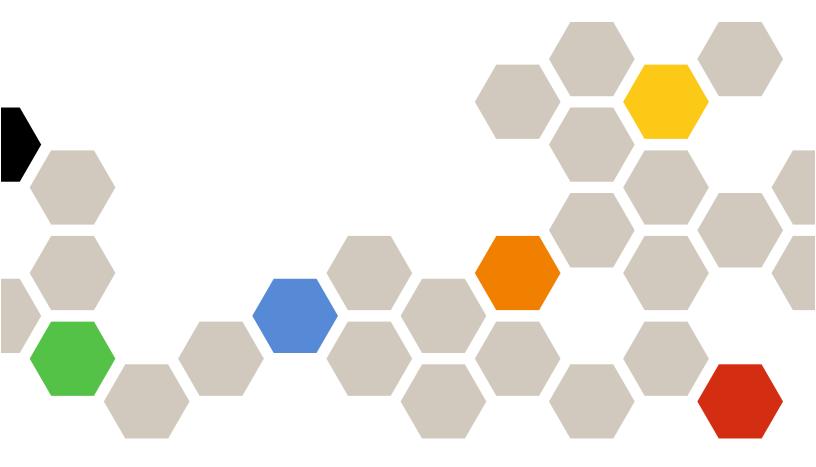# Lenovo XClarity Orchestrator REST API Reference

Version 1.3.1

Note

Before using this information and the product it supports, read the [general and legal notices in the XClarity Orchestrator online documentation](#).

Contents

Summary of changes in the REST API for v1.3.1

Lenovo XClarity Orchestrator v1.3.1 supports enhancements to the Open REST API.

For a summary of changes to the REST API in other releases, see Summary of changes in the REST API in the XClarity Orchestrator online documentation.

This documentation includes new methods and parameters that apply to the current XClarity Orchestrator release and later. If you are using an earlier release of XClarity Orchestrator, you can use the *REST API Reference* PDF for a list of methods and parameters that apply to that specific release. To find PDFs for the release that you need, see .

There are no added or updated REST APIs in this release.

Chapter 1. Using this REST API

Review this information to learn about how to use the Lenovo XClarity Orchestrator REST API, including authentication requirements, response codes and error handling, and filtering and sorting.

Authorization and authentication

When programming with the Lenovo XClarity Orchestrator REST APIs, you must authenticate using a user ID and password. The user ID must have the correct authorization to perform the intended task.

You can use XClarity Orchestrator web interface to configure the authorizations that provide access to XClarity Orchestrator tasks and resources (see Creating a user in the XClarity Orchestrator online documentation).

Note: If you encounter a temporary HTTP connection error, attempt to log in to XClarity Orchestrator again.

Paginating, filtering, scoping, and sorting responses

You can use query parameters to limit the number of returned objects and to include, exclude, filter, and sort data in the response body.

Paginating data

If a request returns all resource instances in the response body, you can use query parameters to limit the number of objects that are returned at one time. This is especially useful for the user interface when only a limited number of rows are displayed in a table.

You can use the **limit** query parameter to identify the number of elements to return at one time. The default limit is `10`.

You can use the **offset** query parameter to it identify the offset. The default offset is `0`.

The following example returns the first 20 users.
`/api/v1/auth/users`

The following example returns the next 20 users.
`/api/v1/auth/users?limit=20&offset=20`

The following example returns the all users without pagination.
`/api/v1/auth/users?limit=0&offset=0`

Scoping data

If a request returns multiple resource instances in the response body, you use the **resourceUUID** query parameter to set the scope of the response to only instances that are associated with devices that are managed by a specific resource manager.

`?resourceUUID={resource_manager_UUID>`

Where *{resource_manager_UUID>* is the UUID of a single resource manager.

The following example scopes the returned data to devices that are managed by a specific resource manager.

```
?resourceUUID=AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
```

Including data

You can use the **includeAttributes** query parameter to include specific attributes in the response body. If this query parameter is present, only the specified attributes are returned. If it is missing, all attributes are returned by default.

```
?includeAttributes=<attributes_list}
```

Where *{attributes_list>* is one or more attributes that are listed in the response body, separated by a comma.

The following example returns data for only two attributes (name and severity) in the response body.

```
?includeAttributes=name,severity
```

Notes:

- To specify child attributes, use a JSON path separated by a period (for example, drives.capacity).
- When the **includeAttributes** query parameter is specified, the **excludeAttributes** query parameter is ignored.
- *Base attributes* are essential attributes that are always returned in the response body, even if they are not specified for this query parameter.

Excluding data

You can use the **excludeAttributes** query parameter to exclude specific attributes from the response body. If this query parameter is present, the specified attributes are not returned. If it is missing, all attributes are returned by default.

```
?excludeAttributes=<attributes_list}
```

Where *{attributes_list>* is one or more attributes that are listed in the response body, separated by a comma.

The following example does not return data for two attributes (name and severity). Data for all other attributes are returned in the response body.

```
?excludeAttributes=name,severity
```

Note: To specify child attributes, use a JSON path separated by a period (for example, drives.capacity).

Filtering resources

If a request returns all resource instances in the response body, you can use the filter query parameters to return data for only those resources that match all the specified criteria.

A single filter query contains two keys-value pairs, separated by an ampersand (&): one pair to specify the response attribute and another pair set to specify the value for that attribute. You can also use an ampersand to separate multiple filter queries in the same URI. If you specify multiple filter queries, data is returned only if it matches all filter queries individually.

You can use the following filter query parameters, based on the type of filter that you want to perform.

- **filterContains[]**. Returns data that contains a specific pattern. Within the same filter query, data matches the query if the value of any one of the specified attributes contains any one of the specified patterns.
```
?filterContains[<index}][attributes]={attribute_list>
&filterContains[{index}][values]=<pattern_list}
```

- **filterNotContains[]**. Returns data that does not contain a specific pattern. Within the same filter query, data matches the query if the value of any one of the specified attributes does not contain any of the specified patterns.
  ```
  ?filterNotContains[<index}][attributes]={attribute_list>
  &filterNotContains[{index}][values]=<pattern_list}
  ```

  Note: If you specify **filterContains[]** and **filterNotContains[]** with the same attributes and values, the result is an empty array.

- **filterEquals[]**. Returns data that exactly matches a specific pattern. Within the same filter query, data matches the query if the value of any one of the specified attributes exactly matches any one of the specified patterns.
  ```
  ?filterEquals[<index}][attributes]={attribute>
  &filterEquals[{index}][values]=<pattern_list>
  ```

- **filterNotEquals[]**. Returns data that does not exactly match a specific pattern. Within the same filter query, data matches the query if the value of any one of the specified attributes does not exactly match any of the specified patterns.
  ```
  ?filterNotEquals[<index}][attributes]={attribute>
  &filterNotEquals[{index}][values]=<pattern_list>
  ```

  Note: If you specify **filterEquals[]** and **filterNotEquals[]** with the same attributes and values, the result is an empty array.

- **filterRange[]**. Returns data that exactly matches a pattern in a specific range. Within the same filter query, data matches the query if the value of any one of the specified attributes exactly matches a pattern in any one of the specified ranges.
  ```
  ?filterRange[{index}][attributes]=<attribute_list}
  &filterRange[{index}][values]={pattern_list>
  ```

Where:

- *{index}*. Index number for the filter query. This number must be the same for the attribute and value filters. If there is only one filter query of specific type in the URI, the index number is not required.

- *{attribute_list}*. Zero or more attributes that are associated with the resource, separated by a comma. If an attribute name is not provided, all attributes are evaluated.

  You *can* specify:
  – Attributes that are associated with the resource, regardless of the whether the attributes are included in the response for the REST API.

    If you choose an attribute that is not in the base response, you can add it to the response by using the **includeAttributes** query parameter.
  – Attributes at the any level. To specify child attributes, use a JSON path separated by a period (for example, drives.capacity).
  – Attributes that contain string values for **filterContains[]**, **filterNotContains[]**, **filterEquals[]**, and **filterNotEquals[]** queries.
  – Attributes that contain timestamp (string) or numerical values for **filterRange[]**queries.

- *{pattern_list}*. One or more patterns, separated by a comma. Patterns are not case sensitive.

  For **filterRange[]** queries:

  – Each pattern can be a range of timestamps or numbers.

  – Each range contains the start and end values in the range, separated by a comma. Multiple ranges are also separated by a comma.

  – If the first value in the range is later than second value, the values are swapped during processing.

  – A timestamp must be specified using ISO-8601 format (for example, 2019-05-02T19:28:14.000Z). For information about ISO-8601 format, see the W3C Date and Time Formats webpage.

The following example returns data about all servers that have "Device_" in the name, are located in the US, and are either powered off or booting up.
```
?filterContains[0][attributes]=serverName
&filterContains[0][values]=Device_
&filterContains[1][attributes]=location.location
&filterContains[1][values]=USA
&filterEquals[2][attributes]=powerState
&filterEquals[2][values]=off,booting
```

The following example returns data about all devices that are managed by a specific resource manager and are not powered on.
```
?filterEquals[0][attributes]=lxcaUUID
&filterEquals[0][values]=AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
&filterNotEquals[1][attributes]=powerState
&filterNotEquals[1][values]=on
```

The following example returns all firmware-update jobs that completed with warnings or error during May 1 – 15, 2019.
```
?filterEquals[0][attributes]=jobCategory
&filterEquals[0][values]=Firmware
&filterEquals[1][attributes]=status
&filterEquals[1][values]=CompleteWithWarnings,CompleteWithErrors
&filterRange[][attributes]=start
&filterRange[][values]=2019-05-01,2019-05-15
```

The following example returns data about all active user accounts that have passwords that will expire in the next 10 days.
```
?filterEquals[][attributes]=state
&filterEquals[][values]=active
&filterRange[][attributes]=timeBeforeExpirationInDays
&filterRange[][values]=0,10
```

Sorting data

If a request returns all resource instances in the response body, you can use the **sort[]** query parameter to sort the returned data. If this query parameter is present, the data is sorted in the order specified. If it is missing, the data is sorted using the default sorting order for the base attributes. The default sorting order varies depending on the resource, and can be determined from the metadata response attribute (see Metadata).

```
?sort[<sort_priority>]={attribute},<sort_order>
```

Where:
- *{sort_priority}*. Sort priority. This can be an integer, where the lowest number is sorted first. If a number is not specified, the priority defaults to the order of the **sort[]** query parameter.
- *{attribute}*. Response attribute name to sort by.
- *{sort_order}*. Sort order. This can be **asc** (ascending) or **desc** (descending).

  Dates and numbers are sorted in descending order by default. Other strings are sorted in ascending order by default.

The following example sorts data first by name in ascending order and then by severity in descending order.

```
?sort[]=name,asc&sort[]=severity,desc
```

The following example sorts data first by severity in descending order and then by name in ascending order.

```
?sort[1]=severity,desc&sort[0]=name,asc
```

Response codes

The Lenovo XClarity Orchestrator REST APIs use the HTTP protocol for sending and retrieving data. Client code using the REST APIs makes an HTTP request to the XClarity Orchestrator server and processes the HTTP response accordingly. Included with the HTTP response data is the HTTP status code. The status code provides some indication as to the success of the HTTP request and can provide information about how to handle the included response data.

The following table lists some of the most common response codes.

Code	Description	Comments
200	OK	The request completed successfully. If a single query parameter is specified and the value of that parameter has no matches, the response body returns default values. If a list of query parameters is specified and the value of at least one parameter has no matches, the response body returns only what matches.
201	Created	One or more new resources were successfully created.
204	No Content	The request complete successfully, but no response content is returned (for example, a successful DELETE request).
206	Partial Content	Partial content was returned for a multi-part response. The response header includes a content-range header field indicating the range that is included in the response body for each part.
400	Bad Request	A query parameter or request attribute is missing or not valid, or the operation is not supported. A descriptive error message is returned in the response body.
401	Unauthorized	The user cannot be authenticated. Authentication has not been provided or has failed. A descriptive error message is returned in the response body. GET requests return 401 when the user session is expired because the web inactivity session timeout expired or the mandatory session expiration time was exceeded. You must log in again to view data. You must log in again to view data. For information about session timeouts, see in the XClarity Orchestrator online documentation.
403	Forbidden	The orchestrator server was prevented from fulfilling the request. A descriptive error message is returned in the response body.
404	Not found	A specified resource cannot be found. A descriptive error message is returned in the response body.
405	Method Not Allowed	A specified resource is invalid. A descriptive error message is returned in the response body.
406	Not Acceptable	The request cannot be fulfilled. A descriptive error message is returned in the response body. POST, PUT, PATCH, and DELETE requests return 406 when the user session is expired because the Web inactivity session for full operations timeout expired or the mandatory session expiration time was exceeded. You must log in again to modify data. For information about session timeouts, see in the XClarity Orchestrator online documentation.
408	Request Timeout	The orchestrator server did not receive a required request in a specific amount of time. A descriptive error message is returned in the response body.
409	Conflict	There is a conflict with the current state of the resource. A descriptive error message is returned in the response body.

Code	Description	Comments
413	Request Entity Too Large	Clients might impose limitations on the length of the request URI, and the request URI is too long to be handled. A descriptive error message is returned in the response body.
500	Internal Server Error	An internal error occurred. A descriptive error message is returned in the response body.

Links

Each GET request returns information about the URIs for the resource or resource instance.

Requests that can return only a single resource or a single instance of a resource

Attributes	Type	Description
_links	Object	Information about the URI
rel	String	Relationship. This value is always "self."
uri	String	URI for the current resource

In the following example, the request can return information about only a single resource. This object identifies the URI for that resource.

```
{
    "_links": {
        "rel": "self",
        "uri": "/api/v1/data/devices/AAAAAAAAAAAAAAAAAAAA"
    }
}
```

Requests that can return multiple instances of a resource

Attributes	Type	Description
_metadata	Object	Information about the request, including the request URI, base attributes, sorting, and filtering for the specified query For information about other metadata attributes, see Metadata.
_links	Object or Array of objects	Information about the URI
rel	String	Relationship. This can be one of the following values. • **prev** Link information for the previous set of members. • **self** Link information for the current set of members. • **next**. Link information for the next set of members.
uri	String	URI for the current resource

In the following example, pagination is used to return information for multiple devices in chunks of 20. The **_links** attribute is an array of objects. The first object in the array identifies information about the URI for the current response body, with the first 20 devices. The first object in the array identifies information about the URI for the next response body, with next 20 devices

```
{
    "_links": [{
        "rel": " self ",
        "uri": "/api/v1/data/devices?offset=0&limit=20"
    },
    {
```

```
        "rel": " next ",
        "uri": "/api/v1/data/devices?offset=20&limit=20"
    }]
}
```

In the following example, all devices are returned in the current response body. (Pagination is not used).

```
{
    "_links": [{
        "rel": "self",
        "uri": "/api/v1/data/devices?offset=0&limit=0"
    }]
}
```

Metadata

If a GET request returns multiple instances of a resource type, the response body returns the **_metadata** attribute. The _metadata attribute contains information that describes the returned data, including the request URL, total number of resources instances, pagination information, and the common query parameters that are supported by the request. If common query parameters are not specified, default values are returned.

Note: If a GET request returns a single resource or a single instance of a resource, the **_metadata** attribute is not returned.

The following table describes the attributes that can be returned in the **_metadata** attribute.

For more information about common query parameters, see Paginating, filtering, scoping, and sorting responses.

Attributes			Type	Description
_metadata			Object	Information about the request, including the request URL, base attributes, sorting, and filtering for the specified query
	limit		Integer	Number of resource instances that can be returned on the page (for pagination) If set to 0, all instances are returned.
	offset		Integer	Offset at which to start the set of resource instances to be returned (for pagination)
	total		Integer	Total number of resource instances that are available (for pagination)
	baseAttributes		Array of objects	Information about essential (default) attributes that are returned in the response body
		name	String	Name of the base attribute
		sortOrder	String	Default sort order for the attribute. This can be one of the following values. • **asc**. Ascending order • **desc**. (default) Descending order
	excludeAttributes		String	List of attributes, separated by a comma, that are excluded in the response body This attribute is returned only when the **excludeAttributes** query parameter is supported. **Note:** When both **excludeAttributes** and **includeAttributes** query parameters are specified, the **excludeAttributes** query is ignored; in this case, the value of the **excludeAttributes** attribute is empty.

Attributes			Type	Description
includeAttributes			String	List of attributes, separated by a comma, that are included in the response body **Note:** If the **excludeAttributes** query parameter is specified, the **includeAttributes** attribute is empty.
filterOptions			Array of objects	List of criteria that is used to limit the resources that are returned in the response body when a filter query parameter is specified **Note:** If filter query parameters are not specified, the **filterOptions** attribute is empty.
	filterContains		Array of objects	Information about filter queries that search for data that *contains* a specific value Within the same filter query, data matches the query if the value of any one of the specified attributes contains any one of the specified patterns
		attributes	String	List of zero or more attribute names in the filter query, separated by a comma If an attribute name is not provided, all attributes are evaluated.
		values	String	List of one or more patterns, separated by a comma
	filterNotContains		Array of objects	Information about filter queries that search for data that *exactly matches* a specific value Within the same filter query, data matches the query if the value of any one of the specified attributes contains any one of the specified patterns
		attributes	String	List of zero or more attribute names in the filter query, separated by a comma If an attribute name is not provided, all attributes are evaluated.
		values	String	List of one or more patterns, separated by a comma
	filterEquals		Array of objects	Information about filter queries that search for data that *exactly matches* a specific value Within the same filter query, data matches the query if the value of any one of the specified attributes contains any one of the specified patterns
		attributes	String	List of zero or more attribute names in the filter query, separated by a comma If an attribute name is not provided, all attributes are evaluated.
		values	String	List of one or more patterns, separated by a comma
	filterNotEquals		Array of objects	Information about filter queries that search for data that *exactly matches* a specific value Within the same filter query, data matches the query if the value of any one of the specified attributes contains any one of the specified patterns
		attributes	String	List of zero or more attribute names in the filter query, separated by a comma If an attribute name is not provided, all attributes are evaluated.
		values	String	List of one or more patterns, separated by a comma
	filterRange		Array of objects	Information about filter queries that search for data that matches a value in a specific range Within the same filter query, data matches the query if the value of any one of the specified attributes contains any one of the specified patterns

Attributes			Type	Description
		attributes	String	List of zero or more attribute names in the filter query, separated by a comma If an attribute name is not provided, all attributes are evaluated.
		values	String	List of one or more patterns, separated by a comma Each range contains the start and end values in the range, separated by a comma. Multiple ranges are also separated by a comma. This timestamp is specified using ISO-8601 format (for example, 2019-05-02T19:28:14.000Z). For information about ISO-8601 format, see the W3C Date and Time Formats webpage.
	sortOptions		Array of objects	List of criteria that is used to sort the resources that are returned in the response body when the **sort** query parameter is specified **Tip:** The order of the returned attributes identifies the sort order of the attributes.
		name	String	Name of the attribute to sort by
		order	String	Sort order. This can be one of the following values. • **asc**. Ascending order • **desc**. (default) Descending order
	_links		Object or Array of objects	Request URL (see Links)

The following example returns metadata for a specific request when no query parameters are specified.

```
{
    "metadata": {
        "offset": 0,
        "limit": 0,
        "total": 2,
        "baseAttributes": [{
            "name": "msg"
        },
        {
            "name": "service"
        },
        {
            "name": "severity"
        },
        {
            "name": "systemName "
        },
        {
            "name": "systemType "
        },
        {
            "name": "timeStamp",
            "sortOrder": "asc"
        }],
        "excludeAttributes": [],
        "includeAttributes": [
            "msg",
            "service",
            "severity",
            "systemName",
            "systemType",
```

```
            "timeStamp"
        ],
        "filterOptions": {},
        "sortOptions": [{
            "name": "timeStamp",
            "order": "asc"
        }],
        "_links": {
            "rel": "self",
            "uri": "/api/v1/inbound/events?offset=0&limit=0"
        }
    }
}
```

Status messages

The status message attributes identify the success or failure of an REST API operation.

