storage/Devices/{id}/

GET /Storage/Devices/{id}/ returns information regarding a specific Device based on the {id} in the URI address string.

Table 447: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/?IPAddress=10.20.30.41",
  "SystemType": {
    "ID": 2,
    "Name": "Storage"
  },
  "Name": "0123456789",
  "ID": "0123456789",
  "OperatingSystem": {
```

```

    "Self": "http://10.20.30.40/Storage/Devices/0123456789/OperatingSystem/?
IPAddress=10.20.30.41",
    "Name": "Vendor Firmware",
    "OSType": {
        "ID": 59,
        "Name": "Dedicated"
    },
    "Version": "3.1.11"
},
"SerialNumber": "THCLS03819EZ0090",
"Model": "H4060-J",
"Manufacturer": "HGST",
"Capabilities": {
    "Members": [
        {
            "ID": 3,
            "Name": "Storage",
            "CapabilityDescription": "This device is a storage provider."
        },
        {
            "ID": 15,
            "Name": "Block Server",
            "CapabilityDescription": "This device provides block storage."
        },
        {
            "ID": 31,
            "Name": "Storage Device Enclosure",
            "CapabilityDescription": "This device is a storage-based enclosure
type."
        },
        {
            "ID": 47202,
            "Name": "Disk Media Device",
            "CapabilityDescription": "This device provides disk-based storage
volumes."
        }
    ]
},
"Status": {
    "State": {
        "ID": 16,
        "Name": "In service"
    },
    "Health": [
        {
            "ID": 5,
            "Name": "OK"
        }
    ],
    "Details": [
        "Ports: IOM-A: Cannot read property 'value' of null",
        "Operating System: IOM-A: Version: Cannot read property 'value' of
undefined"
    ]
},
"Hostname": "oobm-00-0c-ca-08-30-e0.hgst.com.",
"DurableName": "0123456789",
"IPAddresses": {
    "Members": [

```

```

        {
            "IPAddress": "10.20.30.41"
        }
    ],
    "ChassisPackageType": {
        "ID": 2,
        "Name": "RackMount"
    },
    "InformationStructure": {
        "Self": "http://10.20.30.40/Storage/Devices/0123456789/InformationStructure/?
IPAddress=10.20.30.41"
    },
    "PowerState": {
        "ID": 2,
        "Name": "On"
    },
    "SlotNumber": 2,
    "TotalCapacity": 600049880924160,
    "Location": {
        "Self": "http://10.20.30.40/Storage/Devices/0123456789/Location/?
IPAddress=10.20.30.41"
    },
    "IndicatorLED": {
        "ID": 4,
        "Name": "Off"
    },
    "Accounts": {
        "Self": "http://10.20.30.40/Storage/Devices/0123456789/Accounts/?
IPAddress=10.20.30.41"
    },
    "Adapters": {
        "Self": "http://10.20.30.40/Storage/Devices/0123456789/Adapters/?
IPAddress=10.20.30.41"
    },
    "Connectors": {
        "Self": "http://10.20.30.40/Storage/Devices/0123456789/Connectors/?
IPAddress=10.20.30.41"
    },
    "Controllers": {
        "Self": "http://10.20.30.40/Storage/Devices/0123456789/Controllers/?
IPAddress=10.20.30.41"
    },
    "Expanders": {
        "Self": "http://10.20.30.40/Storage/Devices/0123456789/Expanders/?
IPAddress=10.20.30.41"
    },
    "Fans": {
        "Self": "http://10.20.30.40/Storage/Devices/0123456789/Fans/?
IPAddress=10.20.30.41"
    },
    "Files": {
        "Self": "http://10.20.30.40/Storage/Devices/0123456789/Files/?
IPAddress=10.20.30.41"
    },
    "Jobs": {
        "Self": "http://10.20.30.40/Storage/Devices/0123456789/Jobs/?
IPAddress=10.20.30.41"
    },

```

```

    "Media": {
      "Self": "http://10.20.30.40/Storage/Devices/0123456789/Media/?
IPAddress=10.20.30.41"
    },
    "Ports": {
      "Self": "http://10.20.30.40/Storage/Devices/0123456789/Ports/?
IPAddress=10.20.30.41"
    },
    "PowerSupplies": {
      "Self": "http://10.20.30.40/Storage/Devices/0123456789/PowerSupplies/?
IPAddress=10.20.30.41"
    },
    "Sensors": {
      "Self": "http://10.20.30.40/Storage/Devices/0123456789/Sensors/?
IPAddress=10.20.30.41"
    },
    "ZoneSets": {
      "Self": "http://10.20.30.40/Storage/Devices/0123456789/ZoneSets/?
IPAddress=10.20.30.41"
    }
  }
}

```

Table 448: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Device information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/

HEAD /Storage/Devices/{id}/ pings this Storage Device.

Table 449: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 450: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/

OPTIONS /Storage/Devices/{id}/ returns the allowable HTTP Methods list for this resource.



Note: There may be some attributes returned in the OPTIONS response schema that may not be directly supported by this resource.

Table 451: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 452: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.1.3 /Storage/Devices/{id}/Controllers/

The Device-level methods and attributes of /Storage/Devices/{id}/Controllers/ return information about the Controllers attributes and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 453: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Storage/Devices/{id}/Controllers/ (page 284) for Instance Attribute details |

GET /Storage/Devices/{id}/Controllers/

GET /Storage/Devices/{id}/Controllers/ returns the Collection of Controllers.

Table 454: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Controllers/
```

Table 455: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Controllers + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Controllers/

HEAD /Storage/Devices/{id}/Controllers/ pings the Controllers collection.

Table 456: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 457: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Controllers/

OPTIONS /Storage/Devices/{id}/Controllers/ returns the allowable HTTP Methods list for this resource.

Table 458: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 459: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |

5.1.4 /Storage/Devices/{id}/Controllers/{id}/

The Device-level methods and attributes of /Storage/Devices/{id}/Controllers/{id}/ return information about a specific Controllers, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 460: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--------------|------------|-----------------------|-------------------|--------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| Name | String | Mandatory | Yes | Free-Form 256 Chars | The user-defined Friendly Name for this Resource |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| HostName | String | Mandatory | No | Free-Form 256 Chars | The resource HostName based on the Device Name with suffix of "-ioma" or "-iomb" |
| PartNumber | String | Mandatory | No | Free-Form 256 Chars | PartNumber or Model Name |
| SerialNumber | String | Mandatory | No | Free-Form 256 Chars | Serial Number for the Controller |
| Version | String | Mandatory | No | Major.Minor.Patch | The current Device OS Version on this Controller |

| Attribute | Type | Mandatory or Optional | User Config- urable | Possible Values | Description |
|------------------------------|------------------|-----------------------------|---------------------------|---|--|
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| Status. Details[] | String Array | Optional | No | Free-Form Array entry. If no entry, then "None". | The current Health Details of the Device |
| IndicatorLED. Name | String | Mandatory | No | Off Lit | The current state value of the Indicator LED for this Resource |
| IndicatorLED. ID | Number | Mandatory | Yes | 4 2 | The current state value map of the Indicator LED for this Resource |
| ProtocolIdentifier. Name | String | Mandatory | No | SAS Serial SCSI Protocol | Indicates the communication protocol name |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------|--------|-----------------------|-------------------|--|---|
| ProtocolIdentifier.ID | Number | Mandatory | No | 6 | Indicates the communication protocol value ID |
| RemovalConditions.Name | String | Mandatory | No | "Unknown" "Not applicable" "Removable when off" "Removable when on or off" "Removable, removal not currently safe" | Indicates removal capabilities |
| RemovalConditions.ID | Number | Mandatory | No | 0 2 3 4 10 | Indicates removal capabilities value ID |
| DeviceHandle | String | Mandatory | No | /dev/sgX (Linux) or SCSI0:1,2,3 (Windows) | Handle for communication to the Hardware |

GET /Storage/Devices/{id}/Controllers/{id}/

GET /Storage/Devices/{id}/Controllers/{id}/ returns information regarding a specific Controller based on the {id} in the URL address string.

Table 461: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Controllers/IOModuleBFRU/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Controllers/IOModuleBFRU/",
  "ID": "IOModuleBFRU",
  "IndicatorLED": {
    "ID": 4,
    "Name": "Off"
  },
  "Name": "IOModuleBFRU",
  "Status": {
    "State": {
```

```

        "ID": 16,
        "Name": "In service"
    },
    "Health": [
        {
            "ID": 5,
            "Name": "OK"
        }
    ],
    "Details": [
        "None"
    ]
},
"PartNumber": "1EB1049-A2",
"SerialNumber": "THCLS00320EG0029",
"Version": "4.0.86",
"DurableName": "5000ccab0410a1fc",
"ProtocolIdentifier": {
    "ID": 6,
    "Name": "SAS Serial SCSI Protocol"
},
"RemovalConditions": {
    "ID": 4,
    "Name": "Removable when on or off"
},
"DeviceHandle": "/dev/sg3"
}

```

Table 462: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Controller information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Controllers/{id}/

HEAD /Storage/Devices/{id}/Controllers/{id}/ pings this Controller.

Table 463: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 464: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Controllers/{id}/

OPTIONS /Storage/Devices/{id}/Controllers/{id}/ returns the allowable HTTP Methods list for this resource.

Table 465: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 466: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.1.5 /Storage/Devices/{id}/Connectors/

The Device-level methods and attributes of /Storage/Devices/{id}/Connectors/ return information about the Connectors attributes and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 467: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Optional | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Storage/Devices/{id}/Controllers/ (page 284) for Instance Attribute details |

GET /Storage/Devices/{id}/Connectors/

GET /Storage/Devices/{id}/Connectors/ returns the Collection of Controllers.

Table 468: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Connectors/
```

Table 469: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Controllers + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Connectors/

HEAD /Storage/Devices/{id}/Connectors/ pings the Controllers collection.

Table 470: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 471: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Connectors/

OPTIONS /Storage/Devices/{id}/Connectors/ returns the allowable HTTP Methods list for this resource.

Table 472: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 473: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.1.6 /Storage/Devices/{id}/Connectors/{Id}/

The Device-level methods and attributes of /Storage/Devices/{id}/Connectors/{Id}/ return information about the Connectors attributes and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 474: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|---------------|-----------------------|-------------------|--|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| Name | String | Mandatory | Yes | Free-Form 256 Chars | The user-defined Friendly Name for this Resource |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------------------|---------------|-----------------------|-------------------|---|--|
| Status.Health[.ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| Status.Details[] | String Array | Optional | No | Free-Form Array entry. If no entry, then "None". | The current Health Details of the Device |
| CablePresent | Boolean | Mandatory | No | true false | Indicates whether or not a cable is plugged into the Connector |
| Connector Description | String | Mandatory | No | Mini SAS HD 4x receptacle (see SAS-4 and SFF-8644)[max number of phys: 4] | Indicates the type of connector |
| Layout.Name | String | Mandatory | No | PCI-E x4 | Indicates the type of connector protocol |
| Layout.ID | Number | Mandatory | No | 4 | Indicates the type of connector protocol value ID |

GET /Storage/Devices/{id}/Connectors/{Id}/

GET /Storage/Devices/{id}/Connectors/{Id}/ returns the Collection of Controllers.

Table 475: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Connectors/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Connectors/CONN_HOST_02/" ,
```

```

    "ID": "CONN_HOST_02",
    "IndicatorLED": {
      "ID": 4,
      "Name": "Off"
    },
    "Name": "CONN HOST 02",
    "Status": {
      "State": {
        "ID": 16,
        "Name": "In service"
      },
      "Health": [
        {
          "ID": 5,
          "Name": "OK"
        }
      ]
    },
    "ConnectorDescription": "Mini SAS HD 4x receptacle (see SAS-4 and SFF-8644)[max
number of phys: 4]",
    "CablePresent": true,
    "Layout": {
      "ID": 4,
      "Name": "PCI-E x4"
    }
  }
}

```

Table 476: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Controllers + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Connectors/{Id}/

HEAD /Storage/Devices/{id}/Connectors/{Id}/ pings the Controllers collection.

Table 477: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 478: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Connectors/{Id}/

OPTIONS /Storage/Devices/{id}/Connectors/{Id}/ returns the allowable HTTP Methods list for this resource.

Table 479: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 480: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.1.7 /Storage/Devices/{id}/Expanders/

The Device-level methods and attributes of /Storage/Devices/{id}/Expanders/ return information about the Expanders collection and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 481: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Optional | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/Adapters/{id}/ (page 197) for Instance Attribute details |

GET /Storage/Devices/{id}/Expanders/

GET /Storage/Devices/{id}/Expanders/ returns the Collection of Adapters.

Table 482: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Expanders
```

Table 483: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Adapters + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Expanders/

HEAD /Storage/Devices/{id}/Expanders/ pings the Adapters collection.

Table 484: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 485: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Expanders/

OPTIONS /Storage/Devices/{id}/Expanders/ returns the allowable HTTP Methods list for this resource.

Table 486: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 487: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.1.8 /Storage/Devices/{id}/Expanders/{Id}/

The Device-level methods and attributes of /Storage/Devices/{id}/Expanders/{Id}/ return information about the Expanders attributes and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 488: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|---------------|-----------------------|-------------------|--|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| Name | String | Mandatory | Yes | Free-Form 256 Chars | The user-defined Friendly Name for this Resource |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|----------------------------|------------------|-----------------------|-------------------|---|--|
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| IndicatorLED. Name | String | Mandatory | No | Off Lit | The current state value of the Indicator LED for this Resource |
| IndicatorLED. ID | Number | Mandatory | No | 4 2 | The current state value map of the Indicator LED for this Resource |
| Version | String | Mandatory | No | Major-Minor Format | The current Expander FW image version |
| DurableName | String | Mandatory | No | WWN or UUID Format | The in-band discovery identifier |

GET /Storage/Devices/{id}/Expanders/{Id}/

GET /Storage/Devices/{id}/Expanders/{Id}/ returns the Collection of Controllers.

Table 489: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Expanders/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Expanders/EXP_IOMA_0/",
  "ID": "EXP_IOMA_0",
  "IndicatorLED": {
    "ID": 4,
    "Name": "Off"
  },
}
```

```

    "Name": "EXP IOMA 0",
    "Status": {
      "State": {
        "ID": 16,
        "Name": "In service"
      },
      "Health": [
        {
          "ID": 5,
          "Name": "OK"
        }
      ]
    },
    "Version": "3010-007",
    "DurableName": "5000ccab0410a1bd"
  }
}

```

Table 490: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Controllers + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Expanders/{Id}/

HEAD /Storage/Devices/{id}/Expanders/{Id}/ pings the Controllers collection.

Table 491: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 492: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Expanders/{Id}/

OPTIONS /Storage/Devices/{id}/Expanders/{Id}/ returns the allowable HTTP Methods list for this resource.

Table 493: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 494: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.1.9 /Storage/Devices/{id}/Ports/

The Device-level methods and attributes of /Storage/Devices/{id}/Ports/ return information about the Ports collection and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 495: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Optional | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/Adapters/{id}/ (page 197) for Instance Attribute details |

GET /Storage/Devices/{id}/Ports/

GET /Storage/Devices/{id}/Ports/ returns the Collection of Adapters.

Table 496: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Ports
```

Table 497: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Adapters + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Ports/

HEAD /Storage/Devices/{id}/Ports/ pings the Adapters collection.

Table 498: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 499: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Ports/

OPTIONS /Storage/Devices/{id}/Ports/ returns the allowable HTTP Methods list for this resource.

Table 500: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 501: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.1.10 /Storage/Devices/{id}/Ports/{Id}/


The Device-level methods and attributes of /Storage/Devices/{id}/Ports/{Id}/ return information about the Ports attributes and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 502: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|------------------|-----------------------|-------------------|---|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--------------------|---------------|-----------------------|-------------------|--|--|
| Status.Health[].ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| Status.Details[] | String Array | Optional | No | Free-Form Array entry. If no entry, then "None". | The current Health Details of the Device |
| AddressOrigin.Name | Number | Mandatory | Yes | "UNKNOWN" "OTHER" "NOT APPLICABLE" "STATIC" "DHCP" "BOOTP" "IPv4 Link Local" "DHCPv6" "IPv6 Link Local" "DHCPv4" | Information value as to where the address is supplied |
| AddressOrigin.ID | String | Mandatory | Yes | 0 1 2 3 4 5 6 7 10 65536 | Information value map as to where the address is supplied |
| IPv4Address | String | Mandatory | Yes | IPv4 4-Octet pattern + CIDR mask | <p>The Network IP Address for this Device; IPv4 type</p> <div>  Note: 0.0.0.0/8 & 127.0.0.0/8 are reserved and rejected. </div> |
| IPv4Gateway | String | Optional | Yes | IPv4 4-Octet pattern | The Network IP Gateway address setting for IPv4 |
| IPv6Address | String | Mandatory | Yes | IPv6 Hex pattern + CIDR mask | The Network IP Address for this Device; IPv6 type |
| IPv6Gateway | String | Optional | Yes | IPv6 Hex pattern | The Network IP Gateway address setting for IPv6 |
| MACAddress | String | Mandatory | No | 6-hex digit HW address | Unique MAC Address reported by the local hardware adapter |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|----------------------|--------|-----------------------|-------------------|---|---|
| NetworkType. Name | String | Mandatory | No | "LAN" "WLAN" "WAN" "MAN" "SAN" "VLAN" "Ethernet Network" "IP Network" "IPv4 Network" "IPv6 Network" | The network type value |
| NetworkType. ID | Number | Mandatory | No | 0 1 2 3 4 5 6 7 8 | The network type value map |
| MTUBytes | Number | Mandatory | Yes | Range: 46 - 9216 (default: 1500) | The current Maximum Transfer Bytes value |
| Adapters. Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Link to get the Adapter information hosting this Port |

GET /Storage/Devices/{id}/Ports/{Id}/

GET /Storage/Devices/{id}/Ports/{Id}/ returns the Collection of Controllers.