POST, PUT, PATCH, and DELETE requests include status-message attributes in the response body to describe the success or failure of the request, using the following JSON structure.

GET requests that are successful (2xx response code) *do not* include a status-message attributes. GET requests that fail (response codes other than 2xx) include status-message attributes in the response body to describe the failure of the request, using the following JSON structure.

Notes:

- If the server returns a single message for the request, the top-level attributes *except the* **messages** *attribute* are returned.
- If the server returns multiple messages for a single request, the top-level attributes are used to describe the overall status of the request, and each message is returned in the **messages** array.

Attributes	Type	Description
status	String	Overall status of the request. This can be one of the following values. • **Informational**. The request completed successfully. • **Warning**. The request completed with warnings. • **Critical**. The request failed. In case there are messages in the **messages** array, then this will be the most severe from all the messages.
code	String	Message code (see in the XClarity Orchestrator online documentation)
text	String	Message text that is associated with the message ID
description	String	Additional information to clarify the reason for the message
userAction	String	User actions that can be taken to recover from the error
recoveryUrl	String	Link to more information or recovery actions, if available
messages	Array of objects	Information about multiple messages
status	String	Status of the request. This can be one of the following values. • **Informational**. The request completed successfully. • **Warning**. The request completed with warnings. • **Critical**. The request failed. In case there are messages in the **messages** array, then this will be the most severe from all the messages.

Attributes	Type	Description
code	String	Message ID (see in the XClarity Orchestrator online documentation)
text	String	Message text that is associated with the message ID
description	String	Additional information to clarify the reason for the message
userAction	String	User actions that can be taken to recover from the error
recoveryUrl	String	Link to more information or recovery actions, if available

The following example is returned for a single-message response.
```
{
    "status": "Informational",
    "code": "FQXXOSE0001I",
    "text": "The request completed successfully.",
    "description": "",
    "userAction": "Information only; no action is required.",
}
```

The following example is returned for a multi-message response.
```
{
    "status": "Critical",
    "code": "",
    "text": " There was an error parsing the input.",
    "description": "",
    "userAction": "",
    "recoveryURL": "",
    "messages": [{
        "status": "Critical",
        "code": "FQXDM0558G",
        "text": " A specified attribute is not compatible with the value of another attribute.",
        "description": "The field {1} is not allowed when field {2} has value {3}.",
        "userAction": "Correct the values, and attempt the request again.",
        "recoveryURL": ""
    },
    {
        "status": "Critical",
        "code": "FQXDM0557G",
        "text": "Incompatible fields were specified.",
        "description": "The field {1} is not allowed when field {2} is specified.",
        "userAction": " Correct the values, and attempt the request again.",
        "recoveryURL": ""
    }]
}
```

Chapter 2. Security

The following REST APIs are available for managing security of resources.

/api/v1/maintenance/certificate

Use this REST API to retrieve, export, or regenerate the XClarity Orchestrator server certificate.

HTTP methods

GET, DELETE

GET /api/v1/maintenance/certificate

Use this method to return information about or save (export) the XClarity Orchestrator server certificate.

Authentication

Authentication with user name and password is required.

Resource URI

GET `https://{orchestrator_server_IP}/api/v1/maintenance/certificate`

Query parameters

Parameters	Re- quired / Optional	Description
format=*{type}*	Optional	Response format. This can be one of the following values. • **pem**. Exports the server certificate as a file in PEM format • **json**. (default) Returns the server certificate in the response body in JSON format

The following example retrieves the server certificate in JSON format.
`GET https://192.0.2.0/api/v1/communications/certificates/7633531801c5688f7d3b830d57cdea73`

The following example exports the server certificate as a file in PEM format.
`GET https://192.0.2.0/api/v1/communications/certificates/7633531801c5688f7d3b830d57cdea73?format=pem`

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully. If a query parameter is specified and the value of that parameter has no matches, the response body returns default values.
500	Internal Server Error	An internal error occurred. A descriptive error message is returned in the response body.

Response body

When **format=pem** is specified, the response body is returned only when the request generates an error (see Status messages).

When **format=json** is specified and the request is successful, the following attributes are returned. If the request fails, standard message attributes are returned (see Status messages).

Attributes	Type	Description
pem	String	Server certificate, in PEM format
_links	Object	Server certificate URI (see Links)

The following example is returned if the request is successful.

```
{
    "pem": "-----BEGIN CERTIFICATE-----\n
            MIIDuDCCAqCgAwIBAgIUQ1JWiK2/OUvzWcreEYEtuQ6TgiYwDQYJKoZIhvcNAQEL\n
            BQAwSzEMMAoGA1UECwwDRENHMQ8wDQYDVQQKDAZMZW5vdm8xEDAOBgNVBAcMB1Jh\n
            bGVpZ2gxCzAJBgNVBAgMAk5DMQswCQYDVQQGEwJVUzAeFw0yMDEwMDgxNDU0MDRa\n
            Fw0zMDEwMDYxNDU0MDRaMIGSMQswCQYDVQQGEwJVUzEPMA0GA1UECgwGTGVub3Zv\n
            MUUwQwYDVQQDDDxHZW5lcmF0ZWQgYnkgTGVub3ZvIE1hbmFnZW1lbnQgRWNvc3lz\n
            dGVtIG9uIElQIDEwMy4xNy4xMDgxCzAJBgNVBAgMAk5DMQwwCgYDVQQLDANE\n
            QQcxEDAOBgNVBAcMB1JhbGVpZ2gwggEiMA0GCSqGSIb3DQEBAQUAA4IBDwAwggEK\n
            AoIBAQCfkDRxfvLmzd3QswmdFwZRR6X3jlxThRfHca7AwiyKX/CgOI9Vh/TCkw5W\n
            ANlB3DdKFJSntgXTNhrjWk4y1boNDaBmr1eHFhjQYGRteHVrfPPafSYkOAKEIsV9\n
            X9h8i0e7HJZeCqaON6GqK8/uTo62kInFqqREOYqWkO/jFdFnKFj69Nf9JOuqABPc\n
            nb+tlXkWggRDrizvZMs3qRdjktd7Cl+8pbDKJuaUw9ZyfnNFWd2Rv8edITez15pU\n
            bJjlYqUzGeaAr/PnxUBrlZlS9qDPUj6ZxlnxQ2yxy5xsUYVkBUmwZq5nCdQ2yLqw\n
            OqB5LFUvJKo3I6m7dXLO9IN8gOhDAgMBAAGjTDBKMB8GA1UdIwQYMBaAFD+FiELg\n
            A+OFa+IexISpy9kHuj9eMAkGA1UdEwQCMAAwCwYDVR0PBAQDAgTwMA8GA1UdEQQI\n
            MAaHBArzEWwwDQYJKoZIhvcNAQELBQADggEBAE1iJVWCtYAQ8lVtegoOnWhscUXn\n
            V9lwxuCUtwyKUk9eMF7syrC4TYBad3KLZT8eUvLhn2rA47dNYHc92I9YPRR+DZZQ\n
            CmH3epUXcAKaeCJXSvIRPqGXHO7Ziv6xi6yvu2AVbz/bQOeSrAbFnYnvXTmmQjhx\n
            O6mLU3vYlG13fuJZlVRDg+ekOyKEbEyBxMPFFbz2yh/J/dJ4RzSVsOxOtcqAv+8U\n
            W9yqDhK9L7ywhlblhUdeDBS/AcOyLnRIvVPUtRKOOMnCoJqEAYD1W28TGaUfqB2+\n
            Ov4SuSuv7v6oyDSH3bARQ4ykmyXBlzuMNjD3Pgwp6Kpq6+CEcWcB9SYQgjw=\n
            -----END CERTIFICATE-----\n",
    "_links": {
        "rel": "self",
        "uri": "/api/v1/maintenance/certificate"
    }
}
```

DELETE /api/v1/maintenance/certificate

Use this method to delete and regenerate the Lenovo XClarity Orchestrator server certificate.

Authentication

Authentication with user name and password is required.

Resource URI

DELETE https://*{orchestrator_server_IP}*/api/v1/maintenance/certificate

Query parameters

None

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully.
500	Internal Server Error	An internal error occurred. A descriptive error message is returned in the response body.

Response body

Attributes	Type	Description
{message_attributes>	varies	Status messages (see Status messages)

/api/v1/maintenance/certificateSettings

Use this REST API to returnand modify the XClarity Orchestrator server certificate settings.

HTTP methods

GET, PUT

GET /api/v1/maintenance/certificateSettings

Use this method to return information about the XClarity Orchestrator server certificate settings.

Note: You can retrieve setting using this GET request only after you first modify the settings using PUT /api/v1/maintenance/certificateSettings.

Authentication

Authentication with user name and password is required.

Resource URI

GET `https://{orchestrator_server_IP}/api/v1/maintenance/certificateSettings`

Query parameters

None

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully.
500	Internal Server Error	An internal error occurred. A descriptive error message is returned in the response body.

When the request is successful, the following attributes are returned. If the request fails, standard message attributes are returned (see Status messages).

Response body

Attributes	Type	Description
commonName	String	Name of the certificate owner Typically, this is the fully-qualified domain name (FQDN) or IP address of the server that is using the certificate (for example, `www.domainname.com` or `10.15.23.99`).
country	String	Two-letter ISO 3166 code for the country or region of origin associated with the certificate organization (for example, `US` for the United States) To retrieve the country or region codes, use GET /api/v1/service/countryCodes.
notAfter	String	Timestamp before which the created certificate is not valid This timestamp is specified using ISO-8601 format (for example, 2019-05-02T19:28:14.000Z). For information about ISO-8601 format, see the [W3C Date and Time Formats webpage](#).
notBefore	String	Timestamp after which the created certificate is not valid This timestamp is specified using ISO-8601 format (for example, 2019-05-02T19:28:14.000Z). For information about ISO-8601 format, see the [W3C Date and Time Formats webpage](#).
organization	String	Organization (company) that owns the certificate. Typically, this is the legal incorporate name of a company. It should include any suffixes, such as Ltd., Inc., or Corp.
organizationUnit	String	Organizational unit that owns the certificate
stateLocality	String	Full name of the locality (city) to be associated with the certificate
stateProvince	String	Full name of the state or province to be associated with the certificate
_links	Object	Server certificate URI (see Links)

The following example is returned if the request is successful.

```
{
    "commonName": "Generated by Lenovo Management Ecosystem on IP 10.243.17.108",
    "country": "US",
    "notAfter": "2030-10-06T14:54:04.000Z",
    "notBefore": "2020-10-08T14:54:04.000Z",
    "organization": "Lenovo",
    "organizationUnit": "DCG",
    "stateLocality": "Raleigh",
    "stateProvince": "NC",
    "_links": {
        "rel": "self",
        "uri": "/api/v1/maintenance/certificateSettings"
    }
}
```

PUT /api/v1/maintenance/certificateSettings

Use this method to modify the Lenovo XClarity Orchestrator server certificate settings.

Authentication

Authentication with user name and password is required.

Resource URI

PUT `https://{orchestrator_server_IP}/api/v1/maintenance/certificateSettings`

Query parameters

None

Request body

This PUT request updates the entire resource. To clear a value, set the attribute to null (if applicable). If an optional attribute is not specified, that attribute is not changed. If an idempotent (unchangeable) attribute is specified, an error is thrown.

Attributes	Re-quired / Optional	Type	Description
commonName	Optional	String	Name of the certificate owner Typically, this is the fully-qualified domain name (FQDN) or IP address of the server that is using the certificate (for example, `www.domainname.com` or `10.15.23.99`). The length of this value cannot exceed 63 characters.
country	Optional	String	Two-letter ISO 3166 code for the country or region of origin associated with the certificate organization (for example, `US` for the United States) To retrieve the country or region codes, use GET /api/v1/service/countryCodes.
notAfter	Optional	String	Timestamp before which the created certificate is not valid This timestamp is specified using ISO-8601 format (for example, 2019-05-02T19:28:14.000Z). For information about ISO-8601 format, see the W3C Date and Time Formats webpage.
notBefore	Optional	String	Timestamp after which the created certificate is not valid This timestamp is specified using ISO-8601 format (for example, 2019-05-02T19:28:14.000Z). For information about ISO-8601 format, see the W3C Date and Time Formats webpage.
organization	Optional	String	Organization (company) that owns the certificate. Typically, this is the legal incorporate name of a company. It should include any suffixes, such as Ltd., Inc., or Corp. The length of this value cannot exceed 60 characters.
organizationUnit	Optional	String	Organizational unit that owns the certificate The length of this value cannot exceed 60 characters.
stateLocality	Optional	String	Full name of the locality (city) to be associated with the certificate The length of this value cannot exceed 50 characters.
stateProvince	Optional	String	Full name of the state or province to be associated with the certificate

The following example modifies the server certificate settings.

```
{
    "commonName": "Generated by Lenovo System Management Software",
    "country": "US",
    "notAfter": "2069-12-31T23:59:59Z",
    "notBefore": "1970-01-01T00:00:00Z",
    "organization": "Lenovo",
```

```
    "organizationUnit": "EBG",
    "stateLocality": "Raleigh",
    "stateProvince": "North Carolina"
}
```

Response codes

Code	Description	Comments
200	OK	The request completed successfully.
400	Bad Request	A query parameter or request attribute is missing or not valid, or the operation is not supported. A descriptive error message is returned in the response body.
500	Internal Server Error	An internal error occurred. A descriptive error message is returned in the response body.

Response body

Attributes	Type	Description
{message_attributes>	varies	Status messages (see Status messages)

/api/v1/maintenance/certificateSigningRequest

Use this REST API to returnthe current Certificate Signing Request (CSR) or generate a new CSR.

HTTP methods

GET, POST

GET /api/v1/maintenance/certificateSigningRequest

Use this method to return or save (export) the current Certificate Signing Request (CSR).

Authentication

Authentication with user name and password is required.

Resource URI

GET `https://{orchestrator_server_IP}/api/v1/maintenance/certificateSigningRequest`

Query parameters

Parameters	Required / Optional	Description
format={type}	Optional	Response format. This can be one of the following values. • **pem**. Exports the CSR as a file in PEM format • **json**. (default) Returns the CSR in the response body in JSON format

The following example retrieves the current CSR in JSON format.
GET `https://192.0.2.0/api/v1/maintenance/certificateSigningRequest`

The following example exports the current CSR as a file in PEM format.
GET `https://192.0.2.0/api/v1/maintenance/certificateSigningRequest?format=pem`

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully. If a query parameter is specified and the value of that parameter has no matches, the response body returns default values.
500	Internal Server Error	An internal error occurred. A descriptive error message is returned in the response body.

Response body

When **format=pem** is specified, the response body is returned only when the request generates an error (see Status messages).

When **format=json** is specified and the request is successful, the following attributes are returned. If the request fails, standard message attributes are returned (see Status messages).

Attributes	Type	Description
pem	String	CSR, in PEM format
_links	Object	CSR URI (see Links)

The certificate signing request is returned if the request is successful, for example:

```
{
    "pem": "-----BEGIN CERTIFICATE REQUEST-----
            MIIDjDCCAnQCAQAwgYoxCzAJBgNVBAYTAlVTMRcwFQYDVQQIEw5Ob3J0aCBDYXJv
            bGluYTEQMA4GA1UEBxMHUmFsZWlnaDElMCMGA1UEChMcR2VuZXJhdGVkIGJ5IFNl
            cnZlciBGaXJtd2FyZTEaMBgGA1UECxMRT3JnYW5pemF0aW9uIHVuaXQxDTALBgNV
            BAMTBExYQ0EwggEiMA0GCSqGSIb3DQEBAQUAA4IBDwAwggEKAoIBAQCMwy8q5PrW
            hHtLv1cOOdVJiXTHK3JNcQXicWXzL3/+vhGkgfd8rqqCvvxjTg7N2hYaFlQghEFT
            EWDhMmxvMFZtAhQfBnzcdiWj23I3MSRqDWBa8NsqHWffxyqcOEqhoGiOMCjHW9zd
            kSkJOfZvFJ5RTPmhY+Xnt92lZgSGwmnTcGq9dxNvV6ixMvnHzWE9+MguTxsfGMSR
            ZJ4Rf+d35X9ovQHEge1jMaqOcoBuqVMK9TkWsb1O1GJ2tggDR5tp8YHws7wakp1i
            sXc4AtDDIzrKfhxvxqTHqsAppREQD79srzsG+jNsOYvg7Jd7bm2/zP9gxMwVFUYO
            m7DYg8HF6mZ9AgMBAAGggbswgbgGCSqGSIb3DQEJDjGBqjCBpzCBpAYDVRORBIGc
            MIGZhxD+gAAAAAAAAAoAJ//+zQ6Dgh5mZTgwOjA6MDowOmEwMDoyN2ZmOmZlY2Q6
            ZTgzJTKHBArxieCCIGlwMTAtMjQxLTEzNy0yMjQubGFicy5sZW5vdm8uY29thxAA
            AAAAAAAAAAAAAAAABgglsb2NhbGhvc3SHBH8AAAGCCWxvY2FsaG9zdIIJbG9j
            YWxob3N0ggRMWENBMA0GCSqGSIb3DQEBCwUAA4IBAQACBKc6nxzo/8NBQOxuRe+w
            OMNzrAg9cIyh7cFCcTbSVmamOxAauRHvVIsgE/x/xQP3tQFvfJOqYr4eyJvEqHIN
            Y71ZgQjIunMVX9Oqf5MEdbYEsQE7g/2WzVXIDZ6p1qewjW85YeunHVS3fgWfD3jX
            Z66BXZyEB4l7xRtOr85E6bCkhlymj3O6OLHCdmeCewT/rOaOKnR9trSBB2zSkqTP
            SaxJQXB+6rKS+DGu+lSCNHYLr8cKYloLaGO8GaRZF4kedPQ1JSoz4jXOdgkPzqAX
            JlOJVWPUEkKLpGUomBBBUK5PwBN1OkuB8c/wXhB9+ki3CpcolGXoBpJk+fM6ij/8
            -----END CERTIFICATE REQUEST-----",
    "_links": {
        "rel": "self",
        "uri": "/api/v1/maintenance/certificateSigningRequest"
    }
}
```

POST /api/v1/maintenance/certificateSigningRequest

Use this method to generate a Certificate Signing Request (CSR) using specific server-certificate settings or regenerate the CSR using the current settings. The existing CSR is overwritten with the new CSR.