Table 503: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
  -i
  -u admin:admin
  -X GET http://10.20.30.40/Storage/Devices/0123456789/Ports/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Ports/01_0a_f7_95_79_3c/",
  "ID": "01_0a_f7_95_79_3c",
  "Status": {
    "State": {
      "ID": 16,
      "Name": "In service"
    },
    "Health": [{
      "ID": 5,
      "Name": "OK"
    }]
  }
}
```

```

    }]
  },
  "AddressOrigin": {
    "ID": 4,
    "Name": "DHCP"
  },
  "IPv4Address": "10.20.30.40/22",
  "IPGateway": "",
  "MACAddress": "01:0a:f7:95:79:3c",
  "NetworkType": {
    "ID": 8,
    "Name": "IPv4 Network"
  },
  "MTUBytes": 1500,
  "Adapters": "http://10.20.30.40/Storage/Devices/0123456789/Adapters/?portid=01_0a_f7_95_79_3c"
}

}

OR for IPv6:
{
  "Self": "http://10.20.40:80/Storage/Devices/0123456789/Ports/00_0c_ca_09_00_3c_fdf4_cfad_91f3_6061_18_64/",
  "ID": "00_0c_ca_09_00_3c_fdf4_cfad_91f3_6061_18_64",
  "Status": {
    "State": {
      "ID": 0,
      "Name": "Unknown"
    },
  },
  "Health": [{
    "ID": 5,
    "Name": "OK"
  }]
},
  "AddressOrigin": {
    "ID": 7,
    "Name": "DHCPv6"
  },
  "IPv6Address": "fdf4:cfad:91f3:6061::18/64",
  "MACAddress": "00:0c:ca:09:00:3c",
  "NetworkType": {
    "ID": 9,
    "Name": "IPv6 Network"
  },
  "MTUBytes": 1500,
  "Adapters": "http://10.20.30.40:80/Storage/Devices/0123456789/Adapters/?portid=00_0c_ca_09_00_3c_fdf4_cfad_91f3_6061_18_64"
}

```

Table 504: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Controllers + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Ports/{Id}/

HEAD /Storage/Devices/{id}/Ports/{Id}/ pings the Controllers collection.

Table 505: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 506: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Ports/{Id}/

OPTIONS /Storage/Devices/{id}/Ports/{Id}/ returns the allowable HTTP Methods list for this resource.

Table 507: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 508: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.1.11 /Storage/Devices/{id}/PowerSupplies/

The Device-level methods and attributes of /Storage/Devices/{id}/PowerSupplies/ return information about the Power Supplies collection and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 509: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Storage/Devices/{id}/PowerSupplies/ (page 315) for Instance Attribute details |

GET /Storage/Devices/{id}/PowerSupplies/

GET /Storage/Devices/{id}/PowerSupplies/ returns the Collection of Power Supplies.

Table 510: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/PowerSupplies
```

Table 511: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Power Supplies + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/PowerSupplies/

HEAD /Storage/Devices/{id}/PowerSupplies/ pings the Power Supplies collection.

Table 512: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 513: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/PowerSupplies/

OPTIONS /Storage/Devices/{id}/PowerSupplies/ returns the allowable HTTP Methods list for this resource.

Table 514: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 515: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.1.12 /Storage/Devices/{id}/PowerSupplies/{id}/

The Device-level methods and attributes of /Storage/Devices/{id}/PowerSupplies/{id}/ return information about a specific Adapter, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

GET

PUT

HEAD

OPTIONS

Table 516: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-------------------|------------|-----------------------|-------------------|--|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| Name | String | Mandatory | No | Free-Form 64 Chars | |
| IndicatorLED.Name | String | Mandatory | No | "Off" "Lit" | The current state value of the Indicator LED for this Resource |
| IndicatorLED.ID | Number | Mandatory | Yes | 4 2 | The current state value map of the Indicator LED for this Resource |
| Status.State.Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status.State.ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|------------------|-----------------------|-------------------|--|---|
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| Status. Details[] | String Array | Optional | No | Free-Form 32 Characters per Array entry. If no entry, then "None" | The current Health Details of the Power Supply |
| PartNumber | String | Mandatory | No | Free-Form 32 Characters | The Part Number for this Power Supply |
| SerialNumber | String | Mandatory | No | Free-Form 32 Characters | The Serial Number of this Power Supply |
| Model | String | Optional | No | Free-Form 32 Characters | The model of this Power Supply |
| Manufacturer | String | Mandatory | No | Free-Form 32 Characters | The Manufacturer of this Power Supply |
| TotalOutputPower | Number | Optional | No | Number in Watts | The total output power in watts |
| BaseUnits. ID | Number | Optional | No | 7 | The Base Units value map |
| BaseUnits. Name | String | Optional | No | Watts | The Base Units value as Watts |
| RateUnits. ID | Number | Optional | No | 0 | The Rate Units value map |
| RateUnits. Name | String | Optional | No | None | The Rate Units value |
| UnitModifier | Number | Optional | No | 0 | The Unit Modifier to determine order of magnitude to multiply the Total Power Output as Base 10 * Unit Modifier |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------|--------|-----------------------|-------------------|--|---|
| RemovalConditions.Name | String | Mandatory | No | "Unknown" "Not applicable" "Removable when off" "Removable when on or off" "Removable, removal not currently safe" | Indicates removal capabilities |
| RemovalConditions.ID | Number | Mandatory | No | 0 2 3 4 10 | Indicates removal capabilities value ID |

GET /Storage/Devices/{id}/PowerSupplies/{id}/

GET /Storage/Devices/{id}/PowerSupplies/{id}/ returns information regarding a specific Power Supply based on the {id} in the URI address string.

Table 517: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/PowerSupplies/1
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/PowerSupplies/POWER_SUPPLY_A/",
  "ID": "PSU_A",
  "IndicatorLED": {
    "ID": 4,
    "Name": "Off"
  },
  "Name": "PSU A",
  "Status": {
    "State": {
      "ID": 16,
      "Name": "In service"
    },
    "Health": [
      {
        "ID": 5,
        "Name": "OK"
      }
    ]
  }
}
```

```

    },
    "Details": [
        "None"
    ]
},
"PartNumber": "DPS-1600AB-12",
"SerialNumber": "IQHD1939009335",
"RemovalConditions": {
    "ID": 4,
    "Name": "Removable when on or off"
},
"Manufacturer": "DELTA",
"Model": "DPS-1600AB-12",
"TotalOutputPower": 1600,
"BaseUnits": {
    "ID": 7,
    "Name": "Watts"
},
"RateUnits": {
    "ID": 0,
    "Name": "None"
},
"UnitModifier": 0
}

```

Table 518: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Power Supply information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

PUT /Storage/Devices/{id}/PowerSupplies/{id}/

PUT /Storage/Devices/{id}/PowerSupplies/{id}/ modifies an attribute or executes an operation for this Power Supply.

Table 519: PUT Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

| Header | Mandatory or Optional | Description |
|----------|-----------------------|---|
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example PUT curl Command

Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
  -i
  -u admin:admin
  -H "If-Match: 3677651d2011428f32120a029b015e80"
  -X PUT http://10.20.30.40/Storage/Devices/0123456789/PowerSupplies/
PowerSupplyAFRU/?IPAddress=10.20.30.41
  --data '{
    "IndicatorLED": {
      "ID": 2
    }
  }'
```

Table 520: PUT Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 200 | OK | OK & Power Supply information in the response body + ETag Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/PowerSupplies/{id}/

HEAD /Storage/Devices/{id}/PowerSupplies/{id}/ pings this Power Supply.

Table 521: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 522: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/PowerSupplies/{id}/

OPTIONS /Storage/Devices/{id}/PowerSupplies/{id}/ returns the allowable HTTP Methods list for this resource.

Table 523: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 524: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.1.13 /Storage/Devices/{id}/Fans/

The Device-level methods and attributes of /Storage/Devices/{id}/Fans/ return information about the Fans collection and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 525: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Storage/Devices/{id}/Fans/ (page 324) for Instance Attribute details |

GET /Storage/Devices/{id}/Fans/

GET /Storage/Devices/{id}/Fans/ returns the Collection of Power Supplies.

Table 526: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Fans
```

Table 527: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Power Supplies + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Fans/

HEAD /Storage/Devices/{id}/Fans/ pings the Power Supplies collection.

Table 528: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 529: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Fans/

OPTIONS /Storage/Devices/{id}/Fans/ returns the allowable HTTP Methods list for this resource.

Table 530: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 531: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.1.14 /Storage/Devices/{id}/Fans/{Id}/

The Device-level methods and attributes of /Storage/Devices/{id}/Fans/{Id}/ return information about the Fans attributes and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 532: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|---------------|-----------------------|-------------------|--|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------|---------------|-----------------------|-------------------|--|--|
| Status.Health[].ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| Status.Details[] | String Array | Optional | No | Free-Form Array entry. If no entry, then "None". | The current Health Details of the Device |
| CurrentSpeed | Number | Mandatory | No | 0 - n | The current speed of the fan in RPM |
| BaseUnits.Name | String | Mandatory | No | "RPM" | The base units value for the speed value |
| BaseUnits.ID | Number | Mandatory | No | 19 | The base units value map for the speed value |
| RateUnits.Name | String | Mandatory | No | "None" | The rate units value for the fan |
| RateUnits.ID | Number | Mandatory | No | 0 | The rate units value map for the fan |
| UnitModifier | Number | Mandatory | No | 0 | The unit modifier for the fan speed |
| RemovalConditions.ID | Number | Mandatory | No | 0 2 3 4 10 | The value map of the removal conditions for this FRU |
| RemovalConditions.Name | String | Mandatory | No | "Unknown" "Not Applicable" "Removable when off" "Removable when on or off" "Removable, removal not currently safe" | The value of the removal conditions for this FRU |
| IndicatorLED.Name | String | Mandatory | No | "Off" "Lit" | The current state value of the Indicator LED for this Resource |
| IndicatorLED.ID | Number | Mandatory | No | 4 2 | The current state value map of the Indicator LED for this Resource |

GET /Storage/Devices/{id}/Fans/{Id}/

GET /Storage/Devices/{id}/Fans/{Id}/ returns the Collection of Controllers.

Table 533: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Fans/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Fans/FAN_ENCL_1/",
  "ID": "FAN_ENCL_1",
  "IndicatorLED": {
    "ID": 4,
    "Name": "Off"
  },
  "Name": "FAN ENCL 1",
  "Status": {
    "State": {
      "ID": 16,
      "Name": "In service"
    },
    "Health": [
      {
        "ID": 5,
        "Name": "OK"
      }
    ]
  },
  "CurrentSpeed": 2980,
  "BaseUnits": {
    "ID": 19,
    "Name": "RPM"
  },
  "RateUnits": {
    "ID": 0,
    "Name": "None"
  },
  "UnitModifier": 0,
  "RemovalConditions": {
    "ID": 4,
    "Name": "Removable when on or off"
  }
}
```

Table 534: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Controllers + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Fans/{Id}/

HEAD /Storage/Devices/{id}/Fans/{Id}/ pings the Controllers collection.

Table 535: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 536: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Fans/{Id}/

OPTIONS /Storage/Devices/{id}/Fans/{Id}/ returns the allowable HTTP Methods list for this resource.

Table 537: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 538: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the “Allow” list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.1.15 /Storage/Devices/{id}/Sensors/

The Device-level methods and attributes of /Storage/Devices/{id}/Sensors/ return information about the Sensors collection and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 539: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Storage/Devices/{id}/Sensors/ (page 332) for Instance Attribute details |

GET /Storage/Devices/{id}/Sensors/

GET /Storage/Devices/{id}/Sensors/ returns the Collection of Power Supplies.

Table 540: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Sensors
```

Table 541: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Power Supplies + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Sensors/

HEAD /Storage/Devices/{id}/Sensors/ pings the Power Supplies collection.

Table 542: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 543: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Sensors/

OPTIONS /Storage/Devices/{id}/Sensors/ returns the allowable HTTP Methods list for this resource.

Table 544: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 545: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.1.16 /Storage/Devices/{id}/Sensors/{Id}/

The Device-level methods and attributes of /Storage/Devices/{id}/Sensors/{Id}/ return information about the Sensor attributes and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 546: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|---------------|-----------------------|-------------------|--|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| Name | String | Mandatory | No | Free-Form 256 Chars | The name of this resource |
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |

| Attribute | Type | Mandatory or Optional | User Config- urable | Possible Values | Description |
|----------------------------|------------------|-----------------------------|---------------------------|--|--|
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| Status. Details[] | String Array | Optional | No | Free-Form Array entry. If no entry, then "None". | The current Health Details of the Device |
| CurrentReading | Number | Mandatory | No | Signed Integer | The current reading value for the sensor |
| SensorType. Name | String | Mandatory | No | "Temperature" | The sensor type value |
| SensorType. ID | Number | Mandatory | No | 2 | The sensor type value map |
| BaseUnits. Name | String | Mandatory | No | 2 3 | The base units value map for the sensor current reading |
| BaseUnits. ID | Number | Mandatory | No | "Degrees C" "Degrees F" | The base units value for the sensor current reading |
| RateUnits. Name | String | Mandatory | No | "None" | The rate units value for the sensor current reading |
| RateUnits. ID | Number | Mandatory | No | 0 | The rate units value map for the sensor current reading |
| UnitModifier | Number | Mandatory | No | Signed Integer | The unit modifier for the sensor current reading |
| HighThreshold Fatal | Number | Optional | No | Signed Integer | The unit modifier for the sensor current reading |
| HighThreshold Critical | Number | Optional | No | Signed Integer | The high threshold fatal value usually for temperature |
| LowThreshold Critical | Number | Optional | No | Signed Integer | The low threshold critical value usually for temperature |
| LowThreshold Fatal | Number | Optional | No | Signed Integer | The low threshold fatal value usually for temperature |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-------------------|--------|-----------------------|-------------------|-----------------|--|
| IndicatorLED.Name | String | Mandatory | No | "Off" "Lit" | The current state value of the Indicator LED for this Resource |
| IndicatorLED.ID | Number | Mandatory | No | 4 2 | The current state value map of the Indicator LED for this Resource |

GET /Storage/Devices/{id}/Sensors/{Id}/

GET /Storage/Devices/{id}/Sensors/{Id}/ returns the Collection of Controllers.

Table 547: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Sensors/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Sensors/TEMP_PSU_A_PRI/",
  "ID": "TEMP_PSU_A_PRI",
  "IndicatorLED": {
    "ID": 4,
    "Name": "Off"
  },
  "Name": "TEMP PSU A PRI",
  "Status": {
    "State": {
      "ID": 16,
      "Name": "In service"
    },
    "Health": [
      {
        "ID": 5,
        "Name": "OK"
      }
    ]
  }
}
```

```

    "SensorType": {
      "ID": 2,
      "Name": "Temperature"
    },
    "CurrentReading": 62,
    "BaseUnits": {
      "ID": 2,
      "Name": "Degrees C"
    },
    "RateUnits": {
      "ID": 0,
      "Name": "None"
    },
    "UnitModifier": 0,
    "HighThresholdFatal": 110,
    "HighThresholdCritical": 107,
    "LowThresholdCritical": 5,
    "LowThresholdFatal": 1
  }
}

```

Table 548: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Controllers + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Sensors/{Id}/

HEAD /Storage/Devices/{id}/Sensors/{Id}/ pings the Controllers collection.

Table 549: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 550: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Sensors/{Id}/

OPTIONS /Storage/Devices/{id}/Sensors/{Id}/ returns the allowable HTTP Methods list for this resource.

Table 551: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 552: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.1.17 /Storage/Devices/{id}/Slots/

The Device-level methods and attributes of /Storage/Devices/{id}/Slots/ return information about the Slots collection and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 553: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Storage/Devices/{id}/Slots/ (page 461) for Instance Attribute details |

GET /Storage/Devices/{id}/Slots/

GET /Storage/Devices/{id}/Slots/ returns the Collection of Power Supplies.