Authentication

Authentication with user name and password is required.

Resource URI

POST https://*{orchestrator_server_IP}*/api/v1/maintenance/certificateSigningRequest

Query parameters

None

Request body

Attributes	Re-quired / Optional	Type	Description
altNames	Optional	Array of objects	Information about the Subject Alternative Names to be included in Certificate Signing Request
name	Required	String	Subject Alternative Name
type	Required	String	RFC 5280 GeneralName type of this Subject Alternative Name
commonName	Optional	String	Name of the certificate owner. Typically, this is the fully-qualified domain name (FQDN) or IP address of the server that is using the certificate (for example, `www.domainname.com` or `10.15.23.99`) The length of this value cannot exceed 63 characters. The default is `LXCO`.
country	Optional	String	Two-letter ISO 3166 code for the country or region of origin associated with the certificate organization (for example, `US` for the United States) To retrieve the country or region codes, use GET /api/v1/service/countryCodes. The default is `US`.
organization	Optional	String	Organization (company) that is to own the certificate. Typically, this is the legal incorporate name of a company. It should include any suffixes, such as Ltd., Inc., or Corp (for example, `ACME International Ltd.`) The length of this value cannot exceed 60 characters. The default is generated by the server firmware.
organizationUnit	Optional	String	Organizational unit that will own the certificate (for example, ABC Division) The length of this value cannot exceed 60 characters. The default is `None`.

Attributes	Re- quired / Optional	Type	Description
stateLocality	Optional	String	Full name of the locality (city) to be associated with the certificate (for example, `San Jose`) The length of the value cannot exceed 50 characters. The default is `Raleigh`.
stateProvince	Optional	String	Full name of the state or province to be associated with the certificate (for example, `California` or `New Brunswick`)

The following example generates the certificate signing request using the specified server certificate settings

```
{
    "altNames": [{
        "name": "bar.example.org",
        "type": "DNS"
    },
    {
        "name": "foo.example.org",
        "type": "DNS"
    },
    {
        "name": "10.241.54.111",
        "type": "IP"
    },
    {
        "name": "test@test.com",
        "type": "email"
    }],
    "commonName": "10.241.54.169",
    "country": "US",
    "organization": "Lenovo",
    "organizationUnit": "LXCO",
    "stateLocality": "Raleigh",
    "stateProvince": "North Carolina"
}
```

Response codes

Code	Description	Comments
200	OK	The request completed successfully.
400	Bad Request	A query parameter or request attribute is missing or not valid, or the operation is not supported. A descriptive error message is returned in the response body.
401	Unauthorized	The user cannot be authenticated. Authentication has not been provided or has failed. A descriptive error message is returned in the response body.
403	Forbidden	The orchestrator server was prevented from fulfilling the request. A descriptive error message is returned in the response body.
404	Not found	A specified resource cannot be found. A descriptive error message is returned in the response body.
408	Request Timeout	The orchestrator server did not receive a required request in a specific amount of time. A descriptive error message is returned in the response body.

Code	Description	Comments
409	Conflict	There is a conflict with the current state of the resource. A descriptive error message is returned in the response body.
500	Internal Server Error	An internal error occurred. A descriptive error message is returned in the response body.

Response header

Response body

Attributes	Type	Description
{message_attributes>	*varies*	Status messages (see Status messages)

/api/v1/maintenance/signedCertificate

Use this REST API to upload a new signed Lenovo XClarity Orchestrator server certificate that was generated using a certificate signing request.

HTTP methods

POST

POST /api/v1/maintenance/signedCertificate

Use this method to update the signed Lenovo XClarity Orchestrator server certificate that was generated using a certificate signing request.

Important: To perform this action, you must be a member of a user group to which the predefined **Supervisor** role is assigned.

Authentication

Authentication with user name and password is required.

Resource URI

POST `https://{orchestrator_server_IP}/api/v1/maintenance/signedCertificate`

Query parameters

None

Request body

Provide the server certificate, in PEM format, that was created from the certificate signing request using the GET /api/v1/maintenance/certificateSigningRequest or downloaded from the XClarity Orchestrator user interface. The following example is provided in the request body

```
-----BEGIN CERTIFICATE REQUEST-----
MIIDjDCCAnQCAQAwgYoxCzAJBgNVBAYTAlVTMRcwFQYDVQQIEw5Ob3J0aCBDYXJv
bGluYTEQMA4GA1UEBxMHUmFsZWlnaDElMCMGA1UEChMcR2VuZXJhdGVkIGJ5IFNl
cnZlciBGaXJtd2FyZTEaMBgGA1UECxMRT3JnYW5pemF0aW9uIHVuaXQxDTALBgNV
BAMTBExYQ0EwggEiMA0GCSqGSIb3DQEBAQUAA4IBDwAwggEKAoIBAQCMwy8q5PrW
hHtLv1cOOdVJiXTHK3JNcQXicWXzL3/+vhGkgfd8rqqCvvxjTg7N2hYaFlQghEFT
EWDhMmxvMFZtAhQfBnzcdiWj23I3MSRqDWBa8NsqHWffxyqcOEqhoGiOMCjHW9zd
kSkJOfZvFJ5RTPmhY+Xnt92lZgSGwmnTcGq9dxNvV6ixMvnHzWE9+MguTxsfGMSR
ZJ4Rf+d35X9ovQHEge1jMaqOcoBuqVMK9TkWsb1O1GJ2tggDR5tp8YHws7wakp1i
sXc4AtDDIzrKfhxvxqTHqsAppREQD79srzsG+jNsOYvg7Jd7bm2/zP9gxMwVFUYO
```

```
m7DYg8HF6mZ9AgMBAAGggbswgbgGCSqGSIb3DQEJDjGBqjCBpzCBpAYDVRORBIGc
MIGZhxD+gAAAAAAAAoAJ//+zQ6Dgh5mZTgwOjA6MDowOmEwMDoyN2ZmOmZlY2Q6
ZTgzJTKHBArxieCCIGlwMTAtMjQxLTEzNyOyMjQubGFicy5sZW5vdm8uY29thxAA
AAAAAAAAAAAAAAAAAAABgglsb2NhbGhvc3SHBH8AAAGCCWxvY2FsaG9zdIIJbG9j
YWxob3N0OggRMWENBMAOGCSqGSIb3DQEBCwUAA4IBAQACBKc6nxzo/8NBQOxuRe+w
OMNzrAg9cIyh7cFCcTbSVmamOxAauRHvVIsgE/x/xQP3tQFvfJOqYr4eyJvEqHIN
Y71ZgQjIunMVX9Oqf5MEdbYEsQE7g/2WzVXIDZ6p1qewjW85YeunHVS3fgWfD3jX
Z66BXZyEB4l7xRtOr85E6bCkhlymj3O6OLHCdmeCewT/rOaOKnR9trSBB2zSkqTP
SaxJQXB+6rKS+DGu+lSCNHYLr8cKYloLaGO8GaRZF4kedPQ1JSoz4jXOdgkPzqAX
JlOJVWPUEkKLpGUomBBBUK5PwBN1OkuB8c/wXhB9+ki3CpcolGXoBpJk+fM6ij/8
-----END CERTIFICATE REQUEST-----
```

Response codes

Code	Description	Comments
200	OK	The request completed successfully.
400	Bad Request	A query parameter or request attribute is missing or not valid, or the operation is not supported. A descriptive error message is returned in the response body.
500	Internal Server Error	An internal error occurred. A descriptive error message is returned in the response body.

Response header

Response body

Attributes	Type	Description
{message_attributes>	varies	Status messages (see Status messages)

/api/v1/service/countryCodes

Use this REST API to returna list of country and region codes.

HTTP methods

GET

GET /api/v1/service/countryCodes

Use this method to return a list of country and region codes.

Authentication

Authentication with user name and password is required.

Resource URI

GET https://{orchestrator_server_IP}/api/v1/service/countryCodes

Query parameters

None

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully.

Response body

When the request is successful, the following attributes are returned. If the request fails, standard message attributes are returned (see Status messages).

Attributes	Type	Description
results	Array of objects	Information about each country or region
abbreviation	String	Two-letter ISO 3166 code for the country or region
name	String	Country or region name
_links	Object	Resource URI (see Links)

The following example is returned if the request is successful.

```
{
   "result": [
      {
         "abbreviation": "AO",
         "name": "ANGOLA"
      },
      {
         "abbreviation": "AR",
         "name": "ARGENTINA"
      },
      ...,
      {
         "abbreviation": "ZM",
         "name": "ZAMBIA"
      },
      {
         "abbreviation": "ZW",
         "name": "ZIMBABWE"
      }
   ],
   "_links": {
      "rel": "self",
      "uri": "/api/v1/service/countryCodes"
   }
}
```

Chapter 3. Resources

The following REST APIs are available for working with resource managers and their managed devices and infrastructure resources.

/api/v1/connector/managers

Use this REST API to return a list of all resource managers, connect resource managers, or update credentials for one or more resource managers.

HTTP methods

GET, POST, PUT

GET /api/v1/connector/managers

Use this method to return a list of all resource managers.

Authentication

Authentication with user name and password is required.

Resource URI

GET `https://`*{orchestrator_server_IP}*`/api/v1/connector/managers`

Query parameters

This REST API supports query parameters for pagination, sorting, filtering, and including or excluding response attributes. For more information, see Paginating, filtering, scoping, and sorting responses.

The following example returns a list of all resource managers.
GET `https://192.0.2.0/api/v1/connector/managers`

The following example returns a list of all unhealthy resource managers.
GET `https://192.0.2.0/api/v1/connector/managers`
`?filterNotEquals[][attributes]=healthState&filterNotEquals[][values]=Normal`

The following example returns a list of all resource managers running version 1.0.
GET `https://192.0.2.0/api/v1/connector/managers`
`?filterEquals[][attributes]=updateMetadata.components.version.number&filterEquals[][values]=1.0`

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully. If a single query parameter is specified and the value of that parameter has no matches, the response body returns default values. If a list of query parameters is specified and the value of at least one parameter has no matches, the response body returns only what matches.
206	Partial Content	Partial content was returned for a multi-part response. The response header includes a content-range header field indicating the range that is included in the response body for each part.

Code	Description	Comments
408	Request Timeout	The orchestrator server did not receive a required request in a specific amount of time. A descriptive error message is returned in the response body.
500	Internal Server Error	An internal error occurred. A descriptive error message is returned in the response body.

Response body

When the request is successful, the following attributes are returned. If the request fails, standard message attributes are returned (see Status messages).

Attributes		Type	Description
results		Array of objects	Information about each resource manager
	id	String	Resource manager ID
	connectTimestamp	String	Timestamp when the resource manager was registered with XClarity Orchestrator This timestamp is specified using ISO-8601 format (for example, 2019-05-02T19:28:14.000Z). For information about ISO-8601 format, see the W3C Date and Time Formats webpage.
	healthState	String	Health state (translated). This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**
	healthStateKey	String	Health state key. This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**
	name	String	Resource manager name **Note:** For Lenovo XClarity Administrator, this is the IP address of the management server.
	type	String	Type of resource manager. This can be one of the following values. • **XClarity Orchestrator** • **XClarity Administrator** • **Schneider Electric EcoStruxure IT Expert** • **VMware vRealize Operations Manager**
	_links	String	Resource manager URI (see Links)
_metadata		Object	Request metadata (see Metadata)

The following example is returned if the request is successful.

```
{
    "results": [{
```

```
        "id": "00000000000000000000000000000000",
        "healthState": "Normal",
        "healthStateKey": "Normal",
        "name": "XClarity Orchestrator",
        "type": "XClarity Orchestrator",
        "_links": {
            "rel": "self",
            "uri": "/api/v1/connector/managers/00000000000000000000000000000000"
        }
    },
    {
        "id": "8D735FCEFBCD49118C68169312166C68",
        "connectTimestamp": "2020-08-04T14:33:43.564Z",
        "healthState": "Normal",
        "healthStateKey": "Normal",
        "name": "10.241.54.102",
        "type": "XClarity Administrator",
        "_links": {
            "rel": "self",
            "uri": "/api/v1/connector/managers/8D735FCEFBCD49118C68169312166C68"
        }
    },
    ...,
    {
        "id": "7fd00c3b087f095b88041908c7dc28a01416133b",
        "connectTimestamp": "2020-08-04T15:06:10.243Z",
        "healthState": "Normal",
        "healthStateKey": "Normal",
        "name": "EcoStruxure",
        "type": "Schneider EcoStruxure IT",
        "_links": {
            "rel": "self",
            "uri": "/api/v1/connector/managers/7fd00c3b087f095b88041908c7dc28a01416133b"
        }
    }],
    "_metadata": {...}
}
```

POST /api/v1/connector/managers

Use this method to connect (register) one or more resource managers.

A job is created to complete this request. The response header returns the URI for the job in the "Location" field.

A successful response code indicates that the job was successfully transmitted and accepted by the orchestrator. It does not indicate that the operation that is associated with the job was successful. If a job was not successfully started, refer to the response code and response body for details.

Important: To perform this action, you must be a member of a user group to which the predefined **Supervisor** role is assigned.

Authentication

Authentication with user name and password is required.

Resource URI

POST https://*{orchestrator_server_IP}*/api/v1/connector/managers

Query parameters

None

Request body

Table 1. XClarity Administrator resource managers

Attributes			Re-quired / Optional	Type	Description
managers			Required	Array of objects	Information about each resource manager
	authentication		Required	Object	Information about authentication settings
		password	Required	String	Password to use for basic authentication
		type	Required	String	Authentication type. This is always **basic**.
		username	Required	String	User name to use for basic authentication
	connection		Required	Object	Information about connection settings
		hostname	Required	String	Resource manager host name
		port	Required	String	Resource manager port
		lxcoHostname	Optional	String	Orchestrator server host name
		lxcoPort	Optional	String	Orchestrator server port
	type		Required	String	Type of resource manager. This is always **XClarity Administrator**.

Table 2. Schneider Electric EcoStruxure IT Expert resource managers

Attributes			Re-quired / Optional	Type	Description
managers			Required	Array of objects	Information about each resource manager
	authentication		Required	Object	Information about authentication settings
		token	Required	String	Token value
		type	Required	String	Authentication type. This is always **token**.
	connection		Optional	Object	Information about connection settings
		url	Optional	String	Resource manager URL
	name		Required	String	Resource manager name
	type		Required	String	Type of resource manager. This is always **Schneider Electric EcoStruxure IT Expert**.

Table 3. VMware vRealize Operations Manager resource managers

Attributes		Re-quired / Optional	Type	Description
managers		Required	Array of objects	Information about each resource manager
	authentication	Required	Object	Information about authentication settings
	password	Required	String	Password to use for basic authentication
	username	Required	String	User name to use for basic authentication
	authSource	Optional	String	Name of the authentication source for users and groups To obtain a list of available authorization sources, use GET /api/v1/connector/vrealizeAuthSources.
	connection	Required	Object	Information about connection settings
	hostname	Required	String	Resource manager host name
	port	Required	String	Resource manager port
	lxcoHostname	Optional	String	Orchestrator server host name
	lxcoPort	Optional	String	Orchestrator server port
	type	Required	String	Type of resource manager. This is always **vRealize Operations Manager**

The following example connects to XClarity Administrator, EcoStruxure IT Expert, and vRealize Operations Manager resource manager.

```
{
    "managers": [{
        "authentication": {
            "password": "CME44len",
            "type": "basic",
            "username": "USERID"
        },
        "connection": {
            "hostname": "10.241.54.102",
            "port": 443,
            "lxcoHostname": "1.2.3.4",
            "lxcoPort": 443
        },
        "type": "XClarity Administrator"
    },
    {
        "authentication": {
            "token": "AK1/2sixskmmc06wj/1i6v3epcz5c25rc29jv1t00hce1pjahyobux63 ",
            "type": "token"
        },
        "connection": {
            "url": "https://api.ecostruxureit.com/rest/v1/organizations"
        },
        "name": "Croco 1",
        "type": "Schneider EcoStruxure IT"
    },
    {
        "authentication": {
            "password": "********",
            "username": "USERID"
```

```
      },
      "authSource": "All vCenter Servers",
      "connection": {
        "hostname": "10.241.54.100",
        "port": 443
      },
      "type": "vRealize Operations Manager"
  }]
}
```

Response codes

Code	Description	Comments
200	OK	The request completed successfully.
401	Unauthorized	The user cannot be authenticated. Authentication has not been provided or has failed. A descriptive error message is returned in the response body.
403	Forbidden	The orchestrator server was prevented from fulfilling the request. A descriptive error message is returned in the response body.

Response header

The URL of the job and the ID of the root job that was just created are returned in the "Location" and "JobID" fields respectively, for example:
```
Location: /api/v1/jobs-management/jobs/56?childrenLevels=-1
jobID: 56
```

Response body

Attributes	Type	Description
{message_attributes>	varies	Status messages (see Status messages)

/api/v1/connector/managers/{id}

Use this REST API to returninformation about, modify, or disconnect a specific resources manager.

HTTP methods

GET, PATCH, DELETE

GET /api/v1/connector/managers/{id}

Use this method to return information about a specific resource manager.

Authentication

Authentication with user name and password is required.