Table 554: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Slots
```

Table 555: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Power Supplies + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Slots/

HEAD /Storage/Devices/{id}/Slots/ pings the Power Supplies collection.

Table 556: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 557: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Slots/

OPTIONS /Storage/Devices/{id}/Slots/ returns the allowable HTTP Methods list for this resource.

Table 558: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 559: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.1.18 /Storage/Devices/{id}/Slots/{Id}/

The Device-level methods and attributes of /Storage/Devices/{id}/Slots/{Id}/ return information about the Slots attributes and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 560: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|---------------------|------------|-----------------------|-------------------|--|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| IndicatorLED. Name | String | Mandatory | No | "Off" "Lit" | The current state value of the Indicator LED for this Resource |
| IndicatorLED. ID | Number | Mandatory | Yes | 4 2 | The current state value map of the Indicator LED for this Resource |
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|------------------|-----------------------|-------------------|--|--|
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| Status. Details[] | String Array | Optional | No | Free-Form Array entry. If no entry, then "None". | The current Health Details of the Device |
| PowerState. Name | String | Optional | No | On Off | This is the current Power State of the Slot |
| PowerState. ID | Number | Optional | No | 2 6 | This is the current Power State of the Slot value map |
| Associations | String Array | Mandatory | No | Media Slot | The associations among resources based on ID |
| Medium | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Link to the participating Medium or Drive |

GET /Storage/Devices/{id}/Slots/{id}/

GET /Storage/Devices/{id}/Slots/{id}/ returns the Collection of Controllers.

Table 561: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Slots/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Slots/SLOT_000_7PGL4LXG/",
  "ID": "SLOT_000_7PGL4LXG",
  "IndicatorLED": {
    "ID": 4,
    "Name": "Off"
  },
  "PowerState": {
    "ID": 2,
    "Name": "On"
  },
  "Status": {
    "State": {
      "ID": 16,
      "Name": "In service"
    },
    "Health": [
      {
        "ID": 5,
        "Name": "OK"
      }
    ]
  },
  "Associations": {
    "Media": [
      "5000cca25120fff2"
    ],
    "Slots": [
      "SLOT_000_7PGL4LXG"
    ]
  },
  "Medium": "http://10.202.239.39:80/Storage/Devices/5000ccab0410a180/Media/5000cca25120fff2/"
}
```

Table 562: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Controllers + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Slots/{Id}/

HEAD /Storage/Devices/{id}/Slots/{Id}/ pings the Controllers collection.

Table 563: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 564: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Slots/{Id}/

OPTIONS /Storage/Devices/{id}/Slots/{Id}/ returns the allowable HTTP Methods list for this resource.

Table 565: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 566: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.1.19 /Storage/Devices/{id}/Media/

The Device-level methods and attributes of /Storage/Devices/{id}/Media/ return information about the Media collection and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 567: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Optional | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Storage/Devices/{id}/Media/{id}/ (page 351) for Instance Attribute details |

GET /Storage/Devices/{id}/Media/

GET /Storage/Devices/{id}/Media/ returns the Collection of Media.

Table 568: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 569: GET Query Parameters

| Query Parameter | Description |
|-----------------|---|
| ?SmartLog=true | Adds the "SmartLog" JSON object attributes based on the particular protocol type (e.g, ATA, SCSI, and NVMe) for all the Media Instances |
| ?E6Log=true | Retrieves a collection bundle file of E6 Logs for all the currently discovered Media that support the E6 Log capability |

Example GET curl Command

```
curl
  -i
  -u admin:admin
  -X GET http://10.20.30.40/Storage/Devices/0123456789/Media/
```

Table 570: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Media + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Media/

HEAD /Storage/Devices/{id}/Media/ pings the Media collection.

Table 571: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 572: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Media/

OPTIONS /Storage/Devices/{id}/Media/ returns the allowable HTTP Methods list for this resource.

Table 573: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.1.20 /Storage/Devices/{id}/Media/{id}/

The Device-level methods and attributes of /Storage/Devices/{id}/Media/{id}/ return information about a specific Medium, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 574: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|---------------|------------|-----------------------|-------------------|---|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| Name | String | Mandatory | No | Free-Form 32 Chars; no spaces allowed | The user-defined name of this Resource |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| SerialNumber | String | Mandatory | No | Free-Form 64 Chars | The serial number for this Resource |
| Capacity | Number | Mandatory | No | Integer Bytes | The total number of raw bytes for this Resource |
| Model | String | Mandatory | No | Free-Form 64 Chars | The vendor name for this Resource |
| Version | String | Mandatory | No | Free-Form 32 Chars | The Operating System or Firmware Version |
| Manufacturer | String | Mandatory | No | Free-Form 64 Chars | The vendor name for this Resource |
| Protocol.Name | String | Mandatory | No | "Universal Serial Bus" "Serial ATA" "SAS" "Nvme" "NvmeoF" | The Media Protocol Name |
| Protocol.ID | Number | Mandatory | No | 15 47 65536-65538 | The Media Protocol ID value map |
| DiskType.Name | String | Mandatory | No | "Unknown" "Other" "HDD" "SSD" "Hybrid" "CD-DVD" | The Media Disk Type Name |
| DiskType.ID | Number | Mandatory | No | 0 - 5 | The Media Disk Type ID value map |

| Attribute | Type | Mandatory or Optional | User Config- urable | Possible Values | Description |
|------------------------------|------------------|-----------------------------|---------------------------|---|--|
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more Id entries |
| Status. Details[] | String Array | Mandatory | No | Free-Form 32 Characters per Array entry. If no entry, then "None" | The current Health Details of the Device |
| Capacity | Number | Mandatory | No | Integer value in Bytes | The total capacity of the Medium Resource in Bytes |
| DiskType. ID | Number | Mandatory | No | 2 3 | |
| DiskType. Name | String | Mandatory | No | "HDD" "SSD" | |
| DurableName | String | Optional | No | WWN or UUID Format | The in-band data path identifier |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--------------|--------------|-----------------------|-------------------|-----------------------------------|---|
| Associations | String Array | Mandatory | No | Media Volumes | Indicates the associations among linked resources based on ID |
| Slots | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Link to the participating Slots |

GET /Storage/Devices/{id}/Media/{id}/

GET /Storage/Devices/{id}/Media/{id}/ returns information regarding a specific Medium based on the {id} in the URI address string.

Table 575: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 576: GET Query Parameters

| Query Parameter | Description |
|-----------------|---|
| ?SmartLog=true | Adds the "SmartLog" JSON object attributes based on the particular protocol type (e.g, ATA, SCSI, and NVMe) for all the Media Instances |
| ?E6Log=true | Retrieves a collection bundle file of E6 Log Mode Pages for the instances of Media that support the E6 Log capability |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Media/BTWA53140407240AGN
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Media/5000cca25103b366/",
  "ID": "5000cca25103b366",
  "Name": "SLOT 006",
  "Status": {
    "State": {
      "ID": 16,
      "Name": "In service"
    },
    "Health": [
```

```

    {
      "ID": 5,
      "Name": "OK"
    }
  ],
  "Associations": {
    "Media": [
      "5000cca25103b366"
    ],
    "Slots": [
      "SLOT_006_7PG212XR"
    ]
  },
  "Capacity": 10000831348736,
  "AlternateDeviceHandle": "",
  "DeviceHandle": "/dev/sg10",
  "Manufacturer": "HGST",
  "Model": "HUH721010AL4204",
  "MultiplePathsDetected": false,
  "Protocol": {
    "ID": 65536,
    "Name": "SAS"
  },
  "DiskType": {
    "ID": 2,
    "Name": "HDD"
  },
  "Version": "C9G0",
  "SerialNumber": "7PG212XR",
  "DurableName": "5000cca25103b366",
  "Slots": "http://10.202.239.39:80/Storage/Devices/5000ccab0410a180/Slots/SLOT_006_7PG212XR/"
}

```

Table 577: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Media + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Media/{id}/

HEAD /Storage/Devices/{id}/Media/{id}/ pings this Medium.

Table 578: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 579: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Media/{id}/

OPTIONS /Storage/Devices/{id}/Media/{id}/ returns the allowable HTTP Methods list for this resource.

Table 580: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.2 Logical Devices

The OCAPI's logical and virtual resources model include those resources that are logical or virtual in nature. The topics in this section provide information for accessing and managing the features of these logical and virtual resources.

5.2.1 /Storage/Devices/{id}/Location/

The Device-level methods and attributes of /Storage/Devices/{id}/Location/ return information about the resource Location and enable management operations.

HTTP Methods:

GET

PUT

DELETE

HEAD

OPTIONS

Table 581: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------|--------|-----------------------|-------------------|--------------------------------|---|
| Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Country | String | Optional | Yes | Free-Form 64 Chars | The Country name where this Device is located |
| Territory | String | Optional | Yes | Free-Form 64 Chars | The Territory name where this Device is located |
| State | String | Optional | Yes | Free-Form 64 Chars | The State name where this Device is located |
| City | String | Optional | Yes | Free-Form 64 Chars | The City name where this Device is located |
| Address1 | String | Optional | Yes | Free-Form 64 Chars | The first Address information where this Device is located |
| Address2 | String | Optional | Yes | Free-Form 64 Chars | The second Address information where this Device is located as needed |
| Address3 | String | Optional | Yes | Free-Form 64 Chars | The third Address information where this Device is located as needed |
| PostalCode | String | Optional | Yes | Free-Form 32 Chars | The Postal or Zip Code name where this Device is located |
| SiteName | String | Optional | Yes | Free-Form 32 Chars | The friendly Site Name |
| Building | String | Optional | Yes | Free-Form 32 Chars | The Building name or number where this Device is located |
| Room | String | Optional | Yes | Free-Form 32 Chars | The Room name or number in the Building where this Device is located |
| Pod | String | Optional | Yes | Free-Form 32 Chars | The Pod name or number in the Room this Device is located as needed |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-------------------|--------|-----------------------|-------------------|--|---|
| Row | String | Optional | Yes | Free-Form 32 Chars | The Row name or number in the Room or Pod this Device is located |
| Rack | String | Optional | Yes | Free-Form 32 Chars | The Rack name or number in the Row this Device is located |
| Shelf | String | Optional | Yes | Free-Form 32 Chars | The Shelf name or number of the Rack this Device is located |
| Device | String | Optional | Yes | Free-Form 32 Chars | The Device name or number of the Rack this Device is located |
| Item | String | Optional | Yes | Free-Form 32 Chars | The Item name indicating the Shelf units or dimension for this Device |
| GPSCoords | String | Optional | Yes | Decimal Latitude, Decimal Longitude Format | The GPS coordinates of the location of this Device |
| OtherLocationInfo | String | Optional | Yes | Free-Form 64 Chars | A place-holder for other location information |

GET /Storage/Devices/{id}/Location/

GET /Storage/Devices/{id}/Location/ returns the Location information.

Table 582: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Location/
```

Example GET Response Body

```
{
```

```

"Self": "http://10.20.30.40/Storage/Devices/12345/Location/",
"Country": "USA",
"Territory": "",
"State": "Colorado",
"City": "Colorado Springs",
"Address1": "9950 Federal Drive",
"Address2": "Suite 100",
"Address3": "",
"PostalCode": "80921",
"SiteName": "WD COS DataCenter 1",
"Building": "100",
"Room": "1",
"Pod": "p2",
"Rack": "r02",
"Shelf": "30",
"Device": "5",
"Item": "Rack Units",
"GPSCoords": "38.9838684,-104.8040493",
"OtherLocationInfo": "This is other info"
}

```

Table 583: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Location information + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

PUT /Storage/Devices/{id}/Location/

PUT /Storage/Devices/{id}/Location/ modifies an attribute of the Location.

Table 584: PUT Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example PUT curl Command



Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "Content-Type: application/json"
-H "If-Match: 3677651d2011428f32120a029b015e80"
-X PUT http://10.20.30.40/Storage/Devices/0123456789/Location/
--data '{
  "Address1": "9950 Federal Drive",
  "Address2": "Suite 100",
  "Address3": "North",
  "Building": "9950",
  "City": "Colorado Springs",
  "Country": "USA",
  "Device": "255",
  "GPSCoords": "38.9838643,-104.806244",
  "Item": "Rack Units",
  "OtherLocationInfo": "More Info",
  "Pod": "2",
  "PostalCode": "80921",
  "Rack": "2",
  "Room": "159",
  "Row": "2",
  "Shelf": "24",
  "SiteName": "WDC COS DataCenter",
  "State": "Colorado",
  "Territory": "El Paso"
}'
```

Example PUT Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Location/"
  "Address1": "9950 Federal Drive",
  "Address2": "Suite 100",
  "Address3": "North",
  "Building": "9950",
  "City": "Colorado Springs",
  "Country": "USA",
  "Device": "255",
  "GPSCoords": "38.9838643,-104.806244",
  "Item": "Rack Units",
  "OtherLocationInfo": "More Info",
  "Pod": "2",
  "PostalCode": "80921",
  "Rack": "2",
  "Room": "159",
  "Row": "2",
  "Shelf": "24",
  "SiteName": "WDC COS DataCenter",
  "State": "Colorado",
  "Territory": "El Paso"
}
```

Table 585: PUT Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|--|
| 200 | OK | OK & Location information with no response body |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |
| 500 | Internal Server Error | Resource could not execute the request |

DELETE /Storage/Devices/{id}/Location/

DELETE /Storage/Devices/{id}/Location/ deletes Location information.

Table 586: DELETE Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example DELETE curl Command

Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X DELETE http://10.20.30.40/Storage/Devices/0123456789/Location/
```

Table 587: DELETE Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 204 | No Content | Delete successful, no content in the response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

| Response Code | Name | Definition |
|---------------|-----------------------|--------------------------------------|
| 500 | Internal Server Error | System could not process the request |

HEAD /Storage/Devices/{id}/Location/

HEAD /Storage/Devices/{id}/Location/ pings the Location resource.

Table 588: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 589: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Location/

OPTIONS /Storage/Devices/{id}/Location/ returns the allowable HTTP Methods list for this resource.

Table 590: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 591: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.2.2 /Storage/Devices/{id}/OperatingSystem/

The Device-level methods and attributes of /Storage/Devices/{id}/OperatingSystem/ return information about the Operating System (Application) and enable management operations.

HTTP Methods: GET HEAD OPTIONS

Table 592: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-------------|--------|-----------------------|-------------------|--------------------------------|---|
| Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| Name | String | Mandatory | No | Free-Form 128 Chars | The Operating System or Firmware name |
| OSType.Name | String | Mandatory | No | "Winnt" "Linux" | The Operating System Type value |
| OSType.ID | Number | Mandatory | No | 18 36 | The Operating System Type value map |
| Version | String | Mandatory | No | Free-Form 128 Chars | The Operating System or Application Version |

GET /Storage/Devices/{id}/OperatingSystem/

GET /Storage/Devices/{id}/OperatingSystem/ returns the information of the Operating System resource.

Table 593: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/OperatingSystem/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/OperatingSystem/",
  "Name": "Vendor Firmware",
  "OSType": {
    "ID": 59,
    "Name": "Dedicated"
  },
  "Version": "4.0.13"
}
```

Table 594: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Operating System resource information in the response body |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/OperatingSystem/

HEAD /Storage/Devices/{id}/OperatingSystem/ pings the Operating System resource.

Table 595: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 596: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/OperatingSystem/

OPTIONS /Storage/Devices/{id}/OperatingSystem/ returns the allowable HTTP Methods list for this resource.

Table 597: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 598: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.2.3 /Storage/Devices/{id}/Jobs/

The Device-level methods and attributes of /Storage/Devices/{id}/Jobs/ return information about the Jobs collection and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 599: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Optional | No | Resource Collection (1 - n entries) | The array of Resource Instances. See /Storage/Devices/{id}/Jobs/{id}/ (page 369) for Instance Attribute details |

GET /Storage/Devices/{id}/Jobs/

GET /Storage/Devices/{id}/Jobs/ returns the Collection of Jobs.

Table 600: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Jobs/
```

Table 601: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Jobs + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Jobs/

HEAD /Storage/Devices/{id}/Jobs/ pings the Jobs collection.

Table 602: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 603: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Jobs/

OPTIONS /Storage/Devices/{id}/Jobs/ returns the allowable HTTP Methods list for this resource.

Table 604: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 605: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource collection does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.2.4 /Storage/Devices/{id}/Jobs/{id}/

The Device-level methods and attributes of /Storage/Devices/{id}/Jobs/{id}/ return information about a specific Job, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

[GET](#)[DELETE](#)[HEAD](#)[OPTIONS](#)

Table 606: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|---------------------|------------|-----------------------|-------------------|---|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | "FactoryReset" | The Name of this particular Job |
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" "Inoperative" "Write Protected" "Reboot Needed" "Activate Needed" "Activate with reboot needed" "Activate invalidated by reboot" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0-16 65537-65542 | The current state value map of this Resource |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|------------------|-----------------------|-------------------|---|--|
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more Id entries |
| Status. Details[] | String Array | Optional | No | Free-Form Array entry. If no entry, then "None" | The current Health Details of the Device |
| PercentComplete | Number | Mandatory | No | 0-100 | The percent complete status of the Job |

GET /Storage/Devices/{id}/Jobs/{id}/

GET /Storage/Devices/{id}/Jobs/{id}/ returns information regarding a specific Job based on the {id} in the URI address string.

Table 607: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Jobs/FactoryReset_0123456789/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Jobs/",
  "Members": [
    {
      "Self": "http://10.20.30.40/Storage/Devices/0123456789/Jobs/FirmwareUpdate_0123456789/",
      "ID": "FirmwareUpdate_0123456789",
```

```
"StartTime": "09-Oct-2023 23:05:59 UTC",
"ElapsedTime": "09-Oct-2023 23:08:37 UTC",
"Owner": "http://10.20.30.40/Storage/Devices/0123456789/",
"PercentComplete": 100,
"Status": {
  "State": {
    "ID": 65540,
    "Name": "Activate needed"
  },
  "Health": [
    {
      "ID": 5,
      "Name": "OK"
    }
  ],
  "Details": [
    "FW update completed. Waiting for activation."
  ]
}
}
```

Table 608: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Job information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

DELETE /Storage/Devices/{id}/Jobs/{id}/

DELETE /Storage/Devices/{id}/Jobs/{id}/ deletes a specific Job.



Note: **NOTE:** When deleting firmware-related jobs, the recommended order is to delete FirmwareUpdate before FirmwareActivate.



Note: Jobs cannot be deleted when in-progress (i.e. when PercentComplete is less than 100%).

Table 609: DELETE Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

| Header | Mandatory or Optional | Description |
|----------|-----------------------|---|
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example DELETE curl Command

Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
  -i
  -u admin:admin
  -H "If-Match: 3677651d2011428f32120a029b015e81"
  -X DELETE http://10.20.30.40/Storage/Devices/0123456789/Jobs/
  FactoryReset_0123456789
```

Table 610: DELETE Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 204 | No Content | Delete successful; no content in the response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 409 | Conflict | If job is still in progress |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Jobs/{id}/

HEAD /Storage/Devices/{id}/Jobs/{id}/ pings this specific Job.

Table 611: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 612: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Jobs/{id}/

OPTIONS /Storage/Devices/{id}/Jobs/{id}/ returns the allowable HTTP Methods list for this resource.

Table 613: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 614: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.2.5 /Storage/Devices/{id}/Files/

The Device-level methods and attributes of /Storage/Devices/{id}/Files/ return information about the Files collection and enable management operations.

HTTP Methods:**GET****HEAD****OPTIONS**

Table 615: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Storage/Devices/{id}/Files/{id}/ (page 377) for Instance Attribute details |

GET /Storage/Devices/{id}/Files/

GET /Storage/Devices/{id}/Files/ returns the Collection of Files.

Table 616: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Files/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Files/",
  "Members": [
    {
      "Self": "http://10.20.30.40/Storage/Devices/0123456789/Files/telemetry",
      "ID": "telemetry",
      "Description": "Telemetry"
    }
  ]
}
```



```
    ]
  }
```



Note: The In-Band Storage device connection returns the GET /Telemetry JSON information (with Media SmartLog info) and any Controller E6 Logs and Media E6 Logs.

Table 617: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Files + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Files/

HEAD /Storage/Devices/{id}/Files/ pings this Files collection.

Table 618: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 619: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Files/

OPTIONS /Storage/Devices/{id}/Files/ returns the allowable HTTP Methods list for this resource.

Table 620: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 621: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.2.6 /Storage/Devices/{id}/Files/{id}/

The Device-level methods and attributes of /Storage/Devices/{id}/Files/{id}/ return information about a specific File and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 622: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|------------|-----------------------|-------------------|--------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier |
| Name | String | Mandatory | No | Free-Form 256 Chars | The name of the file |

GET /Storage/Devices/{id}/Files/{id}/

GET /Storage/Devices/{id}/Files/{id}/ returns information regarding a specific File based on the {id} in the URI address string.

Table 623: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command – Audit Log

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Files/auditlog
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Files/",
  "Members": [
    {
      "Self": "http://10.20.30.40/Storage/Devices/0123456789/Files/telemetry",
      "ID": "telemetry",
      "Description": "Telemetry"
    }
  ]
}
```



Note: The In-Band Storage device connection returns the GET /Telemetry JSON information (with Media SmartLog info) and any Controller E6 Logs and Media E6 Logs.

Table 624: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & File information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Files/{id}/

HEAD /Storage/Devices/{id}/Files/{id}/ pings a specific Compute File.

Table 625: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 626: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Files/{id}/

OPTIONS /Storage/Devices/{id}/Files/{id}/ returns the allowable HTTP Methods list for this resource.

Table 627: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|--------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 628: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 204 | No Content | No Content & "Allow" list of methods in the response header. Some files will return 204 No Content indicating that there is no entity body |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.2.7 /Storage/Devices/{id}/ZoneSets/

The Device-level methods and attributes of /Storage/Devices/{id}/ZoneSets/ return information about the Zone Sets collection and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 629: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Storage/Devices/{id}/ZoneSets/{id}/ (page 383) for Instance Attribute details |

GET /Storage/Devices/{id}/ZoneSets/

GET /Storage/Devices/{id}/ZoneSets/ returns the Collection of Files.

Table 630: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 631: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Files + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/ZoneSets/

HEAD /Storage/Devices/{id}/ZoneSets/ pings this Files collection.

Table 632: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 633: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/ZoneSets/

OPTIONS /Storage/Devices/{id}/ZoneSets/ returns the allowable HTTP Methods list for this resource.

Table 634: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 635: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.2.8 /Storage/Devices/{id}/ZoneSets/{id}/

The Device-level methods and attributes of /Storage/Devices/{id}/ZoneSets/{id}/ return information about specific Zone Sets and enable management operations.

HTTP Methods: GET HEAD OPTIONS

Table 636: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|---|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Type.ID | Number | Mandatory | No | 1, 2 | The ZoneSet configuration type value ID |
| Type.Name | String | Mandatory | No | "Fixed Configuration" "Custom File Configuration" | Indicates the supported type of ZoneSet configuration of the Device. |
| | | | | | "Fixed" indicates using native static configurations (e.g., Config 1, 2 or 3 or Disabled) "Custom" indicates supporting "custom file" upload to change the ZoneSet configuration |
| Members | String Array | Mandatory | No | Resource Collection (1 - n entries) | The array of Resource Instances (see Instance Resource Attributes Table for Instance Attribute details) |

GET /Storage/Devices/{id}/ZoneSets/{id}/

GET /Storage/Devices/{id}/ZoneSets/{id}/ returns information regarding a specific File based on the {id} in the URI address string.

Table 637: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/ZoneSets/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/ZoneSets/1/",
  "Name": "Zone Set 1",
  "ID": "1",
  "Description": "Configuration 1",
  "Active": false,
  "MaxNumZoneMembers": 17,
  "MaxNumZonesPerZoneSet": 6,
  "Associations": {
    "Device": [
      "5000CCAB04110A00"
    ],
    "ZoneSets": [
      "1"
    ]
  },
  "Zones": [
    {
      "ID": "1",
      "NumZoneMembers": 17,
      "Connectors": [
        "1",
        "7"
      ],
      "Media": [
        "1",
        "2",
        "3",
        "4",
        "5",
        "6",
        "7",
        "8",
        "9",
        "10",
        "11",
        "12",
        "13",
        "14",
```

```

        "15",
        "16",
        "17"
    ],
    },
    {
        "ID": "2",
        "NumZoneMembers": 17,
        "Connectors": [
            "2",
            "8"
        ],
        "Media": [
            "18",
            "19",
            "20",
            "21",
            "22",
            "23",
            "24",
            "25",
            "26",
            "27",
            "28",
            "29",
            "30",
            "31",
            "32",
            "33",
            "34"
        ]
    },
    {
        "ID": "3",
        "NumZoneMembers": 17,
        "Connectors": [
            "3",
            "9"
        ],
        "Media": [
            "35",
            "36",
            "37",
            "38",
            "39",
            "40",
            "41",
            "42",
            "43",
            "44",
            "45",
            "46",
            "47",
            "48",
            "49",
            "50",
            "51"
        ]
    },
    },

```

```
{
  "ID": "4",
  "NumZoneMembers": 17,
  "Connectors": [
    "4",
    "10"
  ],
  "Media": [
    "52",
    "53",
    "54",
    "55",
    "56",
    "57",
    "58",
    "59",
    "60",
    "61",
    "62",
    "63",
    "64",
    "65",
    "66",
    "67",
    "68"
  ]
},
{
  "ID": "5",
  "NumZoneMembers": 17,
  "Connectors": [
    "5",
    "11"
  ],
  "Media": [
    "69",
    "70",
    "71",
    "72",
    "73",
    "74",
    "75",
    "76",
    "77",
    "78",
    "79",
    "80",
    "81",
    "82",
    "83",
    "84",
    "85"
  ]
},
{
  "ID": "6",
  "NumZoneMembers": 17,
  "Connectors": [
    "6",
```

```
        "12"
      ],
      "Media": [
        "86",
        "87",
        "88",
        "89",
        "90",
        "91",
        "92",
        "93",
        "94",
        "95",
        "96",
        "97",
        "98",
        "99",
        "100",
        "101",
        "102"
      ]
    }
  ]
}
```



Note: The In-Band Storage device connection returns the GET /Telemetry JSON information (with Media SmartLog info) and any Controller E6 Logs and Media E6 Logs.

Table 638: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & File information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/ZoneSets/{id}/

HEAD /Storage/Devices/{id}/ZoneSets/{id}/ pings a specific Compute File.

Table 639: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 640: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/ZoneSets/{id}/

OPTIONS /Storage/Devices/{id}/ZoneSets/{id}/ returns the allowable HTTP Methods list for this resource.

Table 641: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 642: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

5.2.9 /Storage/Devices/{id}/Telemetry/

The Device-level methods and attributes of /Storage/Devices/{id}/Telemetry/ return information about the Telemetry resource and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 643: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--------------|--------------|-----------------------|-------------------|-----------------------------------|---|
| Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| LastAccessed | String | Mandatory | No | datetime based on UTC | The UTC time of the request |
| Members[] | String Array | Mandatory | No | Member Entry | This is the instantaneous, fully expanded metadata from this Device |

GET /Storage/Devices/{id}/Telemetry/

GET /Storage/Devices/{id}/Telemetry/ returns the information of the Telemetry resource.

Table 644: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
  -i
  -u admin:admin
  -X GET http://10.202.237.61:80/Storage/Devices/78dde6b28cc44503bbdc446d8c85b3e/Telemetry/
```

Example GET Response Body



Note: In this example, the Compute Device is proxy managing 3 other Storage Devices, so this Telemetry response includes those as well.

```
{
  "Self": "http://10.202.237.61:80/Compute/Devices/78dde6b28cc44503bbdc446d8c85b3e/Telemetry/",
  "LastAccessed": "26-Jan-2024 12:48:34 UTC",
  "Members": [
    {
      "Self": "http://10.202.237.61:80/Compute/Devices/78dde6b28cc44503bbdc446d8c85b3e/",
      "SystemType": {...},
      "Name": "cos-r16-s2",
      "ID": "78dde6b28cc44503bbdc446d8c85b3e",
      "OperatingSystem": {...},
      "SerialNumber": "0123456789",
      "Model": "Super Server",
      "Manufacturer": "Supermicro",
      "Capabilities": {...},
      "Status": {...},
      "IPAddresses": {...},
      "Architecture": "x86_64",
      "InformationStructure": {...},
      "Domain": "",
      "Memory": 134951862272,
      "RemainingMemory": 130660556800,
      "Rackmountable": {...},
      "Location": {...},
      "Accounts": {...},
      "Adapters": {...},
      "Files": {...},
      "Media": {...},
      "Performance": {...},
      "Ports": {...},
      "PowerSupplies": {...},
      "Processors": {...},
      "SystemClock": {...},
      "Volumes": {...},
      "Telemetry": {...}
    },
    {...},
    {...},
    {...}
  ]
}
```

Table 645: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & Telemetry resource information in the response body |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Telemetry/

HEAD /Storage/Devices/{id}/Telemetry/ pings the Telemetry resource.

Table 646: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 647: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Telemetry/

OPTIONS /Storage/Devices/{id}/Telemetry/ returns the allowable HTTP Methods list for this resource.

Table 648: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 649: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |



Proxied Node Storage Out-of-Band

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6.1 Physical Devices

The OCAPI's physical resource model includes the overall Compute Proxy Device. The topics in this section provide information for accessing and managing the features of these physical resources.

6.1.1 /Storage/Devices/

The Device-level methods and attributes of /Storage/Devices/ return information about the Devices collection and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 650: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Config-urable | Possible Values | Description |
|-----------|--------------|-----------------------|--------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/ (page 179) for Instance Attribute details |

GET /Storage/Devices/

GET /Storage/Devices/ returns the Collection of Devices.

Table 651: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/
```

Table 652: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Devices + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/

HEAD /Storage/Devices/ pings the Devices collection.

Table 653: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 654: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/

OPTIONS /Storage/Devices/ returns the allowable HTTP Methods list for this resource.

Table 655: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 656: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.1.2 /Storage/Devices/{id}/

The Device-level methods and attributes of /Storage/Devices/{id}/ return information about a specific Device, based on the {id} in the URI string, and enable management operations.

HTTP Methods:[GET](#)[HEAD](#)[OPTIONS](#)

Table 657: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------------------------|------------|-----------------------|-------------------|--------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| SystemType.Name | String | Mandatory | No | "Compute" | The domain type string indicating the type of Device Resource |
| SystemType.ID | Number | Mandatory | No | 1 | The domain type number indicating the type of Device Resource |
| Name | String | Mandatory | Yes | Free-Form 256 Chars | The user-defined Friendly Name for this Resource |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| OperatingSystem.Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Operating System Resource |
| OperatingSystem.Name | String | Mandatory | No | Free-Form URI | Resource Manager Data Center Edition Application Name |
| OperatingSystem.OSType.Name | String | Mandatory | No | "Winnt" "Linux" | Resource Manager Data Center Edition running on this OS Type string value |
| OperatingSystem.OSType.ID | Number | Mandatory | No | 18 36 | Resource Manager Data Center Edition running on this OS Type number value |
| OperatingSystem.Version | String | Mandatory | No | Free-Form URI | Resource Manager Data Center Edition Application Version |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--|---------------|-----------------------|-------------------|--|---|
| Serial Number | String | Mandatory | No | Free-Form 64 Chars | The Compute Node Serial Number |
| Model | String | Mandatory | No | "Resource Manager Data Center" | Compute Node application model |
| Manufacturer | String | Mandatory | No | "WDC" | Compute Node manufacturer |
| Capabilities.Members[].Name | String | Mandatory | No | "Management" "File Server", "Server", "Central Processor Device" | The capabilities information value(s) regarding the Resource |
| Capabilities.Members[].ID | Number | Mandatory | No | 14 16 39 47101 | The capabilities information value map(s) regarding the Resource |
| Capabilities.Members[].CapabilitiesDescription | String | Mandatory | No | Free-form characters | Entry describing the capability |
| Status.State.Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status.State.ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status.Health[].Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries. |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|---|------------------|-----------------------|-------------------|---|--|
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536 - 65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| Status. Details[] | String Array | Optional | No | Free-Form Array entry. If no entry, then "None" | The current Health Details of the Device |
| IPAddresses. Members[]. IPAddress | String Array | Mandatory | No | IPv4 or IPv6 pattern | The IP Address list for this Resource |
| Architecture | String | Optional | No | Free-form characters | The Compute Architecture type |
| Location. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Location Resource |
| Adapters. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Adapters Resource collection |
| Ports. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Ports Resource |
| PowerSupplies. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Power Supplies Resource |
| Processors. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Proecessors Resource |
| Volumes. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Volumes Resource |
| Connectors. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to Connectors Resource Collection |
| Controllers. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to Controllers Resource Collection |
| Expanders. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to Expanders Resource Collection |
| Fans. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to Fan Resource Collection |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-------------------|---------|-----------------------|-------------------|-----------------|---|
| Sensors. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Sensor Resource |
| Jobs. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Jobs Resource |
| Files. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the Files Resource |
| ZoneSets. Self | String | Mandatory | No | Free-Form URI | Fully qualified link to the ZoneSets Resource |
| Reboot | Boolean | WriteOnly | Yes | true | Directs this device to reboot |
| FirmwareActivate | Boolean | WriteOnly | Yes | true | Directs this device to Activate the previously uploaded Device OS image |

GET /Storage/Devices/{id}/

GET /Storage/Devices/{id}/ returns information regarding a specific Device based on the {id} in the URI address string.