Resource URI

GET https://{orchestrator_server_IP}/api/v1/connector/managers/{id}

where {id} is the ID of the resource manager. To obtain the resource manager IDs, use GET /api/v1/connector/managers.

Query parameters

None

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully.
404	Not found	A specified resource cannot be found. A descriptive error message is returned in the response body.
408	Request Timeout	The orchestrator server did not receive a required request in a specific amount of time. A descriptive error message is returned in the response body.

Response body

When the request is successful, the following attributes are returned. If the request fails, standard message attributes are returned (see Status messages).

The returned attributes vary depending on the type of resource manager.

Attributes		Type	Description
id		String	Resource manager ID
authSource		String	(VMware vRealize Operations Manager only) Name of the authentication source for users and groups
connectTimestamp		String	Timestamp when the resource manager was registered with XClarity Orchestrator This timestamp is specified using ISO-8601 format (for example, 2019-05-02T19:28:14.000Z). For information about ISO-8601 format, see the W3C Date and Time Formats webpage.
connection		Object	Information about connection settings
	hostname	String	(XClarity Administrator and vRealize Operations Manager only) Resource manager host name
	port	String	(XClarity Administrator and vRealize Operations Manager only) Resource manager port
	lxcoHostname	String	(XClarity Administrator and vRealize Operations Manager only) Orchestrator server host name
	lxcoPort	String	(XClarity Administrator and vRealize Operations Manager only) Orchestrator server port
	url	String	(Schneider Electric EcoStruxure IT Expert only) Resource manager URL
details		Object	Information about the resource manager properties
	build	String	Resource manager build number
	forwarderID	String	(XClarity Administrator only) ID of the event forwarder in XClarity Administrator that pushes events to this XClarity Orchestrator instance
	metricsSubscriptionID	String	(XClarity Administrator only) ID of the metrics subscription in XClarity Administrator that pushes metrics to this XClarity Orchestrator instance

Attributes			Type	Description
networkSettings			Object	(XClarity Administrator only) Information about network settings for the resource manager
	domainName		String	Domain
	hostname		String	Host name
	ipv4Addresses		Array of strings	List of IPv4 addresses
	ipv6Addresses		Array of strings	List of IPv6 addresses
	uuid		String	Resource manager UUID
	version		String	Resource manager version
	versionNumber		String	Resource manager version number
groups			Array of object	Information about each group in which this resource manager is a member
	id		String	Group ID
	name		String	Group name
	type		String	Group type. This value is always "ManagerGroup."
	uri		String	Group URI
healthState			String	Health state (translated). This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**
healthStateKey			String	Health state (translated). This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**
ipAddress			String	IP address of the resource manager
issues			Array of strings	Reason for an unhealthy status If **healthState** is "Normal," this attribute is set to null. If **healthState** is not "Normal," this attribute can be one of the following values. • **InvalidCredentials** • **ConnectionProblems**
lastInventorySyncTimestamp			String	Timestamp when XClarity Orchestrator last refreshed the inventory for the resource manager This timestamp is specified using ISO-8601 format (for example, 2019-05-02T19:28:14.000Z). For information about ISO-8601 format, see the <u>W3C Date and Time Formats webpage</u>.

Attributes			Type	Description
lastSyncTimestamp			String	Timestamp when XClarity Orchestrator last refreshed the information about the resource manager This timestamp is specified using ISO-8601 format (for example, 2019-05-02T19:28:14.000Z). For information about ISO-8601 format, see the W3C Date and Time Formats webpage.
name			String	Resource manager name
type			String	Type of resource manager. This can be one of the following values. • **XClarity Orchestrator** • **XClarity Administrator** • **Schneider Electric EcoStruxure IT Expert** • **VMware vRealize Operations Manager**
updates			Object	(XClarity Administrator and EcoStruxure IT Expert only) Information about the update history for the resource manager
	identifier		String	Update ID
	components		Array of objects	Information about each update component
		componentID	String	Component ID
		name	String	Component name
		targetVersion	Object	Information about the target update for the component based on the assigned policy If a policy is not assigned, this value is null.
		identifier	String	Version ID
		number	String	Version number
		releaseTimestamp	String	Timestamp when the version was released This timestamp is specified using ISO-8601 format (for example, 2019-05-02T19:28:14.000Z). For information about ISO-8601 format, see the W3C Date and Time Formats webpage.
		upgradeable	Boolean	Indicates whether the component can be updated. This can be one of the following values. • **true**. The component can be updated. • **false**. The component cannot be updated.
		version	Object	Information about the update that is currently installed for the component
		identifier	String	Version ID
		number	String	Version number
		releaseTimestamp	String	Timestamp when the version was released This timestamp is specified using ISO-8601 format (for example, 2019-05-02T19:28:14.000Z). For information about ISO-8601 format, see the W3C Date and Time Formats webpage.
	policy		Object	Information about the update-compliance policy that is assigned to this device If a policy is not assigned, this value is null.
		id	String	Policy ID
		name	String	Policy name

Attributes	Type	Description
policyState	String	Policy state (translated). This can be one of the following values. • **No Policy Assigned** • **Policy Assigned**
policyStateKey	String	Policy state key. This can be one of the following values. • **No Policy Assigned** • **Policy Assigned**
_links	Object	Resource manager URI (see Links)

The following example is returned if the request is successful for Lenovo XClarity Orchestrator.

```
{
    "id": "00000000000000000000000000000000",
    "connectDate": null,
    "connection": null,
    "details": {
        "build": "228",
        "uuid": "9E22E0D577CA1EEA3BD64FFE7FBEE9AA",
        "version": "1.3.0",
        "versionNumber": 130
    },
    "groups": [],
    "healthState": "Normal",
    "healthStateKey": "Normal",
    "issues": [],
    "lastInventorySyncDate": null,
    "lastSyncDate": null,
    "name": "XClarity Orchestrator",
    "type": "XClarity Orchestrator",
    "_links": {
        "rel": "self",
        "uri": "/api/v1/connector/managers/00000000000000000000000000000000"
    }
}
```

The following example is returned if the request is successful for an XClarity Administrator resource manager.

```
{
    "id": "8D735FCEFBCD49118C68169312166C68",
    "authenticationKey": "8D735FCEFBCD49118C68169312166C68",
    "connectTimestamp": "2020-08-04T14:33:43.564Z",
    "connection": {
        "hostname": "10.241.54.102",
        "port": 443,
        "lxcoHostname": "10.241.54.187",
        "lxcoPort": 443
    },
    "details": {
        "build": "1779",
        "forwarderID": "1596551640282",
        "metricsSubscriptionID": "5f2971d8a5201b0a7e0c8177",
        "networkSettings": {
            "domainName": "",
            "hostname": "localhost",
            "ipv4Addresses": ["10.241.54.102"],
            "ipv6Addresses": ["fd64:30d9:58db:5bbc:0:0:0:1642","fe80:0:0:0:250:56ff:fea2:c99c"]
        },
        "uuid": "8D735FCEFBCD49118C68169312166C68",
        "version": "2.99.99",
        "versionNumber": 29999
```

```
        },
        "groups": [],
        "healthState": "Normal",
        "healthStateKey": "Normal",
        "issues": [],
        "lastInventorySyncTimestamp": null,
        "lastISyncTimestamp": "2020-08-04T14:33:43.564Z",
        "name": "10.241.54.102",
        "type": "XClarity Administrator",
        "updates": {
            "identifier": "lxca",
            "components": [{
                "componentID": "lxca",
                "name": "Lenovo XClarity Administrator 2.99.99",
                "targetVersion": null
                "upgradeable": true,
                "version": {
                    "identifier": "1779",
                    "number": "2.99.99",
                    "releaseTimestamp": null
                },
            }],
            "policy": null,
            "policyState": "No Policy Assigned",
            "policyStateKey": "NoPolicyAssigned",
        },
        "_links": {
            "rel": "self",
            "uri": "/api/v1/connector/managers/8D735FCEFBCD49118C68169312166C68"
        }
}
```

The following example is returned if the request is successful for an EcoStruxure IT Expert resource manager.
```
{
    "id": "b17c3accec1e2a94e28b108ed757a6705c77066d",
    "connectTimestamp": "2021-02-16T12:36:40.809Z",
    "connection": {
        "url": "https://api.ecostruxureit.com/rest/v1/organizations"
    },
    "details": {
        "build": null,
        "uuid": null,
        "version": null,
        "versionNumber": null
    },
    "groups": [],
    "healthState": "Normal",
    "healthStateKey": "Normal",
    "issues": [],
    "lastInventorySyncTimestamp": null,
    "lastSyncTimestamp": "2021-02-16T12:36:40.809Z",
    "name": "Demo Ecox manager1",
    "type": "Schneider EcoStruxure IT",
    "updates": null,
    "_links": {
        "rel": "self",
        "uri": "/api/v1/connector/managers/b17c3accec1e2a94e28b108ed757a6705c77066d"
    }
}
```

PATCH /api/v1/connector/managers/*{id}*

Use this method to modify authentication and connection settings for a resource manager.

Note: This REST API requires Lenovo XClarity Orchestrator v1.2.0 or later.

Authentication

Authentication with user name and password is required.

Resource URI

PATCH https://*{management_server_IP>*/api/v1/connector/managers/*{id}*

where *{id}* is the ID of the resource manager. To obtain the resource manager IDs, use GET /api/v1/
connector/managers.

Query parameters

None

Request body

Attributes	Re-quired / Optional	Type	Description
op	Required	String	Action to take. This can be the following value. • **replace**. Replaces the entire attribute value with the specified value.
path	Required	String	Name of the attribute to be modified. This can be one of the following values. • **authentication**. Authentication settings • **connection**. Connect settings
value	Required	String	Attribute value, depending on the data type

The following example modifies the authentication and connection settings for an Lenovo XClarity
Administrator resource manager.
```
[
   { "op": "replace", "path": "authentication", "value": { "username": "USERID",
                                                          "password": "CME44len",
                                                          "type": "basic"}
   },
   { "op": "replace", "path": "connection",     "value": { "hostname": "10.241.54.113",
                                                          "port": 443 }
   }
]
```

Response codes

Code	Description	Comments
200	OK	The request completed successfully.
400	Bad Request	A query parameter or request attribute is missing or not valid, or the operation is not supported. A descriptive error message is returned in the response body.
404	Not found	A specified resource cannot be found. A descriptive error message is returned in the response body.

Response body

Attributes	Type	Description
{message_attributes>	*varies*	Status messages (see Status messages)

DELETE /api/v1/connector/managers/*{id}*

Use this method to disconnect (remove) a specific resource manager.

A job is created to complete this request. The response header returns the URI for the job in the "Location" field.

A successful response code indicates that the job was successfully transmitted and accepted by the orchestrator. It does not indicate that the operation that is associated with the job was successful. If a job was not successfully started, refer to the response code and response body for details.

Important: To perform this action, you must be a member of a user group to which the predefined **Supervisor** role is assigned.

Authentication

Authentication with user name and password is required.

Resource URI

DELETE https://*{orchestrator_server_IP}*/api/v1/connector/managers/*{id}*

where *{id}* is the ID of the resource manager. To obtain the resource manager IDs, use GET /api/v1/connector/managers.

Query parameters

None

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully.
400	Bad Request	A query parameter or request attribute is missing or not valid, or the operation is not supported. A descriptive error message is returned in the response body.
404	Not found	A specified resource cannot be found. A descriptive error message is returned in the response body.

Response header

The URL of the job and the ID of the root job that was just created are returned in the "Location" and "JobID" fields respectively, for example:

Location: /api/v1/jobs-management/jobs/56?childrenLevels=-1
jobID: 56

Response body

Attributes	Type	Description
{message_attributes>	*varies*	Status messages (see Status messages)

/api/v1/connector/vrealizeAuthSources

Use this REST API to return a list of authorization sources for a specific VMware vRealize Operations Manager resource manager.

Note: This REST API requires Lenovo XClarity Orchestrator v1.3.0 or later.

HTTP methods

GET

GET /api/v1/connector/vrealizeAuthSources

Use this method to return a list of authorization sources for a specific VMware vRealize Operations Manager resource manager.

Note: This REST API requires Lenovo XClarity Orchestrator v1.3.0 or later.

Authentication

Authentication with user name and password is required.

Resource URI

GET https://*<management_server_IP>*/api/v1/connector/vrealizeAuthSources

Query parameters

Parameters	Re-quired / Optional	Description
ipAddress=*{ipAddress}*	Required	IP address of the vRealize Operations Manager resource manager

The following example returns the authorization sources for a specific vRealize Operations Manager resource manager.
GET https://192.0.2.0/api/v1/connector/vrealizeAuthSources?ipAddress=192.0.2.0

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully.
404	Not found	A specified resource cannot be found. A descriptive error message is returned in the response body.

Response body

When the request is successful, the following attributes are returned. If the request fails, standard message attributes are returned (see Status messages).

Attributes	Type	Description
authSources	Array of strings	List of names of authorization sources
_links	Object	Resource URI (see Links)

The following example is returned if the request is successful.

```
{
    "authSources": ["All vCenter Servers", "vcenter-1975"],
    "_links": {
        "rel": "self",
        "uri": "/api/v1/connector/vrealizeAuthSources
    }
}
```

/api/v1/data/deviceInfo

Use this REST API to returngeneral information about a specific device.

HTTP methods

GET

GET /api/v1/data/deviceInfo?deviceID=*{id}*

Use this method to return general information about a specific device.

Authentication

Authentication with user name and password is required.

Resource URI

GET `https://{orchestrator_server_IP}/api/v1/data/deviceInfo?deviceID={id}`

Query parameters

Parameters	Required / Optional	Description
deviceID=*{id}*	Required	Returns general information about a device, specified by the ID To obtain the device IDs, use GET /api/v1/data/devices

The following example returns general information about a specific device.
```
GET https://192.0.2.0/api/v1/data/deviceInfo?deviceID=
3015DE7E2B6011E881940A94EF5F5B65-C7199530FEDE4FE09540DFC3D75FC56C
```

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully. If a query parameter is specified and the value of that parameter has no matches, the response body returns default values.
400	Bad Request	A query parameter or request attribute is missing or not valid, or the operation is not supported. A descriptive error message is returned in the response body.
404	Not found	A specified resource cannot be found. A descriptive error message is returned in the response body.

Response body

When the request is successful, the following attributes are returned. If the request fails, standard message attributes are returned (see Status messages).

Attributes	Type	Description
domainName	String	Domain name
groupNames	Array of strings	List of names of the groups to which the device belongs
healthStatus	String	Health state of the device (translated). This can be one of the following values. • **Healthy** • **Warning** • **Critical**
healthStatusKey	String	Health state key. This can be one of the following values. • **Healthy** • **Warning** • **Critical**
hostname	String	Hostname
ipv4Addresses	Array of strings	List of IPv4 addresses
ipv6Addresses	Array of strings	List of IPv6 addresses
location	Object	Information about the location of the device
location	String	Location description
lowestRackUnit	String	Lowest rack unit
rack	String	Rack name
room	String	Room name
machineType	String	Device machine type
manager	Object	Information about the resource manager that manages this device
domainName	String	Fully qualified domain name
hostname	String	Host name
inContextHref	String	In context URI
ipv4Addresses	Array of strings	IPv4 addresses

Attributes	Type	Description
ipv6Addresses	Array of strings	IPv6 addresses
model	String	Device model
powerStatus	String	Power status (translated). This can be one of the following values. • **Off** • **On** • **Standby** • **Unknown**
powerStatusKey	String	Power status key. This can be one of the following values. • **Off** • **On** • **Standby** • **Unknown**
productName	String	Device product name
serialNumber	String	Device serial number
userDefinedName	String	User-defined name for the device
uuid	String	Device UUID
_links	Object	Device URI (see Links)

The following example is returned if the request is successful.

```
{
    "domainName": "labs.lenovo.com",
    "groupNames": [],
    "healthStatus": "Warning",
    "healthStatusKey": "Warning",
    "hostname": "XCC-7Y02-0123456789",
    "ipv4Addresses": ["10.243.0.235","169.254.95.118"],
    "ipv6Addresses": ["fd55:faaf:e1ab:2021:a94:efff:fe4f:5635","fe80::a94:efff:fe4f:5635"],
    "location": {
        "location": "elephante",
        "lowestRackUnit": 33,
        "rack": "Snufflaluffagus",
        "room": "pacaderm"
    },
    "machineType": "7Y02",
    "manager": {
        "domainName": "",
        "hostname": "localhost",
        "inContextHref": "/ui/index.html#/compDetails/Rack-Tower Server/8151C5148B4411E791329DD935F1CD89/",
        "ipv4Addresses": ["10.243.17.164"],
        "ipv6Addresses": ["0::0","fe80:0:0:0:215:5dff:fe0c:d156"]
    },
    "model": "RCZ000",
    "powerStatus": "On",
    "powerStatusKey": "On",
    "productName": "ThinkSystem SR570",
    "serialNumber": "0123456789",
    "userDefinedName": "",
    "uuid": "8151C5148B4411E791329DD935F1CD89",
    "_links": {
        "rel": "self",
        "uri": "/api/v1/data/devices/C7199530FEDE4FE09540DFC3D75FC56C"
    }
```

```
}
```

/api/v1/data/devices

Use this REST API to returna list of all managed devices.

HTTP methods

GET

GET /api/v1/data/devices

Use this method to return a list of all managed devices.

Authentication

Authentication with user name and password is required.

Resource URI

GET `https://{orchestrator_server_IP}/api/v1/data/devices`

Query parameters

This REST API supports query parameters for pagination, sorting, filtering, and including or excluding response attributes. For more information, see Paginating, filtering, scoping, and sorting responses.