Table 658: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/12345/",
  "SystemType": {
    "ID": 2,
    "Name": "Storage"
  },
  "Name": "12345",
  "ID": "12345",
  "OperatingSystem": {
```

```

    "Self": "http://10.20.30.40/Storage/Devices/12345/OperatingSystem/",
    "Name": "Vendor Firmware",
    "OSType": {
      "ID": 59,
      "Name": "Dedicated"
    },
    "Version": "4.0.86"
  },
  "SerialNumber": "THCLS03819EZ0090",
  "Model": "H4060-J",
  "Manufacturer": "HGST",
  "Capabilities": {
    "Members": [
      {
        "ID": 3,
        "Name": "Storage",
        "CapabilityDescription": "This device is a storage provider."
      },
      {
        "ID": 15,
        "Name": "Block Server",
        "CapabilityDescription": "This device provides block storage."
      },
      {
        "ID": 31,
        "Name": "Storage Device Enclosure",
        "CapabilityDescription": "This device is a storage-based enclosure
type."
      },
      {
        "ID": 47202,
        "Name": "Disk Media Device",
        "CapabilityDescription": "This device provides disk-based storage
volumes."
      }
    ]
  },
  "Status": {
    "State": {
      "ID": 16,
      "Name": "In service"
    },
    "Health": [
      {
        "ID": 5,
        "Name": "OK"
      }
    ],
    "Details": [
      "None"
    ]
  },
  "DeviceHandle": "/dev/sg2",
  "DurableName": "0123456789",
  "IPAddresses": {
    "Members": [
      {
        "IPAddress": "10.20.30.41"
      }
    ]
  }
}

```

```

    ],
    "PowerState": {
        "ID": 2,
        "Name": "On"
    },
    "SlotNumber": 1,
    "TotalCapacity": 600049880924160,
    "EnclosureCover": "OK",
    "Location": {
        "Self": "http://10.20.30.40/Storage/Devices/12345/Location/"
    },
    "IndicatorLED": {
        "ID": 4,
        "Name": "Off"
    },
    "Adapters": {
        "Self": "http://10.20.30.40/Storage/Devices/12345/Adapters/"
    },
    "Connectors": {
        "Self": "http://10.20.30.40/Storage/Devices/12345/Connectors/"
    },
    "Controllers": {
        "Self": "http://10.20.30.40/Storage/Devices/12345/Controllers/"
    },
    "Expanders": {
        "Self": "http://10.20.30.40/Storage/Devices/12345/Expanders/"
    },
    "Fans": {
        "Self": "http://10.20.30.40/Storage/Devices/12345/Fans/"
    },
    "Files": {
        "Self": "http://10.20.30.40/Storage/Devices/12345/Files/"
    },
    "Jobs": {
        "Self": "http://10.20.30.40/Storage/Devices/12345/Jobs/"
    },
    "Media": {
        "Self": "http://10.20.30.40/Storage/Devices/12345/Media/"
    },
    "Ports": {
        "Self": "http://10.20.30.40/Storage/Devices/12345/Ports/"
    },
    "PowerSupplies": {
        "Self": "http://10.20.30.40/Storage/Devices/12345/PowerSupplies/"
    },
    "Sensors": {
        "Self": "http://10.20.30.40/Storage/Devices/12345/Sensors/"
    },
    "Slots": {
        "Self": "http://10.20.30.40/Storage/Devices/12345/Slots/"
    },
    "ZoneSets": {
        "Self": "http://10.20.30.40/Storage/Devices/12345/ZoneSets/"
    },
    "Telemetry": {
        "Self": "http://10.20.30.40/Storage/Devices/12345/Telemetry/"
    }
}

```

}

Table 659: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Device information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/

HEAD /Storage/Devices/{id}/ pings this Storage Device.

Table 660: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 661: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/

OPTIONS /Storage/Devices/{id}/ returns the allowable HTTP Methods list for this resource.



Note: There may be some attributes returned in the OPTIONS response schema that may not be directly supported by this resource.

Table 662: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 663: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.1.3 /Storage/Devices/{id}/Controllers/

The Device-level methods and attributes of /Storage/Devices/{id}/Controllers/ return information about the Controllers attributes and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 664: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Storage/Devices/{id}/Controllers/ (page 405) for Instance Attribute details |

GET /Storage/Devices/{id}/Controllers/

GET /Storage/Devices/{id}/Controllers/ returns the Collection of Controllers.

Table 665: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Controllers/
```

Table 666: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Controllers + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Controllers/

HEAD /Storage/Devices/{id}/Controllers/ pings the Controllers collection.

Table 667: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 668: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Controllers/

OPTIONS /Storage/Devices/{id}/Controllers/ returns the allowable HTTP Methods list for this resource.

Table 669: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 670: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |

6.1.4 /Storage/Devices/{id}/Controllers/{id}/

The Device-level methods and attributes of /Storage/Devices/{id}/Controllers/{id}/ return information about a specific Controllers, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 671: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|---------------------------|------------|-----------------------|-------------------|---|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| Name | String | Mandatory | Yes | Free-Form 256 Chars | The user-defined Friendly Name for this Resource |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| PartNumber | String | Mandatory | No | Free-Form 256 Chars | PartNumber or Model Name |
| SerialNumber | String | Mandatory | No | Free-Form 256 Chars | Serial Number for the Controller |
| Version | String | Mandatory | No | Major.Minor.Patch | The current Device OS Version on this Controller |
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|------------------|-----------------------|-------------------|--|--|
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| Status. Details[] | String Array | Optional | No | Free-Form Array entry. If no entry, then "None". | The current Health Details of the Device |
| IndicatorLED. Name | String | Mandatory | No | Off Lit | The current state value of the Indicator LED for this Resource |
| IndicatorLED. ID | Number | Mandatory | Yes | 4 2 | The current state value map of the Indicator LED for this Resource |
| ProtocolIdentifier. Name | String | Mandatory | No | SAS Serial SCSI Protocol | Indicates the communication protocol name |
| ProtocolIdentifier. ID | Number | Mandatory | No | 6 | Indicates the communication protocol value ID |
| RemovalConditions. Name | String | Mandatory | No | "Unknown" "Not applicable" "Removable when off" "Removable when on or off" "Removable, removal not currently safe" | Indicates removal capabilities |
| RemovalConditions. ID | Number | Mandatory | No | 0 2 3 4 10 | Indicates removal capabilities value ID |
| DeviceHandle | String | Mandatory | No | /dev/sgX (Linux) or SCSI0:1,2,3 (Windows) | Handle for communication to the Hardware |

GET /Storage/Devices/{id}/Controllers/{id}/

GET /Storage/Devices/{id}/Controllers/{id}/ returns information regarding a specific Controller based on the {id} in the URI address string.

Table 672: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Controllers/IOModuleBFRU/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Controllers/IOModuleBFRU/",
  "ID": "IOModuleBFRU",
  "IndicatorLED": {
    "ID": 4,
    "Name": "Off"
  },
  "Name": "IOModuleBFRU",
  "Status": {
    "State": {
      "ID": 16,
      "Name": "In service"
    },
    "Health": [
      {
        "ID": 5,
        "Name": "OK"
      }
    ],
    "Details": [
      "None"
    ]
  },
  "PartNumber": "1EB1049-A2",
  "SerialNumber": "THCLS00320EG0029",
  "Version": "4.0.86",
  "DurableName": "5000ccab0410a1fc",
  "ProtocolIdentifier": {
    "ID": 6,
    "Name": "SAS Serial SCSI Protocol"
  },
  "RemovalConditions": {
    "ID": 4,
    "Name": "Removable when on or off"
  }
}
```

```

    },
    "DeviceHandle": "/dev/sg3"
  }

```

Table 673: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Controller information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Controllers/{id}/

HEAD /Storage/Devices/{id}/Controllers/{id}/ pings this Controller.

Table 674: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 675: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Controllers/{id}/

OPTIONS /Storage/Devices/{id}/Controllers/{id}/ returns the allowable HTTP Methods list for this resource.

Table 676: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 677: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.1.5 /Storage/Devices/{id}/Connectors/

The Device-level methods and attributes of /Storage/Devices/{id}/Connectors/ return information about the Connectors attributes and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 678: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Optional | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Storage/Devices/{id}/Controllers/ (page 405) for Instance Attribute details |

GET /Storage/Devices/{id}/Connectors/

GET /Storage/Devices/{id}/Connectors/ returns the Collection of Controllers.

Table 679: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
  -i
  -u admin:admin
  -X GET http://10.20.30.40/Storage/Devices/0123456789/Connectors/
```

Table 680: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Controllers + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Connectors/

HEAD /Storage/Devices/{id}/Connectors/ pings the Controllers collection.

Table 681: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 682: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Connectors/

OPTIONS /Storage/Devices/{id}/Connectors/ returns the allowable HTTP Methods list for this resource.

Table 683: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 684: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.1.6 /Storage/Devices/{id}/Connectors/{Id}/

The Device-level methods and attributes of /Storage/Devices/{id}/Connectors/{Id}/ return information about the Connectors attributes and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 685: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|---------------|-----------------------|-------------------|--|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| Name | String | Mandatory | Yes | Free-Form 256 Chars | The user-defined Friendly Name for this Resource |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------------------|---------------|-----------------------|-------------------|---|--|
| Status.Health[].ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| Status.Details[] | String Array | Optional | No | Free-Form Array entry. If no entry, then "None". | The current Health Details of the Device |
| CablePresent | Boolean | Mandatory | No | true false | Indicates whether or not a cable is plugged into the Connector |
| Connector Description | String | Mandatory | No | Mini SAS HD 4x receptacle (see SAS-4 and SFF-8644)[max number of phys: 4] | Indicates the type of connector |
| Layout.Name | String | Mandatory | No | PCI-E x4 | Indicates the type of connector protocol |
| Layout.ID | Number | Mandatory | No | 4 | Indicates the type of connector protocol value ID |

GET /Storage/Devices/{id}/Connectors/{Id}/

GET /Storage/Devices/{id}/Connectors/{Id}/ returns the Collection of Controllers.

Table 686: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Connectors/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Connectors/CONN_HOST_02/" ,
```

```

    "ID": "CONN_HOST_02",
    "IndicatorLED": {
      "ID": 4,
      "Name": "Off"
    },
    "Name": "CONN HOST 02",
    "Status": {
      "State": {
        "ID": 16,
        "Name": "In service"
      },
      "Health": [
        {
          "ID": 5,
          "Name": "OK"
        }
      ]
    },
    "ConnectorDescription": "Mini SAS HD 4x receptacle (see SAS-4 and SFF-8644)[max
number of phys: 4]",
    "CablePresent": true,
    "Layout": {
      "ID": 4,
      "Name": "PCI-E x4"
    }
  }
}

```

Table 687: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Controllers + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Connectors/{Id}/

HEAD /Storage/Devices/{id}/Connectors/{Id}/ pings the Controllers collection.

Table 688: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 689: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Connectors/{Id}/

OPTIONS /Storage/Devices/{id}/Connectors/{Id}/ returns the allowable HTTP Methods list for this resource.

Table 690: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 691: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.1.7 /Storage/Devices/{id}/Expanders/

The Device-level methods and attributes of /Storage/Devices/{id}/Expanders/ return information about the Expanders collection and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 692: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Optional | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/Adapters/{id}/ (page 197) for Instance Attribute details |

GET /Storage/Devices/{id}/Expanders/

GET /Storage/Devices/{id}/Expanders/ returns the Collection of Adapters.

Table 693: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Expanders
```

Table 694: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Adapters + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Expanders/

HEAD /Storage/Devices/{id}/Expanders/ pings the Adapters collection.

Table 695: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 696: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Expanders/

OPTIONS /Storage/Devices/{id}/Expanders/ returns the allowable HTTP Methods list for this resource.

Table 697: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 698: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.1.8 /Storage/Devices/{id}/Expanders/{Id}/

The Device-level methods and attributes of /Storage/Devices/{id}/Expanders/{Id}/ return information about the Expanders attributes and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 699: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|---------------|-----------------------|-------------------|--|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| Name | String | Mandatory | Yes | Free-Form 256 Chars | The user-defined Friendly Name for this Resource |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|----------------------------|------------------|-----------------------|-------------------|---|--|
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| IndicatorLED. Name | String | Mandatory | No | Off Lit | The current state value of the Indicator LED for this Resource |
| IndicatorLED. ID | Number | Mandatory | No | 4 2 | The current state value map of the Indicator LED for this Resource |
| Version | String | Mandatory | No | Major-Minor Format | The current Expander FW image version |
| DurableName | String | Mandatory | No | WWN or UUID Format | The in-band discovery identifier |

GET /Storage/Devices/{id}/Expanders/{Id}/

GET /Storage/Devices/{id}/Expanders/{Id}/ returns the Collection of Controllers.

Table 700: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
  -i
  -u admin:admin
  -X GET http://10.20.30.40/Storage/Devices/0123456789/Expanders/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Expanders/EXP_IOMA_0/",
  "ID": "EXP_IOMA_0",
  "IndicatorLED": {
    "ID": 4,
    "Name": "Off"
  },
}
```

```

    "Name": "EXP IOMA 0",
    "Status": {
      "State": {
        "ID": 16,
        "Name": "In service"
      },
      "Health": [
        {
          "ID": 5,
          "Name": "OK"
        }
      ]
    },
    "Version": "3010-007",
    "DurableName": "5000ccab0410a1bd"
  }
}

```

Table 701: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Controllers + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Expanders/{Id}/

HEAD /Storage/Devices/{id}/Expanders/{Id}/ pings the Controllers collection.

Table 702: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 703: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Expanders/{Id}/

OPTIONS /Storage/Devices/{id}/Expanders/{Id}/ returns the allowable HTTP Methods list for this resource.

Table 704: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 705: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.1.9 /Storage/Devices/{id}/Ports/

The Device-level methods and attributes of /Storage/Devices/{id}/Ports/ return information about the Ports collection and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 706: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Optional | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Compute/Devices/{id}/Adapters/{id}/ (page 197) for Instance Attribute details |

GET /Storage/Devices/{id}/Ports/

GET /Storage/Devices/{id}/Ports/ returns the Collection of Adapters.

Table 707: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Ports
```

Table 708: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Adapters + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Ports/

HEAD /Storage/Devices/{id}/Ports/ pings the Adapters collection.

Table 709: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 710: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Ports/

OPTIONS /Storage/Devices/{id}/Ports/ returns the allowable HTTP Methods list for this resource.

Table 711: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 712: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.1.10 /Storage/Devices/{id}/Ports/{Id}/

The Device-level methods and attributes of /Storage/Devices/{id}/Ports/{Id}/ return information about the Ports attributes and enable management operations.

HTTP Methods:


GET

HEAD

OPTIONS

Table 713: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|---------------|-----------------------|-------------------|--|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--------------------|---------------|-----------------------|-------------------|--|--|
| Status.Health[].ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| Status.Details[] | String Array | Optional | No | Free-Form Array entry. If no entry, then "None". | The current Health Details of the Device |
| AddressOrigin.Name | Number | Mandatory | Yes | "UNKNOWN" "OTHER" "NOT APPLICABLE" "STATIC" "DHCP" "BOOTP" "IPv4 Link Local" "DHCPv6" "IPv6 Link Local" "DHCPv4" | Information value as to where the address is supplied |
| AddressOrigin.ID | String | Mandatory | Yes | 0 1 2 3 4 5 6 7 10 65536 | Information value map as to where the address is supplied |
| IPv4Address | String | Mandatory | Yes | IPv4 4-Octet pattern + CIDR mask | <p>The Network IP Address for this Device; IPv4 type</p> <div>  Note: 0.0.0.0/8 & 127.0.0.0/8 are reserved and rejected. </div> |
| IPv4Gateway | String | Optional | Yes | IPv4 4-Octet pattern | The Network IP Gateway address setting for IPv4 |
| IPv6Address | String | Mandatory | Yes | IPv6 Hex pattern + CIDR mask | The Network IP Address for this Device; IPv6 type |
| IPv6Gateway | String | Optional | Yes | IPv6 Hex pattern | The Network IP Gateway address setting for IPv6 |
| MACAddress | String | Mandatory | No | 6-hex digit HW address | Unique MAC Address reported by the local hardware adapter |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------|--------|-----------------------|-------------------|---|---|
| NetworkType.Name | String | Mandatory | No | "LAN" "WLAN" "WAN" "MAN" "SAN" "VLAN" "Ethernet Network" "IP Network" "IPv4 Network" "IPv6 Network" | The network type value |
| NetworkType.ID | Number | Mandatory | No | 0 1 2 3 4 5 6 7 8 | The network type value map |
| MTUBytes | Number | Mandatory | Yes | Range: 46 - 9216 (default: 1500) | The current Maximum Transfer Bytes value |
| Adapters.Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Link to get the Adapter information hosting this Port |

GET /Storage/Devices/{id}/Ports/{Id}/

GET /Storage/Devices/{id}/Ports/{Id}/ returns the Collection of Controllers.

Table 714: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
  -i
  -u admin:admin
  -X GET http://10.20.30.40/Storage/Devices/0123456789/Ports/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Ports/01_0a_f7_95_79_3c/",
  "ID": "01_0a_f7_95_79_3c",
  "Status": {
    "State": {
      "ID": 16,
      "Name": "In service"
    },
    "Health": [{
      "ID": 5,
      "Name": "OK"
    }]
  }
}
```

```

    }]
  },
  "AddressOrigin": {
    "ID": 4,
    "Name": "DHCP"
  },
  "IPv4Address": "10.20.30.40/22",
  "IPGateway": "",
  "MACAddress": "01:0a:f7:95:79:3c",
  "NetworkType": {
    "ID": 8,
    "Name": "IPv4 Network"
  },
  "MTUBytes": 1500,
  "Adapters": "http://10.20.30.40/Storage/Devices/0123456789/Adapters/?portid=01_0a_f7_95_79_3c"
}

}

OR for IPv6:
{
  "Self": "http://10.20.40:80/Storage/Devices/0123456789/Ports/00_0c_ca_09_00_3c_fdf4_cfad_91f3_6061_18_64/",
  "ID": "00_0c_ca_09_00_3c_fdf4_cfad_91f3_6061_18_64",
  "Status": {
    "State": {
      "ID": 0,
      "Name": "Unknown"
    },
  },
  "Health": [{
    "ID": 5,
    "Name": "OK"
  }]
},
  "AddressOrigin": {
    "ID": 7,
    "Name": "DHCPv6"
  },
  "IPv6Address": "fdf4:cfad:91f3:6061::18/64",
  "MACAddress": "00:0c:ca:09:00:3c",
  "NetworkType": {
    "ID": 9,
    "Name": "IPv6 Network"
  },
  "MTUBytes": 1500,
  "Adapters": "http://10.20.30.40:80/Storage/Devices/0123456789/Adapters/?portid=00_0c_ca_09_00_3c_fdf4_cfad_91f3_6061_18_64"
}

```

Table 715: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Controllers + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Ports/{Id}/

HEAD /Storage/Devices/{id}/Ports/{Id}/ pings the Controllers collection.

Table 716: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 717: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Ports/{Id}/

OPTIONS /Storage/Devices/{id}/Ports/{Id}/ returns the allowable HTTP Methods list for this resource.

Table 718: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 719: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.1.11 /Storage/Devices/{id}/PowerSupplies/

The Device-level methods and attributes of /Storage/Devices/{id}/PowerSupplies/ return information about the Power Supplies collection and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 720: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Storage/Devices/{id}/PowerSupplies/ (page 436) for Instance Attribute details |

GET /Storage/Devices/{id}/PowerSupplies/

GET /Storage/Devices/{id}/PowerSupplies/ returns the Collection of Power Supplies.

Table 721: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/PowerSupplies
```

Table 722: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Power Supplies + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/PowerSupplies/

HEAD /Storage/Devices/{id}/PowerSupplies/ pings the Power Supplies collection.

Table 723: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 724: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/PowerSupplies/

OPTIONS /Storage/Devices/{id}/PowerSupplies/ returns the allowable HTTP Methods list for this resource.

Table 725: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 726: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.1.12 /Storage/Devices/{id}/PowerSupplies/{id}/

The Device-level methods and attributes of /Storage/Devices/{id}/PowerSupplies/{id}/ return information about specific Power Supplies, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

GET

PUT

HEAD

OPTIONS

Table 727: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|---------------------|------------|-----------------------|-------------------|--|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| Name | String | Mandatory | No | Free-Form 64 Chars | |
| IndicatorLED. Name | String | Mandatory | No | "Off" "Lit" | The current state value of the Indicator LED for this Resource |
| IndicatorLED. ID | Number | Mandatory | Yes | 4 2 | The current state value map of the Indicator LED for this Resource |
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|------------------|-----------------------|-------------------|--|---|
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| Status. Details[] | String Array | Optional | No | Free-Form 32 Characters per Array entry. If no entry, then "None" | The current Health Details of the Power Supply |
| PartNumber | String | Mandatory | No | Free-Form 32 Characters | The Part Number for this Power Supply |
| SerialNumber | String | Mandatory | No | Free-Form 32 Characters | The Serial Number of this Power Supply |
| Model | String | Optional | No | Free-Form 32 Characters | The model of this Power Supply |
| Manufacturer | String | Mandatory | No | Free-Form 32 Characters | The Manufacturer of this Power Supply |
| TotalOutputPower | Number | Optional | No | Number in Watts | The total output power in watts |
| BaseUnits. ID | Number | Optional | No | 7 | The Base Units value map |
| BaseUnits. Name | String | Optional | No | Watts | The Base Units value as Watts |
| RateUnits. ID | Number | Optional | No | 0 | The Rate Units value map |
| RateUnits. Name | String | Optional | No | None | The Rate Units value |
| UnitModifier | Number | Optional | No | 0 | The Unit Modifier to determine order of magnitude to multiply the Total Power Output as Base 10 * Unit Modifier |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------|--------|-----------------------|-------------------|--|---|
| RemovalConditions.Name | String | Mandatory | No | "Unknown" "Not applicable" "Removable when off" "Removable when on or off" "Removable, removal not currently safe" | Indicates removal capabilities |
| RemovalConditions.ID | Number | Mandatory | No | 0 2 3 4 10 | Indicates removal capabilities value ID |

GET /Storage/Devices/{id}/PowerSupplies/{id}/

GET /Storage/Devices/{id}/PowerSupplies/{id}/ returns information regarding a specific Power Supply based on the {id} in the URI address string.

Table 728: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/PowerSupplies/1
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/PowerSupplies/POWER_SUPPLY_A/",
  "ID": "PSU_A",
  "IndicatorLED": {
    "ID": 4,
    "Name": "Off"
  },
  "Name": "PSU A",
  "Status": {
    "State": {
      "ID": 16,
      "Name": "In service"
    },
    "Health": [
      {
        "ID": 5,
        "Name": "OK"
      }
    ]
  }
}
```

```

    },
    "Details": [
        "None"
    ]
},
"PartNumber": "DPS-1600AB-12",
"SerialNumber": "IQHD1939009335",
"RemovalConditions": {
    "ID": 4,
    "Name": "Removable when on or off"
},
"Manufacturer": "DELTA",
"Model": "DPS-1600AB-12",
"TotalOutputPower": 1600,
"BaseUnits": {
    "ID": 7,
    "Name": "Watts"
},
"RateUnits": {
    "ID": 0,
    "Name": "None"
},
"UnitModifier": 0
}

```

Table 729: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Power Supply information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

PUT /Storage/Devices/{id}/PowerSupplies/{id}/

PUT /Storage/Devices/{id}/PowerSupplies/{id}/ modifies an attribute or executes an operation for this Power Supply.

Table 730: PUT Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

| Header | Mandatory or Optional | Description |
|----------|-----------------------|---|
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example PUT curl Command

Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
  -i
  -u admin:admin
  -H "If-Match: 3677651d2011428f32120a029b015e80"
  -X PUT http://10.20.30.40/Storage/Devices/0123456789/PowerSupplies/
PowerSupplyAFRU/?IPAddress=10.20.30.41
  --data '{
    "IndicatorLED": {
      "ID": 2
    }
  }'
```

Table 731: PUT Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 200 | OK | OK & Power Supply information in the response body + ETag Header |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/PowerSupplies/{id}/

HEAD /Storage/Devices/{id}/PowerSupplies/{id}/ pings this Power Supply.

Table 732: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 733: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/PowerSupplies/{id}/

OPTIONS /Storage/Devices/{id}/PowerSupplies/{id}/ returns the allowable HTTP Methods list for this resource.

Table 734: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 735: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.1.13 /Storage/Devices/{id}/Fans/

The Device-level methods and attributes of /Storage/Devices/{id}/Fans/ return information about the Fans collection and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 736: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Storage/Devices/{id}/Fans/ (page 445) for Instance Attribute details |

GET /Storage/Devices/{id}/Fans/

GET /Storage/Devices/{id}/Fans/ returns the Collection of Power Supplies.

Table 737: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Fans
```

Table 738: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Power Supplies + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Fans/

HEAD /Storage/Devices/{id}/Fans/ pings the Power Supplies collection.

Table 739: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 740: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Fans/

OPTIONS /Storage/Devices/{id}/Fans/ returns the allowable HTTP Methods list for this resource.

Table 741: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 742: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.1.14 /Storage/Devices/{id}/Fans/{Id}/

The Device-level methods and attributes of /Storage/Devices/{id}/Fans/{Id}/ return information about the Fans attributes and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 743: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|------------------|-----------------------|-------------------|---|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------|---------------|-----------------------|-------------------|--|--|
| Status.Health[].ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| Status.Details[] | String Array | Optional | No | Free-Form Array entry. If no entry, then "None". | The current Health Details of the Device |
| CurrentSpeed | Number | Mandatory | No | 0 - n | The current speed of the fan in RPM |
| BaseUnits.Name | String | Mandatory | No | "RPM" | The base units value for the speed value |
| BaseUnits.ID | Number | Mandatory | No | 19 | The base units value map for the speed value |
| RateUnits.Name | String | Mandatory | No | "None" | The rate units value for the fan |
| RateUnits.ID | Number | Mandatory | No | 0 | The rate units value map for the fan |
| UnitModifier | Number | Mandatory | No | 0 | The unit modifier for the fan speed |
| RemovalConditions.ID | Number | Mandatory | No | 0 2 3 4 10 | The value map of the removal conditions for this FRU |
| RemovalConditions.Name | String | Mandatory | No | "Unknown" "Not Applicable" "Removable when off" "Removable when on or off" "Removable, removal not currently safe" | The value of the removal conditions for this FRU |
| IndicatorLED.Name | String | Mandatory | No | "Off" "Lit" | The current state value of the Indicator LED for this Resource |
| IndicatorLED.ID | Number | Mandatory | No | 4 2 | The current state value map of the Indicator LED for this Resource |

GET /Storage/Devices/{id}/Fans/{Id}/

GET /Storage/Devices/{id}/Fans/{Id}/ returns the Collection of Controllers.

Table 744: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Fans/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Fans/FAN_ENCL_1/",
  "ID": "FAN_ENCL_1",
  "IndicatorLED": {
    "ID": 4,
    "Name": "Off"
  },
  "Name": "FAN ENCL 1",
  "Status": {
    "State": {
      "ID": 16,
      "Name": "In service"
    },
    "Health": [
      {
        "ID": 5,
        "Name": "OK"
      }
    ]
  },
  "CurrentSpeed": 2980,
  "BaseUnits": {
    "ID": 19,
    "Name": "RPM"
  },
  "RateUnits": {
    "ID": 0,
    "Name": "None"
  },
  "UnitModifier": 0,
  "RemovalConditions": {
    "ID": 4,
    "Name": "Removable when on or off"
  }
}
```

Table 745: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Controllers + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Fans/{Id}/

HEAD /Storage/Devices/{id}/Fans/{Id}/ pings the Controllers collection.

Table 746: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 747: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Fans/{Id}/

OPTIONS /Storage/Devices/{id}/Fans/{Id}/ returns the allowable HTTP Methods list for this resource.

Table 748: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 749: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the “Allow” list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.1.15 /Storage/Devices/{id}/Sensors/

The Device-level methods and attributes of /Storage/Devices/{id}/Sensors/ return information about the Sensors collection and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 750: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Storage/Devices/{id}/Sensors/ (page 453) for Instance Attribute details |

GET /Storage/Devices/{id}/Sensors/

GET /Storage/Devices/{id}/Sensors/ returns the Collection of Power Supplies.

Table 751: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Sensors
```

Table 752: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Power Supplies + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Sensors/

HEAD /Storage/Devices/{id}/Sensors/ pings the Power Supplies collection.

Table 753: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 754: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Sensors/

OPTIONS /Storage/Devices/{id}/Sensors/ returns the allowable HTTP Methods list for this resource.

Table 755: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 756: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.1.16 /Storage/Devices/{id}/Sensors/{Id}/

The Device-level methods and attributes of /Storage/Devices/{id}/Sensors/{Id}/ return information about the Sensors attributes and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 757: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|---------------|-----------------------|-------------------|--|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| Name | String | Mandatory | No | Free-Form 256 Chars | The name of this resource |
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|----------------------------|------------------|-----------------------|-------------------|--|--|
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| Status. Details[] | String Array | Optional | No | Free-Form Array entry. If no entry, then "None". | The current Health Details of the Device |
| CurrentReading | Number | Mandatory | No | Signed Integer | The current reading value for the sensor |
| SensorType. Name | String | Mandatory | No | "Temperature" | The sensor type value |
| SensorType. ID | Number | Mandatory | No | 2 | The sensor type value map |
| BaseUnits. Name | String | Mandatory | No | 2 3 | The base units value map for the sensor current reading |
| BaseUnits. ID | Number | Mandatory | No | "Degrees C" "Degrees F" | The base units value for the sensor current reading |
| RateUnits. Name | String | Mandatory | No | "None" | The rate units value for the sensor current reading |
| RateUnits. ID | Number | Mandatory | No | 0 | The rate units value map for the sensor current reading |
| UnitModifier | Number | Mandatory | No | Signed Integer | The unit modifier for the sensor current reading |
| HighThreshold Fatal | Number | Optional | No | Signed Integer | The unit modifier for the sensor current reading |
| HighThreshold Critical | Number | Optional | No | Signed Integer | The high threshold fatal value usually for temperature |
| LowThreshold Critical | Number | Optional | No | Signed Integer | The low threshold critical value usually for temperature |
| LowThreshold Fatal | Number | Optional | No | Signed Integer | The low threshold fatal value usually for temperature |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-------------------|--------|-----------------------|-------------------|-----------------|--|
| IndicatorLED.Name | String | Mandatory | No | "Off" "Lit" | The current state value of the Indicator LED for this Resource |
| IndicatorLED.ID | Number | Mandatory | No | 4 2 | The current state value map of the Indicator LED for this Resource |

GET /Storage/Devices/{id}/Sensors/{Id}/

GET /Storage/Devices/{id}/Sensors/{Id}/ returns the Collection of Controllers.

Table 758: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Sensors/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Sensors/TEMP_PSU_A_PRI/",
  "ID": "TEMP_PSU_A_PRI",
  "IndicatorLED": {
    "ID": 4,
    "Name": "Off"
  },
  "Name": "TEMP PSU A PRI",
  "Status": {
    "State": {
      "ID": 16,
      "Name": "In service"
    },
    "Health": [
      {
        "ID": 5,
        "Name": "OK"
      }
    ]
  }
}
```

```

    "SensorType": {
      "ID": 2,
      "Name": "Temperature"
    },
    "CurrentReading": 62,
    "BaseUnits": {
      "ID": 2,
      "Name": "Degrees C"
    },
    "RateUnits": {
      "ID": 0,
      "Name": "None"
    },
    "UnitModifier": 0,
    "HighThresholdFatal": 110,
    "HighThresholdCritical": 107,
    "LowThresholdCritical": 5,
    "LowThresholdFatal": 1
  }
}

```

Table 759: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Controllers + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Sensors/{Id}/

HEAD /Storage/Devices/{id}/Sensors/{Id}/ pings the Controllers collection.

Table 760: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 761: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Sensors/{Id}/

OPTIONS /Storage/Devices/{id}/Sensors/{Id}/ returns the allowable HTTP Methods list for this resource.

Table 762: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 763: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.1.17 /Storage/Devices/{id}/Slots/

The Device-level methods and attributes of /Storage/Devices/{id}/Slots/ return information about the Slots collection and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 764: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Storage/Devices/{id}/Slots/ (page 461) for Instance Attribute details |

GET /Storage/Devices/{id}/Slots/

GET /Storage/Devices/{id}/Slots/ returns the Collection of Power Supplies.