The following example returns a list of all managed devices.
```
GET https://192.0.2.0/api/v1/data/devices
```

The following example returns a list of all devices that are managed by a specific resource manager.
```
GET https://192.0.2.0/api/v1/data/devices
?filterEquals[][attributes]=lxcaUUID&filterEquals[][values]=AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
```

The following example returns a list of all managed IBM servers and includes the manufacturer in the response.
```
GET https://192.0.2.0/api/v1/data/devices
?filterContains[0][attributes]=typeKey&filterContains[0][values]=server
?filterEquals[1][attributes]=manufacturer&filterEquals[1][values]=IBM
&includeAttributes=manufacturer
```

The following example returns a list of all managed servers.
```
GET https://192.0.2.0/api/v1/data/devices
?filterContains[0][attributes]=typeKey&filterContains[0][values]=server
```

The following example returns a list of all managed ThinkSystem servers.
```
GET https://192.0.2.0/api/v1/data/devices
?filterContains[0][attributes]=typeKey&filterContains[0][values]=server
&filterContains[1][attributes]=productName&filterContains[1][values]=ThinkSystem
```

The following example returns a list of all managed chassis.
```
GET https://192.0.2.0/api/v1/data/devices
?filterContains[][attributes]=typeKey&filterContains[][values]=chassis
```

The following example returns a list of all managed storage devices.
```
GET https://192.0.2.0/api/v1/data/devices
?filterContains[][attributes]=typeKey&filterContains[][values]=storage
```

The following example returns a list of all managed switches.

```
GET https://192.0.2.0/api/v1/data/devices
?filterContains[][attributes]=typeKey&filterContains[][values]=switch
```

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully. If a single query parameter is specified and the value of that parameter has no matches, the response body returns default values. If a list of query parameters is specified and the value of at least one parameter has no matches, the response body returns only what matches.
206	Partial Content	Partial content was returned for a multi-part response. The response header includes a content-range header field indicating the range that is included in the response body for each part.
400	Bad Request	A query parameter or request attribute is missing or not valid, or the operation is not supported. A descriptive error message is returned in the response body.
408	Request Timeout	The orchestrator server did not receive a required request in a specific amount of time. A descriptive error message is returned in the response body.

Response body

When the request is successful, the following attributes are returned. If the request fails, standard message attributes are returned (see Status messages).

Attributes		Type	Description
results		Array of objects	Information about each managed device
	id	String	Device ID **Tip:** The device ID includes the UUID of the device and the UUID of the resource manager that manages the device, separated by a dash (*deviceUUID–managerUUID*).
	deviceName	String	Name that is displayed in the user interface for this device
	ipv4Addresses	Array of strings	List of IPv4 addresses
	ipv6Addresses	Array of strings	List of IPV6 addresses
	lxcaUUID	String	Resource manager UUID
	overallHealthState	String	Highest severity of all alerts. This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**

Attributes	Type	Description
powerStatus	String	Power status. This can be one of the following values. • **Off** • **On** • **Standby** • **Unknown**
productName	String	Product name
techTipsCount	Integer	Number of tech tips that are associated with this device For information about each tech tip, use GET /api/v1/data/techTips.
_links	String	Device URI (see Links)
_metadata	Object	Request metadata (see Metadata)

The following example is returned if the request is successful.

```
{
    "results": [{
        "id": "00632D78DE644E23B712E200FE449787-7AF5D198CECF431AAEC674C7CA5A29B5",
        "deviceName": "Kong-SB",
        "ipv4Addresses": ["10.243.0.165"],
        "ipv6Addresses": ["fe80::e61f:13ff:fed9:367d"],
        "lxcaUUID": "7AF5D198CECF431AAEC674C7CA5A29B5",
        "name": "Kong-SB",
        "overallHealthState": "Normal",
        "powerStatus": "On",
        "productName": "System x3750 M4",
        "techTipsCount": 2,
        "_links": {
            "rel": "self",
            "uri": "/api/v1/data/devices/00632D78DE644E23B712E200FE449787-7AF5D198CECF431AAEC674C7CA5A29B5"
        }
    }],
    "_metadata": {…}
}
```

/api/v1/data/devices/*{id}*

Use this REST API to return information about a specific managed device.

HTTP methods

GET

GET /api/v1/data/devices/*{id}*

Use this method to return information about a specific managed device.

Authentication

Authentication with user name and password is required.

Resource URI

GET `https://{orchestrator_server_IP}/api/v1/data/devices/<id>`

where *{id}* is the UUID or ID of the device. To obtain the device UUID and IDs, use GET /api/v1/data/devices.

Query parameters

None

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully.
400	Bad Request	A query parameter or request attribute is missing or not valid, or the operation is not supported. A descriptive error message is returned in the response body.
404	Not found	A specified resource cannot be found. A descriptive error message is returned in the response body.
408	Request Timeout	The orchestrator server did not receive a required request in a specific amount of time. A descriptive error message is returned in the response body.

Response body

When the request is successful, the following attributes are returned. If the request fails, standard message attributes are returned (see Status messages).

Attributes	Type	Description
id	String	Device ID **Tip:** The device ID is made up of the UUID of the device and the UUID of the resource manager that manages the device, separated by a dash.
accessState	String	Access state of the device (translated). This can be one of the following values. • **Online** • **Offline** • **Offline Managed** • **Partial** • **Pending** • **Unknown**
accessStateKey	String	Access state of the server key. This can be one of the following values. • **Online** • **Offline** • **Offline Managed** • **Partial** • **Pending** • **Unknown**
accurateHealth	Boolean	Indicates whether the health status is accurate. This can be one of the following values. • **true**. The **accessState** is Offline Managed, Online, or partial. • **false**. The **acccessState** is Offline, Pending, or Unknown.
activationKeys	Array of objects	List of installed Feature On Demand (FoD) keys
description	String	FoD key description

Attributes	Type	Description
keyExpirationDate	String	Date when the FoD key expires
keyFeatureType	Integer	FoD feature type
keyIdentiferList	Array of objects	FoD associative identifier list
keyIdentifier	String	Identifier key value
keyIdentifierType	String	Identifier key type. This can be one of the following values. • **ASIC**. • **MAC**. MAC address • **MT**. Machine type • **UNKNOWN**
keyStatus	String	Status of the FoD key. This can be one of the following values. • **UNKNOWN** • **OTHER** • **VALID** • **INVALID** • **INPROCESS** • **EXPIRED** • **LIMIT_REACHED** • **NEED_VALID_ELSEWHERE** • **KEY_NOT_FOUND**
keyUseCount	Integer	Key usage count
keyUseLimit	Integer	Key usage limit
uuid	String	Unique identifier for the FoD key
addinCards	Array of objects	Information about add-in cards **Note:** Multiple instances of the same adapter card with different data (such as the pciFunctionNumber) might be returned in this response. In the UI, only one instance of each adapter card (only the first function number) is listed.
class	String	
firmware	Array of objects	Information about add-in card firmware
build	String	Firmware build
classifications	Array of integers	Firmware type codes
date	String	Firmware date
name	String	Firmware name
revision	String	Firmware revision
role	String	Firmware role. This can be one of the following values. • **Primary** • **Backup** • **Temporary** • **Permanent**
softwareID		Firmware ID

Attributes			Type	Description
		status	String	Firmware status. This can be one of the following values. • **Active** • **Inactive** • **Pending**
		type	String	Firmware type, such as UEFI, MP, or DSA
		version	String	Firmware version
	fodUniqueID		String	FoD unique ID
	FRU		String	Add-in card FRU part number
	fruSerialNumber		String	
	isAddOnCard		Boolean	Identifies whether the device is an add-in card. This can be one of the following values. • **true**. The device is an add-on card • **false**. The device is not an add-on card
	isAgentless		Boolean	Identifies whether the device is agentless. This can be one of the following values. • **true**. The device is agentless. • **false**. The device is not agentless. **Note:** If **isAgentless** is false, some inventory values might be empty.
	isPLDMUpdateSupported		Boolean	Identifies whether the Platform Level Data Model updates are supported. This can be one of the following values. • **true**. PLDM update is supported. • **false**. PLDM update is not supported.
	manufacturer		String	Add-in card manufacturer
	name		String	Add-in card description
	partNumber		String	Add-in card part number
	pciBusNumber		String	PCI bus number
	pciDeviceNumber		String	PCI device number
	pciFunctionNumber		String	PCI function number
	pciRevision		String	PCI revision number
	pciSubID		String	PCI subsystem ID
	pciSubVendorID		String	PCI sub-vendor ID
	portInfo		Object	Information about the port
	physicalPorts		Array of objects	Information about the physical port
		portType	String	Physical port type. This can be one of the following values. • **ATM** • **ETHERNET** • **FC** • **FDDI** • **FRAMERELAY** • **IB** • **OTHER** • **TOKENRING** • **UNKNOWN**

Attributes				Type	Description
			portNumber	Integer	Number of the physical port
		logicalPorts		Array of objects	List of associated logical ports
			logicalPortIndex	Integer	Number of logical ports
			portType	String	Logical port type. This can be one of the following values. • **ATM** • **BLUETOOTH** • **ETHERNET** • **FC** • **FDDI** • **FRAMERELAY** • **IB** • **INFRARED** • **OTHER** • **TOKENRING** • **UNKNOWN** • **WIRELESSLAN**
			portNumber	Integer	Number of the logical port
			addresses	Array of Strings	Assigned addresses
			vnicMode	Boolean	Identifies whether this is a vNIC port. This can be one of the following values. • **true**. This is a vNIC port. • **false**. This is not a vNIC port.
		peerBay		Integer	Peer I/O Module bay
		physicalPortIndex		Integer	Number of physical ports
	posID			String	Device ID
	productName			String	Product name
	slotName			String	Name for add-in card slot
	slotNumber			String	Number for add-in card slot
	slotSupportsHotPlug			Boolean	Indicates whether the add-in card supports hot plug. This can be one of the following values. • **true**. Hot plug is supported. • **false**. Hot plug is not supported.
	uuid			String	
	vpdID			String	VPD ID
addinCardSlots				Integer	Slot number for the add-in card
arch				String	Architecture. This can be one of the following values. • **ia64** • **ppc** • **ppc64** • **x86** • **x86_64** • **Unknown**

Attributes	Type	Description
bladeState	Integer	State of the server. This can be one of the following values. • **0**. Initializing • **1**. Active • **2**. Discovering • **3**. Provisioning • **4**. Provision passed • **5**. Provision failed • **6**. Provisioning failed with isolate • **7**. Pre initialization • **8**. SDR load • **9**. POST initialization • **10**. Communications error • **11**. Init failed • **12**. Kernel mode • **13**. Maintenance mode • **14**. Fire hose dump mode • **15**. Flashing • **16**. No power • **17**. Unknown
configCompliance	Array of objects	Information about the server-configuration compliance
addressPresent	Boolean	Identifies whether address pools are used. This can be one of the following values. • **true**. Address pools are used. • **false**. Address pools are not used.
complianceStatus	String	Compliance status. This can be one of the following values. • **valid**. Server settings are compliant with the profile • **invalid**. Server settings are Non-compliant with the profile • **none**. Compliance has not been calculated because pattern is still activated, pending or inactive
managementPatternPresent	Boolean	Identifies whether a management-interface pattern is used. This can be one of the following values. • **true**. A management-interface pattern is used. • **false**. A management-interface pattern is not used.
profileName	String	Name of the server profile
profileStatus	String	Current status of the profile. This can be one of the following values. • **ASSIGNED**. The profile is assigned to the server. • **UNASSIGNED**. The profile in not assigned to any server. • **PENDING_ACTIVATION**. The profile is created and targeted to a server but has not been activated yet. • **ACTIVATING**. The profile is currently being activated on the targeted server • **ERROR_ACTIVATING**. There was an error while activating the profile on the targeted server.
templateId	String	ID of the server pattern that was used to create the profile
type	String	Internal use only
contact	String	Contact
dataHandle	Long	Time stamp of the last status update
description	String	Description that was provided by the CMM

Attributes			Type	Description
deviceInfo			Object	Information about the device
	domainName		String	Domain name
	entitleSerialNumber		String	Entitled serial number
	groupNames		Array of strings	List of IDs for groups that include this device
	healthStatus		String	Highest severity of all alerts (translated). This can be one of the following values. • **Healthy** • **Warning** • **Critical**
	hostname		String	Hostname
	ipv4Addresses		Array of strings	List of IPv4 addresses
	ipv6Addresses		Array of strings	List of IPV6 addresses
	location		Object	Information about the location of the server or Flex System storage device
		location	String	Location
		lowestRackUnit	Integer	Lowest rack unit
		rack	String	Rack
		room	String	Room
	machineType		String	Machine type
	manager		Object	Information about the resource manager that manages this device
		domainName	String	Fully qualified domain name
		hostname	String	Host name
		inContextHref	String	In contenxt URI
		ipv4Addresses	Array of strings	IPv4 addresses
		ipv6Addresses	Array of strings	IPv6 addresses
	model		String	Device model
	powerStatus		String	Power status (translated). This can be one of the following values. • **Off** • **On** • **Standby** • **Unknown**
	powerStatusKey		String	Power status key. This can be one of the following values. • **Off** • **On** • **Standby** • **Unknown**

Attributes	Type	Description
productName	String	Product name
serialNumber	String	Device serial number
userDefinedName	String	User-defined name for the device
uuid	String	Device UUID
deviceName	String	Device name
deviceType	String	Device type. This can be one of the following values. • **ITE**. Flex System server • **DenseChassis**. • **Edge Server**. ThinkSystem SE server • **NeXtScale**. NeXtScale server • **Rack-Tower Server**. Converged, System x, ThinkAgile or ThinkSystem SD, SR, or ST server
discoveryTimestamp	String	Timestamp when the device was discovered This timestamp is specified using ISO-8601 format (for example, 2019-05-02T19:28:14.000Z). For information about ISO-8601 format, see the W3C Date and Time Formats webpage.
domainName	String	Domain name
driveBays	Integer	Number of drive bays
drives	Array of objects	Drive details
bay	Integer	Drive bay
blockSize	Integer	Block size
capacity	Long	Drive capacity
description	String	Description
diskState	String	Disk-drive state
firmware	Array of objects	Information about add-in card firmware
build	String	Firmware build
classifications	Array of integers	Firmware type codes
date	String	Firmware date
name	String	Firmware name
revision	String	Firmware revision
role	String	Firmware role. This can be one of the following values. • **Primary** • **Backup** • **Temporary** • **Permanent**
softwareID		Firmware ID

Attributes		Type	Description
	status	String	Firmware status. This can be one of the following values. • **Active** • **Inactive** • **Pending**
	type	String	Firmware type, such as UEFI, MP, or DSA
	version	String	Firmware version
FRU		String	FRU
healthState		String	Health state (translated) that corresponds to the highest event severity of all disk drives in the device. This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**
healthStateKey		String	Health state key that corresponds to the highest event severity of all disk drives in the device. This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**
interfaceType		String	(ThinkServer servers only) Drive interface type
largestAvailableSize		Integer	
m2Location		String	(M.2 drives only) Location of M.2 drive and bay
manufacturer		String	Manufacturer
mediaType		String	Media type
model		String	Model
name		String	Drive name
numberOfBlocks		Integer	Number of blocks
partNumber		String	Part number
remainingLife		Integer	Indicate the amount of life that remains for a solid-state drive (SSD). This can be one of the following values. • **0 - 100**. The percent of remaining life • **-1**. Unknown (default) • **-2**. Information is not available • **-3**. The drive is not an SSD
serialNumber		String	Serial number
temperature		String	Device temperature

Attributes	Type	Description
uuid	String	Storage device UUID
encapsulation	Object	Information about encapsulation
encapsulationMode	String	Encapsulation (firewall settings) mode. This can be one of the following values. • **NOT_SUPPORTED**. Encapsulation is not supported for this device. • **NORMAL**. Encapsulation is disabled for this device.The global encapsulation setting is disabled by default. When disabled, the device encapsulation mode is set to "normal" and the firewall rules are not changed as part of the management process. • **ENCAPSULATION_LIGHT**. Encapsulation is enabled for this device.When the global encapsulation setting is enabled and the device supports encapsulation, XClarity Administrator communicates with the device during the management process to change the device encapsulation mode to "encapsulationLite" and to change the firewall rules on the device to limit incoming requests to those only from XClarity Administrator.
expansionCards	Array of objects	Information about expansion cards
fodUniqueID	String	Feature on demand (FoD) unique ID
isAddOnCard	Boolean	Identifies whether the device is an add-on card. This can be one of the following values. • **true**. The device is an add-on card • **false**. The device is not an add-on card
isAgentless	Boolean	Identifies whether the device is agentless. This can be one of the following values. • **true**. The device is agentless. • **false**. The device is not agentless.
name	String	Description
pciBusNumber	String	PCI bus number
pciDeviceNumber	String	PCI device number
pciFunctionNumber	String	PCI function number
pciSubID	String	PCI subsystem ID
pciSubVendorID	String	PCI sub-vendor ID
portInfo	Object	Information about the ports
physicalPorts	Array of objects	Information about the physical ports
logicalPorts	Array of objects	List of associated logical ports
addresses	Array of Strings	Assigned addresses
logicalPortIndex	Integer	Number of logical ports
portNumber	Integer	Number of the logical port

Attributes				Type	Description
			portType	String	Logical port type. This can be one of the following values. • **ATM** • **BLUETOOTH** • **ETHERNET** • **FC** • **FDDI** • **FRAMERELAY** • **IB** • **INFRARED** • **OTHER** • **TOKENRING** • **UNKNOWN** • **WIRELESSLAN**
			vnicMode	Boolean	Identifies whether this is a vNIC port. This can be one of the following values. • **true**. This is a vNIC port. • **false**. This is not a vNIC port.
		physicalPortIndex		Integer	Number of physical ports
		portType		String	Pysical port type. This can be one of the following values. • **ATM** • **ETHERNET** • **FC** • **FDDI** • **FRAMERELAY** • **IB** • **OTHER** • **TOKENRING** • **UNKNOWN**
		portNumber		Integer	Number of the physical port
		peerBay		Integer	Peer I/O Module bay
	posID			String	Device ID
	vpdID			String	VPD ID
expansionCardSlots				Integer	Expansion card slots
expansionProducts				Array of strings	(Servers with blade expanders installed only) List of expansion hardware. This can be one or more of the following values. • **expansionProducts** • **expansionCards** • **addinCards** • **pciExpressCards**
expansionProductType				String	Expansion product type. This can be one of the following values. • **SEN**. StorageExpansionNode • **PEN**. PciExpansionNode • **Expansion card** • **Addin Card** • **PCI Express Card** • **Unknown**
fans				Array of objects	Information about each fan in the device
	description			String	Fan description

Attributes	Type	Description
healthState	String	Fan health state (translated). This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**
healthStateKey	String	Fan health state key. This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**
name	String	Fan name
slots	Integer	Fan slot
speed	Integer	Fan speed
status	String	Fan status
firmware	Array of objects	Information about each firmware
build	String	Firmware build
classifications	Array	Firmware type codes
date	String	Firmware date
name	String	Firmware name
role	String	Firmware role. This can be one of the following values. • **Primary** • **Backup** • **Temporary** • **Permanent**
status	String	Firmware status. This can be one of the following values. • **Active** • **Inactive** • **Pending**
type	String	Firmware type, such as UEFI, MP, or DSA
version	String	Firmware version
firmwareCompliance	Object	Information about the firmware compliance