Table 765: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Slots
```

Table 766: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Power Supplies + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Slots/

HEAD /Storage/Devices/{id}/Slots/ pings the Power Supplies collection.

Table 767: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 768: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Slots/

OPTIONS /Storage/Devices/{id}/Slots/ returns the allowable HTTP Methods list for this resource.

Table 769: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 770: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.1.18 /Storage/Devices/{id}/Slots/{Id}/

The Device-level methods and attributes of /Storage/Devices/{id}/Slots/{Id}/ return information about the Slots attributes and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 771: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|---------------------|------------|-----------------------|-------------------|--|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| IndicatorLED. Name | String | Mandatory | No | "Off" "Lit" | The current state value of the Indicator LED for this Resource |
| IndicatorLED. ID | Number | Mandatory | Yes | 4 2 | The current state value map of the Indicator LED for this Resource |
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|------------------|-----------------------|-------------------|--|--|
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more ID entries |
| Status. Details[] | String Array | Optional | No | Free-Form Array entry. If no entry, then "None". | The current Health Details of the Device |
| PowerState. Name | String | Optional | No | On Off | This is the current Power State of the Slot |
| PowerState. ID | Number | Optional | No | 2 6 | This is the current Power State of the Slot value map |
| Associations | String Array | Mandatory | No | Media Slot | The associations among resources based on ID |
| Medium | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Link to the participating Medium or Drive |

GET /Storage/Devices/{id}/Slots/{id}/

GET /Storage/Devices/{id}/Slots/{id}/ returns the Collection of Controllers.

Table 772: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Slots/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Slots/SLOT_000_7PGL4LXG/",
  "ID": "SLOT_000_7PGL4LXG",
  "IndicatorLED": {
    "ID": 4,
    "Name": "Off"
  },
  "PowerState": {
    "ID": 2,
    "Name": "On"
  },
  "Status": {
    "State": {
      "ID": 16,
      "Name": "In service"
    },
    "Health": [
      {
        "ID": 5,
        "Name": "OK"
      }
    ]
  },
  "Associations": {
    "Media": [
      "5000cca25120fff2"
    ],
    "Slots": [
      "SLOT_000_7PGL4LXG"
    ]
  },
  "Medium": "http://10.202.239.39:80/Storage/Devices/5000ccab0410a180/Media/5000cca25120fff2/"
}
```

Table 773: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Controllers + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Slots/{Id}/

HEAD /Storage/Devices/{id}/Slots/{Id}/ pings the Controllers collection.

Table 774: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 775: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Slots/{Id}/

OPTIONS /Storage/Devices/{id}/Slots/{Id}/ returns the allowable HTTP Methods list for this resource.

Table 776: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| (None) | Optional | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 777: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.1.19 /Storage/Devices/{id}/Media/

The Device-level methods and attributes of /Storage/Devices/{id}/Media/ return information about the Media collection and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 778: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Optional | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Storage/Devices/{id}/Media/{id}/ (page 472) for Instance Attribute details |

GET /Storage/Devices/{id}/Media/

GET /Storage/Devices/{id}/Media/ returns the Collection of Media.

Table 779: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 780: GET Query Parameters

| Query Parameter | Description |
|-----------------|---|
| ?SmartLog=true | Adds the "SmartLog" JSON object attributes based on the particular protocol type (e.g, ATA, SCSI, and NVMe) for all the Media Instances |
| ?E6Log=true | Retrieves a collection bundle file of E6 Logs for all the currently discovered Media that support the E6 Log capability |

Example GET curl Command

```
curl
  -i
  -u admin:admin
  -X GET http://10.20.30.40/Storage/Devices/0123456789/Media/
```

Table 781: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Media + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Media/

HEAD /Storage/Devices/{id}/Media/ pings the Media collection.

Table 782: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 783: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Media/

OPTIONS /Storage/Devices/{id}/Media/ returns the allowable HTTP Methods list for this resource.

Table 784: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.1.20 /Storage/Devices/{id}/Media/{id}/

The Device-level methods and attributes of /Storage/Devices/{id}/Media/{id}/ return information about a specific Medium, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 785: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|---------------|------------|-----------------------|-------------------|---|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| Name | String | Mandatory | No | Free-Form 32 Chars; no spaces allowed | The user-defined name of this Resource |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier that is unique in space and time |
| SerialNumber | String | Mandatory | No | Free-Form 64 Chars | The serial number for this Resource |
| Capacity | Number | Mandatory | No | Integer Bytes | The total number of raw bytes for this Resource |
| Model | String | Mandatory | No | Free-Form 64 Chars | The vendor name for this Resource |
| Version | String | Mandatory | No | Free-Form 32 Chars | The Operating System or Firmware Version |
| Manufacturer | String | Mandatory | No | Free-Form 64 Chars | The vendor name for this Resource |
| Protocol.Name | String | Mandatory | No | "Universal Serial Bus" "Serial ATA" "SAS" "Nvme" "NvmeoF" | The Media Protocol Name |
| Protocol.ID | Number | Mandatory | No | 15 47 65536-65538 | The Media Protocol ID value map |
| DiskType.Name | String | Mandatory | No | "Unknown" "Other" "HDD" "SSD" "Hybrid" "CD-DVD" | The Media Disk Type Name |
| DiskType.ID | Number | Mandatory | No | 0 - 5 | The Media Disk Type ID value map |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|----------------------|---------------|-----------------------|-------------------|--|--|
| Status.State.Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" | The current state value of this Resource |
| Status.State.ID | Number | Mandatory | No | 0 - 16 | The current state value map of this Resource |
| Status.Health[].Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non-recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |
| Status.Health[].ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more Id entries |
| Status.Details[] | String Array | Mandatory | No | Free-Form 32 Characters per Array entry. If no entry, then "None" | The current Health Details of the Device |
| Capacity | Number | Mandatory | No | Integer value in Bytes | The total capacity of the Medium Resource in Bytes |
| DiskType.ID | Number | Mandatory | No | 2 3 | |
| DiskType.Name | String | Mandatory | No | "HDD" "SSD" | |
| DurableName | String | Optional | No | WWN or UUID Format | The in-band data path identifier |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--------------|--------------|-----------------------|-------------------|-----------------------------------|---|
| Associations | String Array | Mandatory | No | Media Volumes | Indicates the associations among linked resources based on ID |
| Slots | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Link to the participating Slots |

GET /Storage/Devices/{id}/Media/{id}/

GET /Storage/Devices/{id}/Media/{id}/ returns information regarding a specific Medium based on the {id} in the URI address string.

Table 786: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 787: GET Query Parameters

| Query Parameter | Description |
|-----------------|---|
| ?SmartLog=true | Adds the "SmartLog" JSON object attributes based on the particular protocol type (e.g, ATA, SCSI, and NVMe) for all the Media Instances |
| ?E6Log=true | Retrieves a collection bundle file of E6 Log Mode Pages for the instances of Media that support the E6 Log capability |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Media/BTWA53140407240AGN
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Media/5000cca25103b366/",
  "ID": "5000cca25103b366",
  "Name": "SLOT 006",
  "Status": {
    "State": {
      "ID": 16,
      "Name": "In service"
    },
    "Health": [
```

```

    {
      "ID": 5,
      "Name": "OK"
    }
  ],
  "Associations": {
    "Media": [
      "5000cca25103b366"
    ],
    "Slots": [
      "SLOT_006_7PG212XR"
    ]
  },
  "Capacity": 10000831348736,
  "AlternateDeviceHandle": "",
  "DeviceHandle": "/dev/sg10",
  "Manufacturer": "HGST",
  "Model": "HUH721010AL4204",
  "MultiplePathsDetected": false,
  "Protocol": {
    "ID": 65536,
    "Name": "SAS"
  },
  "DiskType": {
    "ID": 2,
    "Name": "HDD"
  },
  "Version": "C9G0",
  "SerialNumber": "7PG212XR",
  "DurableName": "5000cca25103b366",
  "Slots": "http://10.202.239.39:80/Storage/Devices/5000ccab0410a180/Slots/SLOT_006_7PG212XR/"
}
```

Table 788: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Media + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Media/{id}/

HEAD /Storage/Devices/{id}/Media/{id}/ pings this Medium.

Table 789: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 790: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Media/{id}/

OPTIONS /Storage/Devices/{id}/Media/{id}/ returns the allowable HTTP Methods list for this resource.

Table 791: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.2 Logical Devices

The OCAPI's logical and virtual resources model include those resources that are logical or virtual in nature. The topics in this section provide information for accessing and managing the features of these logical and virtual resources.

6.2.1 /Storage/Devices/{id}/Location/

The Device-level methods and attributes of /Storage/Devices/{id}/Location/ return information about the resource Location and enable management operations.

HTTP Methods:

GET

PUT

DELETE

HEAD

OPTIONS

Table 792: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------|--------|-----------------------|-------------------|--------------------------------|---|
| Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Country | String | Optional | Yes | Free-Form 64 Chars | The Country name where this Device is located |
| Territory | String | Optional | Yes | Free-Form 64 Chars | The Territory name where this Device is located |
| State | String | Optional | Yes | Free-Form 64 Chars | The State name where this Device is located |
| City | String | Optional | Yes | Free-Form 64 Chars | The City name where this Device is located |
| Address1 | String | Optional | Yes | Free-Form 64 Chars | The first Address information where this Device is located |
| Address2 | String | Optional | Yes | Free-Form 64 Chars | The second Address information where this Device is located as needed |
| Address3 | String | Optional | Yes | Free-Form 64 Chars | The third Address information where this Device is located as needed |
| PostalCode | String | Optional | Yes | Free-Form 32 Chars | The Postal or Zip Code name where this Device is located |
| SiteName | String | Optional | Yes | Free-Form 32 Chars | The friendly Site Name |
| Building | String | Optional | Yes | Free-Form 32 Chars | The Building name or number where this Device is located |
| Room | String | Optional | Yes | Free-Form 32 Chars | The Room name or number in the Building where this Device is located |
| Pod | String | Optional | Yes | Free-Form 32 Chars | The Pod name or number in the Room this Device is located as needed |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-------------------|--------|-----------------------|-------------------|--|---|
| Row | String | Optional | Yes | Free-Form 32 Chars | The Row name or number in the Room or Pod this Device is located |
| Rack | String | Optional | Yes | Free-Form 32 Chars | The Rack name or number in the Row this Device is located |
| Shelf | String | Optional | Yes | Free-Form 32 Chars | The Shelf name or number of the Rack this Device is located |
| Device | String | Optional | Yes | Free-Form 32 Chars | The Device name or number of the Rack this Device is located |
| Item | String | Optional | Yes | Free-Form 32 Chars | The Item name indicating the Shelf units or dimension for this Device |
| GPSCoords | String | Optional | Yes | Decimal Latitude, Decimal Longitude Format | The GPS coordinates of the location of this Device |
| OtherLocationInfo | String | Optional | Yes | Free-Form 64 Chars | A place-holder for other location information |

GET /Storage/Devices/{id}/Location/

GET /Storage/Devices/{id}/Location/ returns the Location information.

Table 793: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Location/
```

Example GET Response Body

```
{
```



```

"Self": "http://10.20.30.40/Storage/Devices/12345/Location/",
"Country": "USA",
"Territory": "",
"State": "Colorado",
"City": "Colorado Springs",
"Address1": "9950 Federal Drive",
"Address2": "Suite 100",
"Address3": "",
"PostalCode": "80921",
"SiteName": "WD COS DataCenter 1",
"Building": "100",
"Room": "1",
"Pod": "p2",
"Rack": "r02",
"Shelf": "30",
"Device": "5",
"Item": "Rack Units",
"GPSCoords": "38.9838684,-104.8040493",
"OtherLocationInfo": "This is other info"
}

```

Table 794: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Location information + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

PUT /Storage/Devices/{id}/Location/

PUT /Storage/Devices/{id}/Location/ modifies an attribute of the Location.

Table 795: PUT Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example PUT curl Command



Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "Content-Type: application/json"
-H "If-Match: 3677651d2011428f32120a029b015e80"
-X PUT http://10.20.30.40/Storage/Devices/0123456789/Location/
--data '{
  "Address1": "9950 Federal Drive",
  "Address2": "Suite 100",
  "Address3": "North",
  "Building": "9950",
  "City": "Colorado Springs",
  "Country": "USA",
  "Device": "255",
  "GPSCoords": "38.9838643,-104.806244",
  "Item": "Rack Units",
  "OtherLocationInfo": "More Info",
  "Pod": "2",
  "PostalCode": "80921",
  "Rack": "2",
  "Room": "159",
  "Row": "2",
  "Shelf": "24",
  "SiteName": "WDC COS DataCenter",
  "State": "Colorado",
  "Territory": "El Paso"
}'
```

Example PUT Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Location/"
  "Address1": "9950 Federal Drive",
  "Address2": "Suite 100",
  "Address3": "North",
  "Building": "9950",
  "City": "Colorado Springs",
  "Country": "USA",
  "Device": "255",
  "GPSCoords": "38.9838643,-104.806244",
  "Item": "Rack Units",
  "OtherLocationInfo": "More Info",
  "Pod": "2",
  "PostalCode": "80921",
  "Rack": "2",
  "Room": "159",
  "Row": "2",
  "Shelf": "24",
  "SiteName": "WDC COS DataCenter",
  "State": "Colorado",
  "Territory": "El Paso"
}
```

Table 796: PUT Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|--|
| 200 | OK | OK & Location information with no response body |
| 400 | Bad Request | Bad Request (typically a faulty parameter) |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |
| 500 | Internal Server Error | Resource could not execute the request |

DELETE /Storage/Devices/{id}/Location/

DELETE /Storage/Devices/{id}/Location/ deletes Location information.

Table 797: DELETE Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example DELETE curl Command

Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
-i
-u admin:admin
-H "If-Match: 3677651d2011428f32120a029b015e81"
-X DELETE http://10.20.30.40/Storage/Devices/0123456789/Location/
```

Table 798: DELETE Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 204 | No Content | Delete successful, no content in the response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

| Response Code | Name | Definition |
|---------------|-----------------------|--------------------------------------|
| 500 | Internal Server Error | System could not process the request |

HEAD /Storage/Devices/{id}/Location/

HEAD /Storage/Devices/{id}/Location/ pings the Location resource.

Table 799: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 800: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Location/

OPTIONS /Storage/Devices/{id}/Location/ returns the allowable HTTP Methods list for this resource.

Table 801: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 802: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.2.2 /Storage/Devices/{id}/OperatingSystem/

The Device-level methods and attributes of /Storage/Devices/{id}/OperatingSystem/ return information about the Operating System (Application) and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 803: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-------------|--------|-----------------------|-------------------|--------------------------------|---|
| Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| Name | String | Mandatory | No | Free-Form 128 Chars | The Operating System or Firmware name |
| OSType.Name | String | Mandatory | No | "Winnt" "Linux" | The Operating System Type value |
| OSType.ID | Number | Mandatory | No | 18 36 | The Operating System Type value map |
| Version | String | Mandatory | No | Free-Form 128 Chars | The Operating System or Application Version |

GET /Storage/Devices/{id}/OperatingSystem/

GET /Storage/Devices/{id}/OperatingSystem/ returns the information of the Operating System resource.

Table 804: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
  -i
  -u admin:admin
  -X GET http://10.20.30.40/Storage/Devices/0123456789/OperatingSystem/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/OperatingSystem/",
  "Name": "Vendor Firmware",
  "OSType": {
    "ID": 59,
    "Name": "Dedicated"
  },
  "Version": "4.0.13"
}
```

Table 805: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Operating System resource information in the response body |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/OperatingSystem/

HEAD /Storage/Devices/{id}/OperatingSystem/ pings the Operating System resource.

Table 806: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 807: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/OperatingSystem/

OPTIONS /Storage/Devices/{id}/OperatingSystem/ returns the allowable HTTP Methods list for this resource.

Table 808: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 809: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.2.3 /Storage/Devices/{id}/Jobs/

The Device-level methods and attributes of /Storage/Devices/{id}/Jobs/ return information about the Jobs collection and enable management operations.

HTTP Methods:

[GET](#)[HEAD](#)[OPTIONS](#)

Table 810: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Optional | No | Resource Collection (1 - n entries) | The array of Resource Instances. See /Storage/Devices/{id}/Jobs/{id}/ (page 490) for Instance Attribute details |

GET /Storage/Devices/{id}/Jobs/

GET /Storage/Devices/{id}/Jobs/ returns the Collection of Jobs.