Attributes	Type	Description
status	String	Compliance status. This can be one of the following values. • **compliant**. The device is compliant with their server profile. • **notCompliant**. The device is not compliant with their server profile. • **noPolicyAssigned**. The device is not assigned a server profile. • **unsupportedCompliance**. Configuration is not supported for the device.
flashStorage	Array of objects	Information about flash storage
defaultBlockSize	Long	Flash storage device block size
description	String	Flash storage description
serialNumber	String	Flash storage serial number
firmware	Array of objects	Flash storage firmware properties
build	String	Firmware build
classifications	Array of integers	Firmware type codes
date	String	Firmware date
name	String	Firmware name
role	String	Firmware role. This can be one of the following values. • **Primary** • **Backup** • **Temporary** • **Permanent**
softwareID	String	Firmware identifier
status	String	Firmware status. This can be one of the following values. • **Active** • **Inactive** • **Pending**
type	String	Firmware type, such as UEFI, MP, or DSA
version	String	Firmware version
manufacturer	String	Flash storage manufacturer
maxMediaSize	Long	Flash storage device media size
name	String	Flash storage description
partNumber	String	Flash storage part number
slotNumber	Integer	Flash storage slot number
uuid	String	Flash storage UUID
FQDN	String	Fully qualified domain name
groups	Array of objects	Information about each group in which this device is a member
id	String	Group ID

Attributes	Type	Description
name	String	Group name
type	String	Group type. This value is always "DeviceGroup."
uri	String	Group URI
hasOS	String	Identifies whether an operating system is installed. This can be one of the following values. • **true**. Operating system is installed. • **false**. Operating system is not installed.
height	Integer	(Rack Server only) Height of the server
hostname	String	Hostname
ipInterfaces	Array of objects	Information about each IP interface
IPv4assignments	Array of objects	Information about each IPv4 assignment
address	String	IPv4 address
gateway	String	IPv4 gateway
id	Integer	IPv4 assignment ID
subnet	String	IPv4 subnet mask
type	String	Type of the IPv4 assignment. This can be one of the following values. • **INUSE** • **CONFIGURED** • **ALIAS** • **UNKNOWN**
IPv4DHCPmode	String	IP address assignment method. This can be one of the following values. • **STATIC_ONLY** • **DHCP_ONLY** • **DHCP_THEN_STATIC** • **UNKNOWN**
IPv4enabled	Boolean	Identifies whether IPv4 is enabled. This can be one of the following values. • **true**. IPv4 is enabled. • **false**. IPv4 is disabled.
IPv6assignments	Array of objects	Information about each IPv6 assignment
address	String	IPv6 address
gateway	String	IPv6 gateway
id	Integer	IPv6 assignment ID
prefix	Integer	IPv6 prefix
scope	String	Scope of the IPv6 assignment. This can be one of the following values. • **Global** • **LinkLocal** • **Unknown**

Attributes		Type	Description
	source	String	Source of the IPv6 assignment. This can be one of the following values. • **DHCP** • **Statelesss** • **Static** • **Other** • **Unknown**
	type	String	Type of the IPv6 assignment. This can be one of the following values. • **INUSE** • **CONFIGURED** • **ALIAS** • **UNKNOWN**
IPv6DHCPenabled		Boolean	Identifies whether IPv6 DHCP is enabled. This can be one of the following values. • **true**. IPv6 DHCP is enabled. • **false**. IPv6 DHCP is disabled.
IPv6enabled		Boolean	Identifies whether IPv6 is enabled. This can be one of the following values. • **true**. IPv6 is enabled • **false**. IPv6 is disabled
IPv6statelessEnabled		Boolean	Identifies whether IPv6 stateless is enabled. This can be one of the following values. • **true**. IPv6 stateless is enabled. • **false**. IPv6 stateless is disabled.
IPv6staticEnabled		Boolean	Identifies whether IPv6 static is enabled. This can be one of the following values. • **true**. IPv6 static is enabled. • **false**. IPv6 static is disabled.
label		String	Label
name		String	Name
ipv4Addresses		Array of strings	List of IPv4 addresses
ipv6Addresses		Array of strings	List of IPV6 addresses
isEmbedded		Boolean	
isITME		Boolean	Indicates whether the server is a Flex System compute node. This can be one of the following values. • **true**. The node is a compute node. • **false**. The node is not a compute node.
isRemotePresenceEnabled		Boolean	Indicates whether remote presence is enabled. This can be one of the following values. • **true**. Remote presence is enabled • **false**. Remote presence is disabled
isScalable		Boolean	This can be one of the following values. • **true** • **false**
lanOverUsb		String	Identifies whether LAN over USB is enabled. This can be one of the following values. • **enabled**. LAN over USB is enabled. • **disabled**. LAN over USB is disabled.

Attributes		Type	Description
leds		Array of objects	Information about server LEDs
	color	String	LED color. This can be one of the following values. • **Red** • **Amber** • **Yellow** • **Green** • **Blue** • **Unknown**
	location	String	LED location. This can be one of the following values. • **Front panel** • **Lightpath Card** • **Planar** • **FRU** • **Rear Panel** • **Unknown**
	name	String	LED name.
	state	String	LED state. This can be one of the following values. • **Off** • **On** • **Blinking** • **Unknown**
location		Object	Information about the location of the server or Flex System storage device
	location	String	Location
	lowestRackUnit	Integer	Lowest rack unit
	rack	String	Rack
	room	String	Room
lxcaOverallHealthState		String	Resource manager health state. This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**
lxcaUUID		String	Resource manager UUID
machineType		String	Server machine type
manager		Object	Information about the resource manager that manages this device
	domainName	String	Fully qualified domain name
	hostname	String	Host name
	inContextHref	String	In context URI
	ipv4Addresses	Array of strings	IPv4 addresses

Attributes	Type	Description
ipv6Addresses	Array of strings	IPv6 addresses
manufacturer	String	Manufacturer
manufacturerID	String	Manufacturer ID
memoryModules	Array of objects	Information about memory modules
capacity	Long	Capacity
displayName	String	Display name
manufacturer	String	Manufacturer
model	String	Model
partNumber	String	Part number
serialNumber	String	Serial number
slot	Integer	Slot
speed	Long	Number of data-transfer operations that occur in each second, in MT/s (megatransfers per second)
speedMBs	Long	Amount of data that is transferred in each second, in MB/s (megabytes per second)
type	String	Type
mgmtProcIPaddress	String	IP address used by XClarity Orchestrator to manage this resource
mgmtProcType	String	Type of management controller. This can be one of the following values. • **FSP** • **IMM2** • **IMM3v1** • **UNKNOWN**
model	String	Server model
mtm	String	Machine type and model, separate by a forward slash (for example, 8387/AC1)
name	String	Name that is displayed in the user interface for this device
overallHealthState	String	Highest severity of all devices (translated). This can be one of the following values. • **Healthy** • **Warning** • **Critical**
overallHealthStateKey	String	Highest severity key. This can be one of the following values. • **Healthy** • **Warning** • **Critical**
parent	Object	Information about the parent of the server or Flex System storage device, if applicable
uri	String	Parent URI
uuid	String	Parent UUID

Attributes			Type	Description
partNumber			String	Part number
pciDevices			Array of objects	Information about PCI devices
	class		String	Class (basic function) of the PCI device. This can be one of the following values. • **Bridge** • **Communication** controller • **Coprocessor** • **Display** controller • **Docking** station • **Encryption controller** • **Generic system peripheral** • **Input device controller** • **Intelligent controller** • **Mass storage controller** • **Memory controller** • **Multimedia controller** • **Network controller** • **Non-Essential Instrumentation** • **Processing accelerators** • **Processor** • **Satellite communications controller** • **Serial bus controller** • **Signal processing controller** • **Unassigned class** • **Unclassified device** • **Unknown device** • **Wireless controller**
	firmware		Array of objects	Flash storage firmware properties
		build	String	Firmware build
		classifications	Array of integers	Firmware type codes
		date	String	Firmware date
		name	String	Firmware name
		revision	String	Firmware revision
		role	String	Firmware role. This can be one of the following values. • **Primary** • **Backup** • **Temporary** • **Permanent**
		softwareID	String	Firmware ID
		status	String	Firmware status. This can be one of the following values. • **Active** • **Inactive** • **Pending**
		type	String	Firmware type, such as UEFI, MP, or DSA
		version	String	Firmware version
	fodUniqueID		String	FoD unique ID

Attributes				Type	Description
isAddOnCard				Boolean	Identifies whether the device is an add-on card. This can be one of the following values. • **true**. The device is an add-on card • **false**. The device is not an add-on card
isAgentless				Boolean	Identifies whether the device is agentless. This can be one of the following values. • **true**. The device is agentless. • **false**. The device is not agentless.
isPLDMUpdateSupported				Boolean	Identifies whether the Platform Level Data Model updates are supported. This can be one of the following values. • **true**. PLDM update is supported. • **false**. PLDM update is not supported.
name				String	Description
pciBusNumber				String	PCI bus number
pciDeviceNumber				String	PCI device number
pciFunctionNumber				String	PCI function number
pciRevision				String	PCI revision
pciSubID				String	PCI subsystem ID
pciSubVendorID				String	PCI sub-vendor ID
portInfo				Object	Information about the ports
	physicalPorts			Array of objects	Information about the physical ports
		logicalPorts		Array of objects	List of associated logical ports
			addresses	Array of Strings	Assigned addresses
			logicalPortIndex	Integer	Number of logical ports
			portNumber	Integer	Number of the logical port
			portType	String	Logical port type. This can be one of the following values. • **ATM** • **BLUETOOTH** • **ETHERNET** • **FC** • **FDDI** • **FRAMERELAY** • **IB** • **INFRARED** • **OTHER** • **TOKENRING** • **UNKNOWN** • **WIRELESSLAN**
			vnicMode	Boolean	Identifies whether this is a vNIC port. This can be one of the following values. • **true**. This is a vNIC port. • **false**. This is not a vNIC port.
		peerBay		Integer	Peer Flex switch bay

Attributes				Type	Description
			physicalPortIndex	Integer	Number of physical ports
			portNumber	Integer	Number of the physical port
			portType	String	Physical port type. This can be one of the following values. • **ATM** • **ETHERNET** • **FC** • **FDDI** • **FRAMERELAY** • **IB** • **OTHER** • **TOKENRING** • **UNKNOWN**
			speed	Long	Link speed, in Gbps (for example, 2.5)
			status	String	Link status. This can be one of the following values. • **up** • **down** • **unknown**
ports				Array of objects	Port information
	ioModuleBay			Integer	Attached IO module bay number
	portNumber			Integer	Port number
posID				String	Device ID
powerAllocation				Object	Information about power allocation.
	maximumAllocatedPower			Long	Maximum power allocated to the server
	minimumAllocatedPower			Long	Minimum power allocated to the server
powerCappingPolicy				Object	(Rack Server only)
	cappingACorDCMode			String	Capping AC or DC mode. This can be one of the following values. • **AC** • **DC** • **Unknown**
	cappingPolicy			String	Capping policy. This can be one of the following values. • **OFF** • **STATIC** • **UNKNOWN**
	currentPowerCap			Long	Current power cap
	maxPowerCap			Long	Maximum power capping level
	maximumPowerCappingHotPlugLevel			Long	Maximum power capping hot plug level
	minimumHardCapLevel			Long	Minimum hard capping level
	minimumPowerCappingHotPlugLevel			Long	Minimum power capping hot plug level
	minPowerCap			Long	Minimum power capping level
	powerCappingAllocUnit			String	Power capping allocation unit

Attributes			Type	Description
powerStatus			String	Power status (translated). This can be one of the following values. • **Off** • **On** • **Standby** • **Unknown**
powerStatusKey			String	Power status key. This can be one of the following values. • **Off** • **On** • **Standby** • **Unknown**
powerSupplies			Array of objects	(Rack servers only) Information about power supplies
	cmmDisplayName		String	Assigned component name
	cmmHealthState		String	Health state (translated). This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**
	dataHandle		Long	Time stamp of the last status update
	description		String	Assigned component description
	excludedHealthState			
	firmware		Array of objects	Information about firmware
		build	String	Firmware build
		classifications	Array of integers	Firmware type codes
		date	String	Firmware date
		name	String	Firmware name
		revision	String	Firmware revision
		role	String	Firmware role. This can be one of the following values. • **Primary** • **Backup** • **Temporary** • **Permanent**
		softwareID	String	Firmware ID
		status	String	Firmware status. This can be one of the following values. • **Active** • **Inactive** • **Pending**
		type	String	Firmware type, such as UEFI, MP, or DSA.
		version	String	Firmware version

Attributes	Type	Description
FRU	String	FRU part number
fruSerialNumber	String	FRU serial number
hardwareRevision	String	Hardware revision
healthState	String	Health state (translated). This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**
healthStateKey	String	Health state key. This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**
inputVoltageIsAC	Boolean	Identifies whether the input voltage is ac or dc. This can be one of the following values. The value is valid only if **inputVoltageMin** and **inputVoltageMax** are valid. • **true**. ac • **false**. dc
inputVoltageMax	Integer	Maximum input voltage. A value of -1 mean it has not been set yet.
inputVoltageMin	Integer	Minimum input voltage. A value of -1 means it has not been set yet.
leds	Array of objects	Information about power-supply LEDs.
color	String	LED color. This can be one of the following values. • **Red** • **Amber** • **Yellow** • **Green** • **Blue** • **Unknown**
location	String	LED location. This can be one of the following values. • **Front panel** • **Lightpath Card** • **Planar** • **FRU** • **Rear Panel** • **Unknown**
name	String	LED name

Attributes	Type	Description
state	String	LED state. This can be one of the following values. • **Off** • **On** • **Blinking** • **Unknown**
machineType	String	Machine type
manufactureDate	String	Manufacture date
manufacturer	String	Manufacturer name
manufacturerId	String	Manufacturer ID
model	String	Power-supply model
name	String	User-defined name, if available. Otherwise, this is one of the following values. • component name • serial number • UUID
overallHealthState		Highest severity of all power supplies(translated). This can be one of the following values. • **Healthy** • **Warning** • **Critical**
overallHealthStateKey		Highest severity key. This can be one of the following values. • **Healthy** • **Warning** • **Critical**
parent	Object	Information about the parent device, if applicable
uri	String	Parent URI
uuid	String	Parent UUID
partNumber	String	Part number
posID	String	Position ID
powerAllocation	Object	Information about the power allocation
totalInputPower	Long	Total input power
totalOutputPower	Long	Total output power
powerState	String	Current power state of the power supply. This can be one of the following values. • **Off** • **On** • **ShuttingDown** • **Standby** • **Hibernate** • **Unknown**
productId	String	Product ID
productName	String	Product name
serialNumber	String	Serial number
slots	Array	Power-supply primary slot

Attributes	Type	Description
type	String	Resource type. This value is always "PowerSupply."
uri	String	URI
userDescription	String	User description
uuid	String	UUID
vpdID	String	VPD ID
primary	Boolean	
processors	Array of objects	Information about processors
cores	Integer	Number of cores
displayName	String	Display name
family	String	Family
manufacturer	String	Manufacturer
maxSpeedMHZ	Integer	Maximum processor speed
productVersion	String	Product version
slot	Integer	Slot
socket	String	Socket information. For servers, this is the socket number (for example, "Socket 1"). For scalable complexes, this is the node and socket number (for example, "Node 1 Socket 1").
speed	Double (float)	Speed
processorSlots	Integer	Number of processor slots
productId	String	
productName	String	Product name
raidSettings	Array	Information about RAID devices
batteryData	Array	
description	String	RAID devices description
diskDrives	Array of objects	Information about disk drives
bay	Integer	Bay or slot number
blockSize	Long	Block size
capacity	Integer	(M.2 drives only) Storage capacity, in KB
description	String	Description
diskState	String	Disk-drive state
firmware	Array of objects	(M.2 and NVM3 drives only) Information about firmware
build	String	Firmware build.
classifications	Array of integers	Firmware type codes

Attributes			Type	Description
		date	String	Firmware date.
		name	String	Firmware name.
		revision	String	Firmware revision
		role	String	Firmware role. This can be one of the following values. • **Primary** • **Backup** • **Temporary** • **Permanent**
		softwareID	String	Firmware ID
		status	String	Firmware status. This can be one of the following values. • **Active** • **Inactive** • **Pending**
		type	String	Firmware type, such as UEFI, MP, or DSA
		version	String	Firmware version.
	FRU		String	FRU
	healthState		String	Health state (translated). This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**
	healthStateKey		String	Health state key. This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**
	interfaceType		String	Interface type
	largestAvailableSize		Integer	Largest available size
	m2Location		String	(M.2 drives only) Location of M.2 drive and bay
	manufacturer		String	Manufacturer
	mediaType		String	Media type
	model		String	Model
	name		String	Drive name
	numberOfBlocks		Long	Number of blocks
	partNumber		String	Part number

Attributes			Type	Description
		remainingLife	Integer	Indicate the amount of life that remains for a solid-state drive (SSD). This can be one of the following values. • **0 - 100**. The percent of remaining life • **-1**. Unknown (default) • **-2**. Information is not available • **-3**. The drive is not an SSD
		serialNumber	String	Serial number
		temperature	Integer	Device temperature
		uuid	String	UUID
	firmware		Array of objects	Information about firmware
		build	String	Firmware build
		classifications	Array of integers	Firmware type codes
		date	String	Firmware date
		name	String	Firmware name
		revision		Firmware revision
		role	String	Firmware role. This can be one of the following values. • **Primary** • **Backup** • **Temporary** • **Permanent**
		softwareID		Firmware ID
		status	String	Firmware status. This can be one of the following values. • **Active** • **Inactive** • **Pending**
		type	String	Firmware type, such as UEFI, MP, or DSA
		version	String	Firmware version
	isAddOnCard		Boolean	Identifies whether the RAID adapter is an add-on card. This can be one of the following values. • **true**. The RAID adapter is an add-on adapter. • **false**. The RAID adapter is an on-board adapter.
	name		String	RAID devices name
	slotNumber		String	RAID adapter slot number If the RAID adapter is an on-board adapter, this value is null.
	storagePools		Array of objects	Information about each storage pool
		arrayUid	String	Storage array ID
		arrayStatus	String	Storage array status

Attributes				Type	Description
combinedRaidLevel				String	Combined RAID level. This can be one of the following values. • **0**. Striping • **1**. Mirroring • **5**. Distributed dual-parity • **6**. Striping with-parity • **10**. Disk mirroring and disk striping (1+0) • **50**. Distributed parity and disk striping (5+0) • **60**. Distributed dual-parity and disk striping (6+0) • **00**. **Note:** RAID level 0, 1, or 5 are supported on all serves. RAID level 6, 10, 50, 60, and 00 are supported only on ThinkSystem servers with XCC version 2.1 and later. (ThinkSystem SR950 requires XCC version 1.4 or later).
	diskDrives			Array of objects	Information about each disk drive in the storage pool
		bay		Integer	Bay
		blockSize		Integer	Block size
		capacity		Long	Storage capacity
		description		String	Drive description
		diskState		String	Drive state
		firmware		Array of objects	Information about disk-drive firmware
			build	String	Firmware build
			classifications	Array of integers	Firmware type codes
			date	String	Firmware date
			name	String	Firmware name
			revision	String	Firmware revision
			role	String	Firmware role. This can be one of the following values. • **Primary** • **Backup** • **Temporary** • **Permanent**
			softwareID	String	Firmware ID
			status	String	Firmware status. This can be one of the following values. • **Active** • **Inactive** • **Pending**
			type	String	Firmware type, such as UEFI, MP, or DSA
			version	String	Firmware version
		FRU		String	Drive FRU
		healthState		String	Drive health status
		interfaceType		String	Drive interface type
		largestAvailableSize		Integer	Largest available size

Attributes			Type	Description
		m2Location	String	M.2 location
		manufacturer	String	Drive manufacturer
		mediaType	String	Media type
		model	String	Drive model
		name	String	Drive name
		numberOfBlocks	Long	Number of blocks
		remainingLife	Integer	Indicate the amount of life that remains for a solid-state drive (SSD). This can be one of the following values. • **0 - 100**. The percent of remaining life • **-1**. Unknown (default) • **-2**. Information is not available • **-3**. The drive is not an SSD
		partNumber	String	Drive part number
		serialNumber	String	Drive serial number
		uuid	String	Drive UUID
	description		String	Storage description
	name		String	Storage name
	raidLevel		Integer	RAID level
	remainingSpace		Integer	Remaining space
	storageVolumes		Array of objects	Information about each storage volume
		accessPermission	String	
		blockSize	Integer	
		bootable	Boolean	
		description	String	
		driveIndex	Integer	
		health	String	
		isSDRAID	String	
		LUN	Integer	
		name	String	
		numberOfBlocks	Long	
		primaryPartition	Integer	
		removable	Boolean	
		stripeSize	Integer	
		targetType	String	
		volumeID	String	
		volumeStatus	String	

Attributes			Type	Description
		volumeType	String	
		volumeOwner	String	
		volumeUID	String	
	totalManagedSpace		Long	
	uuid		String	RAID device UUID
serialNumber			String	Server serial number
slots			Array of integers	List of occupied slots
subType			String	Sub-type
systemBoard			Object	Information about the system board
	machineType		String	Device machine type
	model		String	Device model
	productName		String	Product name
	serialNumber		String	Device serial number
	uuid		String	Device UUID
thinkServerFru			Array of Strings	
type			String	Resource type (translated). This can be one of the following values. • **chassis** • **server** • **storage** • **switch**
techTipsCount			Integer	Number of tech tips that are associated with this device For information about each tech tip, use GET /api/v1/data/ techTips.
typeKey			String	Resource type key. This can be one of the following values. • **chassis** • **server** • **storage** • **switch**
updates			Object	(XClarity Administrator only) Information about the update history for the resource manager
	identifier		String	Update ID
	components		Array of objects	Information about each update component
		componentID	String	Component ID
		mainComponentName	String	Main component name
		name	String	Component name
		targetVersion	Object	Information about the target update for the component based on the assigned policy If a policy is not assigned, this value is null.

Attributes				Type	Description
			identifier	String	Version ID
			number	String	Version number
			releaseTimestamp	String	Timestamp when the version was released This timestamp is specified using ISO-8601 format (for example, 2019-05-02T19:28:14.000Z). For information about ISO-8601 format, see the W3C Date and Time Formats webpage.
		upgradeable		Boolean	Indicates whether the component can be updated. This can be one of the following values. • **true**. The component can be updated. • **false**. The component cannot be updated.
		version		Object	Information about the update that is currently installed for the component
			identifier	String	Version ID
			number	String	Version number
			releaseTimestamp	String	Timestamp when the version was released This timestamp is specified using ISO-8601 format (for example, 2019-05-02T19:28:14.000Z). For information about ISO-8601 format, see the W3C Date and Time Formats webpage.
	policy			Object	Information about the update-compliance policy that is assigned to this device If a policy is not assigned, this value is null.
		id		String	Policy ID
		name		String	Policy name
	policyState			String	Policy state (translated). This can be one of the following values. • **No Policy Assigned** • **Policy Assigned**
	policyStateKey			String	Policy state key. This can be one of the following values. • **No Policy Assigned** • **Policy Assigned**
userDefinedName				String	User-defined name for the device
userDescription				String	User description
uuid				String	UUID
vnicMode				String	VNIC mode. This can be one of the following values. • **enabled** • **disabled**
vpdID				String	VPD ID
_links				Object	Device URI (see Links)

The following example is returned if the request is successful.

```
{
   "id": "00632D78DE644E23B712E200FE449787-7AF5D198CECF431AAEC674C7CA5A29B5",
   "accessState": "Online",
   "accessStateKey": "Online",
```

```
   "accurateHealth": true,
   "activationKeys": [],
   "addinCardSlots": 0,
   "arch": "x86_64",
   "bladeState": 0,
   "configCompliance": [{
      "addressPresent": null,
      "complianceStatus": null,
      "managementPatternPresent": null,
      "profileName": null
      "profileStatus": "UNASSIGNED",
      "templateId": null,
      "type": null,
   }],
   "contact": "",
   "dataHandle": null,
   "description": "chassis System x3750 M4",
   "deviceInfo": {
      "domainName": null,
      "entitleSerialNumber": null,
      "groupNames": [],
      "healthStatus": "Normal",
      "hostname": "Kong-SB",
      "ipv4Addresses": ["10.243.0.165"],
      "ipv6Addresses": ["fe80::e61f:13ff:fed9:367d"],
      "location": {
         "location": "",
         "lowestRackUnit": 0,
         "rack": "",
         "room": ""
      },
      "machineType": "8722",
      "manager": {
         "domainName": "",
         "hostname": null,
         "inContextHref": "/ui/index.html#/compDetails/Rack-Tower Server/00632D78DE644E23B712E200FE449787/"
         "ipv4Addresses": ["10.243.17.164"],
         "ipv6Addresses": ["fe80:0:0:0:215:5dff:fe0c:d167"],
      },
      "model": "xyz",
      "powerStatus": "On",
      "powerStatusKey": "On",
      "productName": "System x3750 M4",
      "serialNumber": "23D4789",
      "userDefinedName": "Kong-SB",
      "uuid": "00632D78DE644E23B712E200FE449787",
   },
   "deviceName": "Kong-SB",
   "deviceType": "Rack-Tower Server",
   "discoveryTimestamp": "2020-10-22T16:52:12.931Z",
   "domainName": "",
   "driveBays": 0,
   "drives": [],
   "encapsulation": {
      "encapsulationMode": "NOT_SUPPORTED"
   },
   "expansionCards": [],
   "expansionCardSlots": 0,
   "expansionProducts": [],
   "expansionProductType": "",
   "fans": [],
```

```
"firmware": [{
    "build": "",
    "classifications": [],
    "date": "",
    "name": "Integrated Management Module",
    "role": "",
    "status": "ACTIVE",
    "type": "IMM",
    "version": "1AOO77J-6.20"
},
...},
{
    "build": "",
    "classifications": [],
    "date": "",
    "name": "Preboot Dynamic System Analysis",
    "role": "",
    "status": "ACTIVE",
    "type": "Preboot DSA",
    "version": "DSYTE1V-9.65"
}],
"firmwareCompliance": {
    "status": "unsupportedCompliance"
},
"flashStorage": [],
"FQDN": "",
"groups": [],
"hasOS": false,
"height": 2,
"hostname": "Kong-SB",
"ipInterfaces": [],
"ipv4Addresses": ["10.243.0.165"],
"ipv6Addresses": ["fe80::e61f:13ff:fed9:367d"],
"isEmbedded": false,
"isITME": false,
"isRemotePresenceEnabled": true,
"isScalable": false,
"lanOverUsb": "disabled",
"lastSyncTimestamp": "2020-10-22T19:58:29.750Z",
"lastUpdateTimestamp": "2020-10-22T19:58:29.743Z",
"leds": [
    {
        "color": "Yellow",
        "conditions": "Warning",
        "location": "System Board",
        "name": "FAN 6",
        "state": "Off"
    },
    ...,
    {
        "color": "Yellow",
        "conditions": "Warning",
        "location": "Lightpath Card",
        "name": "CNFG",
        "state": "Off"
    }
],
"location": {
    "location": "",
    "lowestRackUnit": 0,
    "rack": "",
```

```
      "room": ""
   },
   "lxcaOverallHealthState": "Normal",
   "lxcaUUID": "7AF5D198CECF431AAEC674C7CA5A29B5",
   "machineType": "8722",
   "manager": {
      "domainName": "",
      "hostname": null,
      "inContextHref": "/ui/index.html#/compDetails/Rack-Tower Server/00632D78DE644E23B712E200FE449787/",
      "ipv4Addresses": ["10.243.17.164"],
      "ipv6Addresses": ["fe80:0:0:0:215:5dff:fe0c:d167"]
   },
   "manufacturer": " IBM",
   "manufacturerId": "",
   "memoryModules": [{
      "capacity": 8,
      "displayName": "DIMM 1",
      "manufacturer": "Hyundai Electronics",
      "model": "",
      "partNumber": "HMT31GR7CFR4C-PB   ",
      "serialNumber": "1a3fc37b",
      "speed": 12700,
      "slot": 1,
      "speedMBs": 0
      "type": "DDR3 SDRAM",
   },
   ...,
   {
      "capacity": 4,
      "displayName": "DIMM 48",
      "manufacturer": "Samsung",
      "model": "",
      "partNumber": "M393B5273DH0-YH9   ",
      "serialNumber": "839e8539",
      "speed": 10600,
      "speedMBs": 0
      "slot": 48,
      "type": "DDR3 SDRAM",
   }],
   "mgmtProcIPaddress": "10.243.0.165",
   "mgmtProcType": "UNKNOWN",
   "model": "xyz",
   "mtm": "8722/xyz",
   "name": "Kong-SB",
   "overallHealthState": "Normal",
   "overallHealthStateKey": "Normal",
   "parent": {
      "uri": "cabinet/null",
      "uuid": null
   },
   "partNumber": null,
   "pciDevices": [],
   "ports": [],
   "posID": "",
   "powerAllocation": {
      "maximumAllocatedPower": 0,
      "minimumAllocatedPower": 0
   },
   "powerCappingPolicy": {
      "cappingACorDCMode": "UNKNOWN",
      "cappingPolicy": "UNKNOWN",
```

```
        "currentPowerCap": 0,
        "maxPowerCap": -1,
        "maximumPowerCappingHotPlugLevel": -1,
        "minimumHardCapLevel": -1,
        "minPowerCap": -1,
        "minimumPowerCappingHotPlugLevel": -1,
        "powerCappingAllocUnit": "watts"
    },
    "powerStatus": "On",
    "powerStatusKey": "On",
    "powerSupplies": [{
        "cmmDisplayName": null,
        "cmmHealthState": null,
        "dataHandle": 0,
        "description": "Power Supply 2",
        "excludedHealthState": null,
        "FRU": null,
        "firmware": [],
        "fruSerialNumber": null,
        "hardwareRevision": null,
        "healthState": "Normal",
        "healthStateKey": "Normal",
        "inputVoltageIsAC": false,
        "inputVoltageMax": 0,
        "inputVoltageMin": 0,
        "leds": [{
            "color": "Amber",
            "location": "FRU",
            "name": "FAULT",
            "state": "Off"
        },
        ...,
        {
            "color": "Green",
            "location": "FRU",
            "name": "OUT",
            "state": "On"
        }],
        "machineType": null,
        "manufactureDate": "2010-11-01",
        "manufacturer": null,
        "manufacturerId": "DELT",
        "model": "39Y7237",
        "name": "Power Supply 2",
        "overallHealthState": "Normal",
        "overallHealthStateKey": "Normal",
        "parent": {
            "uri": null,
            "uuid": null
        },
        "partNumber": null,
        "posID": null,
        "powerAllocation": {
            "totalInputPower": 0,
            "totalOutputPower": 0
        },
        "powerState": null,
        "productId": null,
        "productName": null,
        "serialNumber": " K10511BE00F",
        "slots": [2],
```

```
        "type": "PowerSupply",
        "uri": "powerSupply/null",
        "userDescription": null,
        "uuid": null,
        "vpdID": null
        }],
    "primary": false,
    "processors": [{
        "cores": 8,
        "displayName": "",
        "family": "Intel(R) Xeon(R) processor",
        "manufacturer": "Intel(R) Corporation",
        "maxSpeedMHZ": 0,
        "productVersion": "Intel(R) Xeon(R) CPU E5-4620 0 @ 2.20GHz",
        "slot": 1,
        "socket": "",
        "speed": 2.2
    },
    ...,
    {
        "cores": 8,
        "displayName": "",
        "family": "Intel(R) Xeon(R) processor",
        "manufacturer": "Intel(R) Corporation",
        "maxSpeedMHZ": 0
        "productVersion": "Intel(R) Xeon(R) CPU E5-4620 0 @ 2.20GHz",
        "slot": 4,
        "socket": "",
        "speed": 2.2
    }],
    "processorSlots": 0,
    "productId": "",
    "productName": "System x3750 M4",
    "raidSettings": [],
    "serialNumber": "23D4789",
    "slots": [1],
    "systemBoard": {
        "machineType": "8722",
        "model": "xyz",
        "productName": "System x3750 M4",
        "serialNumber": "23D4789",
        "uuid": "00632D78DE644E23B712E200FE449787"
    },
    "subSlots": [],
    "thinkServerFru": [],
    "techTipsCount": 2,
    "type": "server",
    "typeKey": "server",
    "updates": {
        "identifier": "8722",
        "components": [{
            "componentID": "IMM",
            "mainComponentName": "Integrated Management Module",
            "name": "Integrated Management Module",
            "targetVersion": null,
            "upgradeable": true,
            "version": {
                "identifier": "",
                "number": "1AOO77J-6.20",
                "releaseDate": ""
            }
```

```
      },
      {
         "componentID": "UEFI",
         "mainComponentName": "Unified Extensible Firmware Interface",
         "name": "Unified Extensible Firmware Interface",
         "targetVersion": null,
         "upgradeable": true,
         "version": {
            "identifier": "",
            "number": "KOE153BUS-2.00",
            "releaseDate": ""
         }
      },
      {
         "componentID": "Preboot DSA",
         "mainComponentName": "Preboot Dynamic System Analysis",
         "name": "Preboot Dynamic System Analysis",
         "targetVersion": null,
         "upgradeable": true,
         "version": {
            "identifier": "",
            "number": "DSYTE1V-9.65",
            "releaseDate": ""
         }
      }],
      "policy": null,
      "policyState": "No Policy Assigned",
      "policyStateKey": "NoPolicyAssigned"
   },
   "userDefinedName": "Kong-SB",
   "userDescription": "",
   "uuid": "00632D78DE644E23B712E200FE449787",
   "vnicMode": "disabled",
   "vpdID": "",
   "_links": {
      "rel": "self",
      "uri": "/api/v1/data/devices/00632D78DE644E23B712E200FE449787-7AF5D198CECF431AAEC674C7CA5A29B5"
   }
}
```

/api/v1/data/devices/*{id}*/fans

Use this REST API to returnfan information for a specific device.

HTTP methods

GET

GET /api/v1/data/devices/*{id}*/fans

Use this method to return fan information for a specific device.

Authentication

Authentication with user name and password is required.

Resource URI

GET `https://`*{orchestrator_server_IP}*`/api/v1/data/devices/`*{id}*`/fans`

where *{id}* is the ID of the device. To obtain the device IDs, use GET /api/v1/data/devices.

Query parameters

None

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully.
404	Not found	A specified resource cannot be found. A descriptive error message is returned in the response body.

Response body

When the request is successful, the following attributes are returned. If the request fails, standard message attributes are returned (see Status messages).

Attributes		Type	Description
fans		Array of objects	Information about each fan in the device
	description	String	Fan description
	healthState	String	Fan health state (translated). This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**
	healthStateKey	String	Fan health state key. This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**
	name	String	Fan name
	slots	Integer	Fan slot
	speed	Integer	Fan speed
	status	String	Fan status
_links		Object	Device URI (see Links)

The following example is returned if the request is successful.

```
{
   "fans": [{
      "description": "Logical Device for fan / cooling device 1",
      "healthState": "Normal",
```

```
        "healthStateKey": "Normal",
        "name": "Fan 1",
        "slots": 1,
        "speed": 0,
        "status": "OK"
    },
    ...,
    {
        "description": "Logical Device for fan / cooling device 7",
        "healthState": "Normal",
        "healthStateKey": "Normal",
        "name": "Fan 7",
        "slots": 7,
        "speed": 0,
        "status": "OK"
    }],
    "_links": {
        "rel": "self",
        "uri": "/api/v1/data/devices/C7199530FEDE4FE09540DFC3D75FC56C/fans"
    }
}
```

/api/v1/data/devices/*{id}*/memoryModules

Use this REST API to returnmemory information about a specific device.

HTTP methods

GET

GET /api/v1/data/devices/*{id}*/memoryModules

Use this method to return memory-module information about a specific device.

Authentication

Authentication with user name and password is required.

Resource URI

GET https://*{orchestrator_server_IP}*/api/v1/data/devices/*{id}*/memoryModules

where *{id}* is the ID of the device. To obtain the device IDs, use GET /api/v1/data/devices.

Query parameters

None

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully.
404	Not found	A specified resource cannot be found. A descriptive error message is returned in the response body.

Response body

When the request is successful, the following attributes are returned. If the request fails, standard message attributes are returned (see Status messages).