Table 811: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Jobs/
```

Table 812: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & List of Jobs + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Jobs/

HEAD /Storage/Devices/{id}/Jobs/ pings the Jobs collection.

Table 813: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 814: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Jobs/

OPTIONS /Storage/Devices/{id}/Jobs/ returns the allowable HTTP Methods list for this resource.

Table 815: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 816: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource collection does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.2.4 /Storage/Devices/{id}/Jobs/{id}/

The Device-level methods and attributes of /Storage/Devices/{id}/Jobs/{id}/ return information about a specific Job, based on the {id} in the URI string, and enable management operations.

HTTP Methods:

[GET](#)[DELETE](#)[HEAD](#)[OPTIONS](#)

Table 817: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|---------------------|------------|-----------------------|-------------------|---|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | "FactoryReset" | The Name of this particular Job |
| Status. State. Name | String | Mandatory | No | "Unknown" "Not available" "Servicing" "Starting" "Stopping" "Stopped" "Aborted" "Dormant" "Completed" "Migrating" "Emigrating" "Immigrating" "Snapshotting" "Shutting down" "In test" "Transitioning" "In service" "Inoperative" "Write Protected" "Reboot Needed" "Activate Needed" "Activate with reboot needed" "Activate invalidated by reboot" | The current state value of this Resource |
| Status. State. ID | Number | Mandatory | No | 0-16 65537-65542 | The current state value map of this Resource |

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|------------------------------|------------------|-----------------------|-------------------|---|---|
| Status. Health[]. Name | String (1..*) | Mandatory | No | "Unknown" "OK" "Degraded/Warning" "Minor failure" "Major failure" "Critical failure" "Non- recoverable error" "Not installed" "Not available" "No access allowed" | The current health value of this Resource. There can be 1 or more Name entries |
| Status. Health[]. ID | Number (1..*) | Mandatory | No | 0 5 10 15 20 25 30 65536-65538 | The current health value map of this Resource. There can be 1 or more Id entries |
| Status. Details[] | String Array | Optional | No | Free-Form Array entry. If no entry, then "None" | The current Health Details of the Device |
| PercentComplete | Number | Mandatory | No | 0-100 | The percent complete status of the Job |

GET /Storage/Devices/{id}/Jobs/{id}/

GET /Storage/Devices/{id}/Jobs/{id}/ returns information regarding a specific Job based on the {id} in the URI address string.

Table 818: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Jobs/FactoryReset_0123456789/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Jobs/",
  "Members": [
    {
      "Self": "http://10.20.30.40/Storage/Devices/0123456789/Jobs/
FirmwareUpdate_0123456789/",
      "ID": "FirmwareUpdate_0123456789",
```

```
"StartTime": "09-Oct-2023 23:05:59 UTC",
"ElapsedTime": "09-Oct-2023 23:08:37 UTC",
"Owner": "http://10.20.30.40/Storage/Devices/0123456789/",
"PercentComplete": 100,
"Status": {
  "State": {
    "ID": 65540,
    "Name": "Activate needed"
  },
  "Health": [
    {
      "ID": 5,
      "Name": "OK"
    }
  ],
  "Details": [
    "FW update completed. Waiting for activation."
  ]
}
}
```

Table 819: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & Job information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

DELETE /Storage/Devices/{id}/Jobs/{id}/

DELETE /Storage/Devices/{id}/Jobs/{id}/ deletes a specific Job.



Note: **NOTE:** When deleting firmware-related jobs, the recommended order is to delete FirmwareUpdate before FirmwareActivate.



Note: Jobs cannot be deleted when in-progress (i.e. when PercentComplete is less than 100%).

Table 820: DELETE Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

| Header | Mandatory or Optional | Description |
|----------|-----------------------|---|
| If-Match | Mandatory | The request is conditionally processed only if the current ETag for the resource matches the ETag passed in this header |

Example DELETE curl Command

Note: The `If-Match` conditional in this command requires the **ETag** from the GET Response Header.

```
curl
  -i
  -u admin:admin
  -H "If-Match: 3677651d2011428f32120a029b015e81"
  -X DELETE http://10.20.30.40/Storage/Devices/0123456789/Jobs/
  FactoryReset_0123456789
```

Table 821: DELETE Response Codes

| Response Code | Name | Definition |
|---------------|-----------------------|---|
| 204 | No Content | Delete successful; no content in the response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | The Resource doesn't exist |
| 409 | Conflict | If job is still in progress |
| 412 | Precondition Failed | Indicates the "If-Match" Etag check failed |
| 428 | Precondition Required | Indicates the need for an "If-Match" conditional with an Etag value in the Request Header |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Jobs/{id}/

HEAD /Storage/Devices/{id}/Jobs/{id}/ pings this specific Job.

Table 822: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 823: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|--------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Jobs/{id}/

OPTIONS /Storage/Devices/{id}/Jobs/{id}/ returns the allowable HTTP Methods list for this resource.

Table 824: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 825: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.2.5 /Storage/Devices/{id}/Files/

The Device-level methods and attributes of /Storage/Devices/{id}/Files/ return information about the Files collection and enable management operations.

HTTP Methods: GET HEAD OPTIONS

Table 826: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Storage/Devices/{id}/Files/{id}/ (page 498) for Instance Attribute details |

GET /Storage/Devices/{id}/Files/

GET /Storage/Devices/{id}/Files/ returns the Collection of Files.

Table 827: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Files/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Files/",
  "Members": [
    {
      "Self": "http://10.20.30.40/Storage/Devices/0123456789/Files/telemetry",
      "ID": "telemetry",
      "Description": "Telemetry"
    }
  ]
}
```

```
    ]
  }
```



Note: The In-Band Storage device connection returns the GET /Telemetry JSON information (with Media SmartLog info) and any Controller E6 Logs and Media E6 Logs.

Table 828: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Files + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Files/

HEAD /Storage/Devices/{id}/Files/ pings this Files collection.

Table 829: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 830: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Files/

OPTIONS /Storage/Devices/{id}/Files/ returns the allowable HTTP Methods list for this resource.

Table 831: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 832: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.2.6 /Storage/Devices/{id}/Files/{id}/

The Device-level methods and attributes of /Storage/Devices/{id}/Files/{id}/ return information about a specific File and enable management operations.

HTTP Methods: GET HEAD OPTIONS

Table 833: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|------------|-----------------------|-------------------|--------------------------------|--|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| ID | String | Mandatory | No | Free-Form 256 Chars | The resource identifier |
| Name | String | Mandatory | No | Free-Form 256 Chars | The name of the file |

GET /Storage/Devices/{id}/Files/{id}/

GET /Storage/Devices/{id}/Files/{id}/ returns information regarding a specific File based on the {id} in the URI address string.

Table 834: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command – Audit Log

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/Files/auditlog
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/Files/",
  "Members": [
    {
      "Self": "http://10.20.30.40/Storage/Devices/0123456789/Files/telemetry",
      "ID": "telemetry",
      "Description": "Telemetry"
    }
  ]
}
```



Note: The In-Band Storage device connection returns the GET /Telemetry JSON information (with Media SmartLog info) and any Controller E6 Logs and Media E6 Logs.

Table 835: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & File information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Files/{id}/

HEAD /Storage/Devices/{id}/Files/{id}/ pings a specific Compute File.

Table 836: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 837: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Files/{id}/

OPTIONS /Storage/Devices/{id}/Files/{id}/ returns the allowable HTTP Methods list for this resource.

Table 838: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|--------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 839: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 204 | No Content | No Content & "Allow" list of methods in the response header. Some files will return 204 No Content indicating that there is no entity body |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.2.7 /Storage/Devices/{id}/ZoneSets/

The Device-level methods and attributes of /Storage/Devices/{id}/ZoneSets/ return information about the Zone Sets collection and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 840: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|-------------------------------------|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Members | String Array | Mandatory | No | Resource Collection (0 - n entries) | The array of Resource Instances. See /Storage/Devices/{id}/ZoneSets/{id}/ (page 504) for Instance Attribute details |

GET /Storage/Devices/{id}/ZoneSets/

GET /Storage/Devices/{id}/ZoneSets/ returns the Collection of Files.

Table 841: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 842: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & List of Files + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/ZoneSets/

HEAD /Storage/Devices/{id}/ZoneSets/ pings this Files collection.

Table 843: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 844: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource Collection does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/ZoneSets/

OPTIONS /Storage/Devices/{id}/ZoneSets/ returns the allowable HTTP Methods list for this resource.

Table 845: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 846: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.2.8 /Storage/Devices/{id}/ZoneSets/{id}/

The Device-level methods and attributes of /Storage/Devices/{id}/ZoneSets/{id}/ return information about a specific Zone Sets and enable management operations.

HTTP Methods: GET HEAD OPTIONS

Table 847: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|-----------|--------------|-----------------------|-------------------|---|---|
| Self | URI String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link for the Collection |
| Type.ID | Number | Mandatory | No | 1, 2 | The ZoneSet configuration type value ID |
| Type.Name | String | Mandatory | No | "Fixed Configuration" "Custom File Configuration" | Indicates the supported type of ZoneSet configuration of the Device. |
| | | | | | "Fixed" indicates using native static configurations (e.g., Config 1, 2 or 3 or Disabled) "Custom" indicates supporting "custom file" upload to change the ZoneSet configuration |
| Members | String Array | Mandatory | No | Resource Collection (1 - n entries) | The array of Resource Instances (see Instance Resource Attributes Table for Instance Attribute details) |

GET /Storage/Devices/{id}/ZoneSets/{id}/

GET /Storage/Devices/{id}/ZoneSets/{id}/ returns information regarding a specific File based on the {id} in the URI address string.

Table 848: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.20.30.40/Storage/Devices/0123456789/ZoneSets/
```

Example GET Response Body

```
{
  "Self": "http://10.20.30.40/Storage/Devices/0123456789/ZoneSets/1/",
  "Name": "Zone Set 1",
  "ID": "1",
  "Description": "Configuration 1",
  "Active": false,
  "MaxNumZoneMembers": 17,
  "MaxNumZonesPerZoneSet": 6,
  "Associations": {
    "Device": [
      "5000CCAB04110A00"
    ],
    "ZoneSets": [
      "1"
    ]
  },
  "Zones": [
    {
      "ID": "1",
      "NumZoneMembers": 17,
      "Connectors": [
        "1",
        "7"
      ],
      "Media": [
        "1",
        "2",
        "3",
        "4",
        "5",
        "6",
        "7",
        "8",
        "9",
        "10",
        "11",
        "12",
        "13",
        "14",
```

```
        "15",
        "16",
        "17"
    ],
    },
    {
        "ID": "2",
        "NumZoneMembers": 17,
        "Connectors": [
            "2",
            "8"
        ],
        "Media": [
            "18",
            "19",
            "20",
            "21",
            "22",
            "23",
            "24",
            "25",
            "26",
            "27",
            "28",
            "29",
            "30",
            "31",
            "32",
            "33",
            "34"
        ]
    },
    {
        "ID": "3",
        "NumZoneMembers": 17,
        "Connectors": [
            "3",
            "9"
        ],
        "Media": [
            "35",
            "36",
            "37",
            "38",
            "39",
            "40",
            "41",
            "42",
            "43",
            "44",
            "45",
            "46",
            "47",
            "48",
            "49",
            "50",
            "51"
        ]
    },
    },
    }
```

```
{
  "ID": "4",
  "NumZoneMembers": 17,
  "Connectors": [
    "4",
    "10"
  ],
  "Media": [
    "52",
    "53",
    "54",
    "55",
    "56",
    "57",
    "58",
    "59",
    "60",
    "61",
    "62",
    "63",
    "64",
    "65",
    "66",
    "67",
    "68"
  ]
},
{
  "ID": "5",
  "NumZoneMembers": 17,
  "Connectors": [
    "5",
    "11"
  ],
  "Media": [
    "69",
    "70",
    "71",
    "72",
    "73",
    "74",
    "75",
    "76",
    "77",
    "78",
    "79",
    "80",
    "81",
    "82",
    "83",
    "84",
    "85"
  ]
},
{
  "ID": "6",
  "NumZoneMembers": 17,
  "Connectors": [
    "6",
```

```
        "12",
      ],
      "Media": [
        "86",
        "87",
        "88",
        "89",
        "90",
        "91",
        "92",
        "93",
        "94",
        "95",
        "96",
        "97",
        "98",
        "99",
        "100",
        "101",
        "102"
      ]
    }
  ]
}
```



Note: The In-Band Storage device connection returns the GET /Telemetry JSON information (with Media SmartLog info) and any Controller E6 Logs and Media E6 Logs.

Table 849: GET Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK & File information in the response body + ETag Header |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/ZoneSets/{id}/

HEAD /Storage/Devices/{id}/ZoneSets/{id}/ pings a specific Compute File.

Table 850: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 851: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/ZoneSets/{id}/

OPTIONS /Storage/Devices/{id}/ZoneSets/{id}/ returns the allowable HTTP Methods list for this resource.

Table 852: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 853: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

6.2.9 /Storage/Devices/{id}/Telemetry/

The Device-level methods and attributes of /Storage/Devices/{id}/Telemetry/ return information about the Telemetry resource and enable management operations.

HTTP Methods:

GET

HEAD

OPTIONS

Table 854: Resource Attributes

| Attribute | Type | Mandatory or Optional | User Configurable | Possible Values | Description |
|--------------|--------------|-----------------------|-------------------|-----------------------------------|---|
| Self | String | Mandatory | No | Free-Form URI Format 256 Chars | Describes the fully qualified URI link |
| LastAccessed | String | Mandatory | No | datetime based on UTC | The UTC time of the request |
| Members[] | String Array | Mandatory | No | Member Entry | This is the instantaneous, fully expanded metadata from this Device |

GET /Storage/Devices/{id}/Telemetry/

GET /Storage/Devices/{id}/Telemetry/ returns the information of the Telemetry resource.

Table 855: GET Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|--|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |
| If-None-Match | Optional | The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Example GET curl Command

```
curl
-i
-u admin:admin
-X GET http://10.202.237.61:80/Storage/Devices/78dde6b28cc44503bbdc446d8c85b3e/Telemetry/
```


Example GET Response Body



Note: In this example, the Compute Device is proxy managing 3 other Storage Devices, so this Telemetry response includes those as well.

```
{
  "Self": "http://10.202.237.61:80/Compute/Devices/78dde6b28cc44503bbdc446d8c85b3e/Telemetry/",
  "LastAccessed": "26-Jan-2024 12:48:34 UTC",
  "Members": [
    {
      "Self": "http://10.202.237.61:80/Compute/Devices/78dde6b28cc44503bbdc446d8c85b3e/",
      "SystemType": {...},
      "Name": "cos-r16-s2",
      "ID": "78dde6b28cc44503bbdc446d8c85b3e",
      "OperatingSystem": {...},
      "SerialNumber": "0123456789",
      "Model": "Super Server",
      "Manufacturer": "Supermicro",
      "Capabilities": {...},
      "Status": {...},
      "IPAddresses": {...},
      "Architecture": "x86_64",
      "InformationStructure": {...},
      "Domain": "",
      "Memory": 134951862272,
      "RemainingMemory": 130660556800,
      "Rackmountable": {...},
      "Location": {...},
      "Accounts": {...},
      "Adapters": {...},
      "Files": {...},
      "Media": {...},
      "Performance": {...},
      "Ports": {...},
      "PowerSupplies": {...},
      "Processors": {...},
      "SystemClock": {...},
      "Volumes": {...},
      "Telemetry": {...}
    },
    {...},
    {...},
    {...}
  ]
}
```

Table 856: GET Response Codes

| Response Code | Name | Definition |
|---------------|--------------|---|
| 200 | OK | OK & Telemetry resource information in the response body |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned |

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

HEAD /Storage/Devices/{id}/Telemetry/

HEAD /Storage/Devices/{id}/Telemetry/ pings the Telemetry resource.

Table 857: HEAD Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| Authorization | Mandatory | The request requires either Basic or Digest authorization |

Table 858: HEAD Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|--|
| 200 | OK | OK with no response body |
| 401 | Unauthorized | Unauthorized; credential entry failed or missing |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |

OPTIONS /Storage/Devices/{id}/Telemetry/

OPTIONS /Storage/Devices/{id}/Telemetry/ returns the allowable HTTP Methods list for this resource.

Table 859: OPTIONS Request Headers

| Header | Mandatory or Optional | Description |
|---------------|-----------------------|---|
| (None) | N/A | Returns the full resource schema as Content-Type application/json |
| Documentation | Optional | Info - Returns documentation information in the form of plain text |
| Documentation | Optional | Schema - Returns the schema information in "pretty" JSON text as plain text |
| If-None-Match | Optional | Etag - The request is conditionally processed only if the current ETag for the resource does not match the ETag passed in this header |

Table 860: OPTIONS Response Codes

| Response Code | Name | Definition |
|---------------|-------------------|---|
| 200 | OK | OK & the "Allow" list of methods in the response header. The response body provides the JSON Schema for this resource |
| 304 | Not Modified | If-None-Match Etag value matched, therefore no Response Body will be returned. |
| 404 | Not Found | Resource does not exist; this IP Address is running an HTTP service, but does not recognize this resource |
| 429 | Too Many Requests | Indicates API service is busy; client should try again later |



Appendices

In This Chapter:

| | |
|-------------------|-----|
| - References..... | 515 |
|-------------------|-----|

7.1 References

- IETF RFC3986, Uniform Resource Identifier (URI) General Syntax
- IETF RFC4627, The application/json Media Type for JavaScript Object Notation (JSON)
- IETF RFC5988, Web Linking
- IETF RFC6901, JavaScript Object Notation (JSON) Pointer
- IETF RFC6906, Link Relation Type
- IETF RFC6749, OAuth 2.0 Authorization Framework; Token Format and Usage
- IETF RFC7230, Hypertext Transfer Protocol (HTTP/1.1): Message Syntax and Routing
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- IETF RFC7235, Hypertext Transfer Protocol (HTTP/1.1): Authentication
- ISO 8601, Data elements and interchange formats -- Representation of dates and times
- DMTF CIM_2.50.0, Common Information Model Schema
- DMTF DSP0266_1.2.0, Redfish API Specification
- SNIA Swordfish_1.0.3, Swordfish API Specification