Attributes	Type	Description
memoryModules	Array of objects	Information about each memory module in the device
capacity	Integer	Capacity
displayName	String	Display name
manufacturer	String	Manufacturer
model	String	Model
partNumber	String	Part number
serialNumber	String	Serial number
slot	Integer	Slot
speed	Integer	Number of data-transfer operations that occur in each second, in MT/s (megatransfers per second)
speedMBs	Integer	Amount of data that is transferred in each second, in MB/s (megabytes per second)
type	String	Type
_links	Object	Device URI (see Links)

The following example is returned if the request is successful.

```
{
    "memoryModules": [{
        "capacity": 2,
        "displayName": "DIMM 21",
        "manufacturer": "Micron Technology",
        "model": "DDR3",
        "partNumber": "9KSF25672PZ-1G4M1",
        "serialNumber": "377B770D",
        "slot": 21,
        "speed": 1333,
        "speedMBs": 0,
        "type": "DDR3"
    },
    ...,
    {
        "capacity": 2,
        "displayName": "DIMM 20",
        "manufacturer": "Micron Technology",
        "model": "DDR3",
        "partNumber": "9KSF25672PZ-1G4M1",
        "serialNumber": "377B7719",
        "slot": 20,
        "speed": 1333,
        "speedMBs": 0,
        "type": "DDR3"
    }],
    "_links": {
        "rel": "self",
        "uri": "/api/v1/data/devices/C7199530FEDE4FE09540DFC3D75FC56C/memoryModules"
```

```
        }
}
```

/api/v1/data/devices/*{id}*/pciDevices

Use this REST API to returnPCI-device information for a specific device.

HTTP methods

GET

GET /api/v1/data/devices/*{id}*/pciDevices

Use this method to return PCI-device information for a specific device.

Authentication

Authentication with user name and password is required.

Resource URI

GET `https://{orchestrator_server_IP}/api/v1/data/devices/{id}/pciDevices`

where *{id}* is the ID of the device. To obtain the device IDs, use GET /api/v1/data/devices.

Query parameters

None

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully.
404	Not found	A specified resource cannot be found. A descriptive error message is returned in the response body.

Response body

When the request is successful, the following attributes are returned. If the request fails, standard message attributes are returned (see Status messages).

Attributes			Type	Description
pciDevices			Array of objects	Information about each PCI device
	class		String	Class (basic function) of the PCI device. This can be one of the following values. • **Bridge** • **Communication** controller • **Coprocessor** • **Display** controller • **Docking** station • **Encryption controller** • **Generic system peripheral** • **Input device controller** • **Intelligent controller** • **Mass storage controller** • **Memory controller** • **Multimedia controller** • **Network controller** • **Non-Essential Instrumentation** • **Processing accelerators** • **Processor** • **Satellite communications controller** • **Serial bus controller** • **Signal processing controller** • **Unassigned class** • **Unclassified device** • **Unknown device** • **Wireless controller**
	firmware		Array of objects	Flash storage firmware properties
		build	String	Firmware build
		classifications	Array of integers	Firmware type codes
		date	String	Firmware date
		name	String	Firmware name
		revision	String	Firmware revision
		role	String	Firmware role. This can be one of the following values. • **Primary** • **Backup** • **Temporary** • **Permanent**
		softwareID	String	Firmware ID
		status	String	Firmware status. This can be one of the following values. • **Active** • **Inactive** • **Pending**
		type	String	Firmware type, such as UEFI, MP, or DSA
		version	String	Firmware version
	fodUniqueID		String	FoD unique ID

Attributes				Type	Description
isAddOnCard				Boolean	Identifies whether the device is an add-on card. This can be one of the following values. • **true**. The device is an add-on card • **false**. The device is not an add-on card
isAgentless				Boolean	Identifies whether the device is agentless. This can be one of the following values. • **true**. The device is agentless. • **false**. The device is not agentless.
isPLDMUpdateSupported				Boolean	Identifies whether the Platform Level Data Model updates are supported. This can be one of the following values. • **true**. PLDM update is supported. • **false**. PLDM update is not supported.
name				String	Description
pciBusNumber				String	PCI bus number
pciDeviceNumber				String	PCI device number
pciFunctionNumber				String	PCI function number
pciRevision				String	PCI revision
pciSubID				String	PCI subsystem ID
pciSubVendorID				String	PCI sub-vendor ID
portInfo				Object	Information about the ports
	physicalPorts			Array of objects	Information about the physical ports
		logicalPorts		Array of objects	List of associated logical ports
			addresses	String	Assigned addresses
			logicalPortIndex	Integer	Number of logical ports
			portNumber	Integer	Number of the logical port
			portType	String	Logical port type. This can be one of the following values. • **ATM** • **BLUETOOTH** • **ETHERNET** • **FC** • **FDDI** • **FRAMERELAY** • **IB** • **INFRARED** • **OTHER** • **TOKENRING** • **UNKNOWN** • **WIRELESSLAN**
			vnicMode	Boolean	Identifies whether this is a vNIC port. This can be one of the following values. • **true**. This is a vNIC port. • **false**. This is not a vNIC port.
		peerBay		Integer	Peer Flex switch bay

Attributes			Type	Description
		physicalPortIndex	Integer	Number of physical ports
		portNumber	Integer	Number of the physical port
		portType	String	Physical port type. This can be one of the following values. • **ATM** • **ETHERNET** • **FC** • **FDDI** • **FRAMERELAY** • **IB** • **OTHER** • **TOKENRING** • **UNKNOWN**
		speed	Long	Link speed, in Gbps (for example, 2.5)
		status	String	Link status. This can be one of the following values. • **up** • **down** • **unknown**
	posID		String	Device ID
	vpdID		String	VPD ID
_links			Object	Device URI (see Links)

The following example is returned if the request is successful.

```
{
    "pciDevices": [{
        "class": "Network controller",
        "firmware": [{
            "build": "0",
            "classifications": [32773],
            "date": "",
            "name": "Combined Option ROM Image",
            "revision": "0",
            "role": "Primary",
            "softwareID": "8086000A",
            "status": "Active",
            "type": "Boot ROM",
            "version": "1.1638.0"
        }],
        "fodUniqueID": "N/A",
        "isAddOnCard": true,
        "isAgentless": true,
        "isPLDMUpdateSupported": false
        "name": "Intel X710 2x10GbE SFP+ Adapter",
        "pciBusNumber": "91",
        "pciDeviceNumber": "0",
        "pciFunctionNumber": "1",
        "pciRevision": "1",
        "pciSubID": "0",
        "pciSubVendorID": "8086",
        "portInfo": {
            "physicalPorts": [{
                "logicalPorts": [{
                    "addresses": "6805CA7F5AE3",
                    "logicalPortIndex": 1,
                    "portNumber": 1,
```

```
                "portType": "ETHERNET",
                "vnicMode": false
            }],
            "peerBay": 0,
            "physicalPortIndex": 2,
            "portNumber": 74,
            "portType": "ETHERNET",
            "speed": 0,
            "status": ""
        }]
    },
    "posID": "1572",
    "vpdID": "8086"
  }],
  "_links": {
    "rel": "self",
    "uri": "/api/v1/data/devices/C7199530FEDE4FE09540DFC3D75FC56C/pciDevices"
  }
}
```

/api/v1/data/devices/*{id}*/processors

Use this REST API to returnprocessor information for a specific device.

HTTP methods

GET

GET /api/v1/data/devices/*{id}*/processors

Use this method to return processor information for a specific device.

Authentication

Authentication with user name and password is required.

Resource URI

GET https://*{orchestrator_server_IP}*/api/v1/data/devices/*{id}*/processors

where *{id}* is the ID of the device. To obtain the device IDs, use GET /api/v1/data/devices.

Query parameters

None

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully.
404	Not found	A specified resource cannot be found. A descriptive error message is returned in the response body.

Response body

When the request is successful, the following attributes are returned. If the request fails, standard message attributes are returned (see Status messages).

Attributes	Type	Description
processors	Array of objects	Information about each processor in the device
cores	Integer	Number of cores
displayName	String	Display name
family	String	Family
manufacturer	String	Manufacturer
productVersion	String	Product version
slot	Integer	Slot
socket	String	Socket information For servers, this is the socket number (for example, "Socket 1"). For scalable complexes, this is the node and socket number (for example, "Node 1 Socket 1").
speed	String	Speed
_links	Object	Device URI (see Links)

The following example is returned if the request is successful.

```
{
    "processors": [{
        "cores": 6,
        "displayName": "Intel(R) Xeon(R) CPU E5-2630L 0 @ 2.00GHz",
        "family": "INTEL_R_XEON_TM",
        "manufacturer": "Intel(R) Corporation",
        "productVersion": "Intel(R) Xeon(R) CPU E5-2630L 0 @ 2.00GHz",
        "slot": 1,
        "socket": "",
        "speed": 2,
    },
    {
        "cores": 6,
        "displayName": "Intel(R) Xeon(R) CPU E5-2630L 0 @ 2.00GHz",
        "family": "INTEL_R_XEON_TM",
        "manufacturer": "Intel(R) Corporation",
        "productVersion": "Intel(R) Xeon(R) CPU E5-2630L 0 @ 2.00GHz",
        "slot": 2,
        "socket": "",
        "speed": 2,
    }],
    "_links": {
        "rel": "self",
        "uri": "/api/v1/data/devices/C7199530FEDE4FE09540DFC3D75FC56C/processors"
    }
}
```

/api/v1/data/devices/{id}/powerSupplies

Use this REST API to returnpower-supply information about a specific device.

HTTP methods

GET

GET /api/v1/data/devices/*{id}*/powerSupplies

Use this method to return power-supply information about a specific device.

Authentication

Authentication with user name and password is required.

Resource URI

GET `https://{orchestrator_server_IP}/api/v1/data/devices/{id}/powerSupplies`

where *{id}* is the ID of the device. To obtain the device IDs, use GET /api/v1/data/devices.

Query parameters

None

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully.
404	Not found	A specified resource cannot be found. A descriptive error message is returned in the response body.

Response body

When the request is successful, the following attributes are returned. If the request fails, standard message attributes are returned (see Status messages).

Attributes		Type	Description
powerSupplies		Array of objects	(Rack servers only) Information about power supplies
	cmmDisplayName	String	Assigned component name
	cmmHealthState	String	Health state (translated). This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**
	dataHandle	Long	Time stamp of the last status update
	description	String	Assigned component description
	excludedHealthState	String	

Attributes			Type	Description
firmware			Array of objects	Power-supply firmware details
	build		String	Firmware build
	classifications		String	Firmware type codes
	date		String	Firmware date
	name		String	Firmware name
	revision		String	Firmware revision
	role		String	Firmware role
	softwareID		String	Firmware ID
	status		String	Firmware status
	type		String	Firmware type
	version		String	Firmware version
FRU			String	FRU part number
fruSerialNumber			String	FRU serial number
hardwareRevision			String	Hardware revision
healthState			String	Health state (translated). This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**
healthStateKey			String	Health state key. This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**
inputVoltageIsAC			Boolean	Identifies whether the input voltage is AC or DC. This can be one of the following values. The value is valid only if **inputVoltageMin** and **inputVoltageMax** are valid. • **true**. AC • **false**. DC
inputVoltageMax			Long	Maximum input voltage. A value of **-1** mean it has not been set yet.
inputVoltageMin			Long	Minimum input voltage. A value of **-1** means it has not been set yet.
leds			Array of objects	Information about power-supply LEDs

Attributes			Type	Description
		color	String	LED color. This can be one of the following values. • **Red** • **Amber** • **Yellow** • **Green** • **Blue** • **Unknown**
		location	String	LED location. This can be one of the following values. • **Front panel** • **Lightpath Card** • **Planar** • **FRU** • **Rear Panel** • **Unknown**
		name	String	LED name
		state	String	LED state This can be one of the following values. • **Off** • **On** • **Blinking** • **Unknown**
	machineType		String	Machine type
	manufacturer		String	Manufacture name
	manufactureDate		String	Manufacture date
	manufacturerId		String	Manufacturer ID
	model		String	Power-supply model
	name		String	Name that is displayed in the user interface for this device
	overallHealthState		String	Highest severity of all power supplies(translated). This can be one of the following values. • **Healthy** • **Warning** • **Critical**
	overallHealthStateKey		String	Highest severity key. This can be one of the following values. • **Healthy** • **Warning** • **Critical**
	parent		Object	Information about the parent device
		uri	String	Parent URI
		uuid	String	Parent UUID
	posID		String	Position ID
	powerAllocation		Object	Information about power allocation
		totalInputPower	Long	Total input power
		totalOutputPower	Long	Total output power
	powerStatus		String	Power status (translated). This can be one of the following values. • **Off** • **On** • **Standby** • **Unknown**

Attributes		Type	Description
	powerStatusKey	String	Power status key. This can be one of the following values. • **Off** • **On** • **Standby** • **Unknown**
	productId	String	Product ID
	productName	String	Product name
	serialNumber	String	Serial number
	slots	Integer	Power-supply primary slot
	type	String	Resource type. This value is always "PowerSupplies."
	uri	String	Power supply URI
	userDescription	String	User description
	uuid	String	UUID
	vpdID	String	VPD ID
_links		Object	Device URI (see Links)

The following example is returned if the request is successful.
```
{
    "powerSupplies": [{
        "cmmDisplayName": "Power Supply 1",
        "cmmHealthState": "Unknown",
        "dataHandle": 0,
        "description": "",
        "excludedHealthState": "Normal",
        "firmware": [{
            "build": "0",
            "classifications": [10],
            "date": "",
            "name": "DETA Firmware",
            "revision": "0",
            "role": "Primary",
            "softwareID": "PSUDETA6500",
            "status": "Active",
            "type": "Firmware",
            "version": "3.50"
        }],
        "FRU": "",
        "fruSerialNumber": "",
        "hardwareRevision": "",
        "healthState": "Normal",
        "healthStateKey": "Normal",
        "inputVoltageIsAC": true,
        "inputVoltageMax": -1,
        "inputVoltageMin": -1,
        "leds": [],
        "machineType": "",
        "manufacturer": "DETA",
        "manufactureDate": "",
        "manufacturerId": "",
        "model": "",
        "name": "Power Supply 1",
```

```
        "overallHealthState": "Normal",
        "overallHealthStateKey": "Normal",
        "parent": {
            "uri": "chassis/",
            "uuid": ""
        },
        "partNumber": "SP50L09198",
        "posID": "",
        "powerAllocation": {
            "totalInputPower": 0,
            "totalOutputPower": 750
        },
        "powerState": "Unknown",
        "powerStatus": "Unknown",
        "powerStatusKey": "Unknown"
        "productId": "",
        "productName": "",
        "serialNumber": "D1DG6CG009B",
        "slots": [1],
        "type": "PowerSupply",
        "uri": "powerSupply/",
        "userDescription": "",
        "uuid": "",
        "vpdID": "",
    }],
    "_links": {
        "rel": "self",
        "uri": "/api/v1/data/devices/C7199530FEDE4FE09540DFC3D75FC56C/powerSupplies"
    }
}
```

/api/v1/data/devices/*{id}*/storage

Use this REST API to storage information for a specific device.

HTTP methods

GET

GET /api/v1/data/devices/*{id}*/storage

Use this method to return storage information for a specific device.

Authentication

Authentication with user name and password is required.

Resource URI

GET `https://{orchestrator_server_IP}/api/v1/data/devices/{id}/storage`

where *{id}* is the ID of the device. To obtain the device IDs, use GET /api/v1/data/devices.

Query parameters

None

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully.
404	Not found	A specified resource cannot be found. A descriptive error message is returned in the response body.

Response body

When the request is successful, the following attributes are returned. If the request fails, standard message attributes are returned (see Status messages).

Attributes	Type	Description
bay	String	Bay or slot number
blockSize	Integer	Block size
capacity	Integer	(M.2 drives only) Storage capacity, in KB
description	String	Description
diskState	String	Disk-drive state
FRU	String	FRU
healthState	String	Health summary that corresponds to the highest event severity of all disk drives in the device. This can be one of the following values. • **Normal** • **Non-Critical** • **Warning** • **Minor-Failure** • **Major-Failure** • **Non-Recoverable** • **Critical** • **Unknown**
interfaceType	String	Interface type
largestAvailableSize	Integer	
m2Location	String	(M.2 drives only) Location of M.2 drive and bay
manufacturer	String	Manufacturer
mediaType	String	Media type
model	String	Model
name	String	Drive name
numberOfBlocks	Integer	Number of blocks
partNumber	String	Part number
remainingLife	Integer	Indicate the amount of life that remains for a solid-state drive (SSD). This can be one of the following values. • **0 - 100**. The percent of remaining life • **-1**. Unknown (default) • **-2**. Information is not available • **-3**. The drive is not an SSD
serialNumber	String	Serial number

Attributes	Type	Description
temperature	Integer	Device temperature
uuid	String	Storage device UUID
_links	Object	Device URI (see Links)

The following example is returned if the request is successful.

```
[{
    "bay": 0,
    "blockSize": 512,
    "capacity": 900185481000,
    "description": "",
    "diskState": "JBOD",
    "FRU": "",
    "healthState": "Normal",
    "interfaceType": "SAS",
    "largestAvailableSize": 512,
    "m2Location": "",
    "manufacturer": "",
    "mediaType": "Rotational",
    "model": "",
    "name": "Disk 0_a",
    "partNumber": "",
    "remainingLife": 100,
    "numberOfBlocks": 1758174768,
    "serialNumber": "",
    "temperature": 29,
    "uuid": "",
    "_links": {
        "rel": "self",
        "uri": "/api/v1/data/devices/C7199530FEDE4FE09540DFC3D75FC56C/storage"
    }
}]
```

/api/v1/data/devices/{id}/systemBoard

Use this REST API to returnsystem-board information for a specific device.

HTTP methods

GET

GET /api/v1/data/devices/{id}/systemBoard

Use this method to return system-board information for a specific device.

Authentication

Authentication with user name and password is required.

Resource URI

GET https://{orchestrator_server_IP}/api/v1/data/devices/{id}/systemBoard

where {id} is the ID of the device. To obtain the device IDs, use GET /api/v1/data/devices.

Query parameters

None

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully.
404	Not found	A specified resource cannot be found. A descriptive error message is returned in the response body.

Response body

When the request is successful, the following attributes are returned. If the request fails, standard message attributes are returned (see Status messages).

Attributes	Type	Description
machineType	String	Device machine type
model	String	Device model
productName	String	Device product name
serialNumber	String	Device serial number
uuid	String	Device UUID
_links	Object	Device URI (see Links)

The following example is returned if the request is successful.

```
{
    "machineType": "8737",
    "model": "AC1",
    "productName": "Flex System x240 Compute Node with embedded 10Gb Virtual Fabric",
    "serialNumber": "00008X7162",
    "uuid": "8E9768E2A8143660A24E01542802FEE7",
    "_links": {
        "rel": "self",
        "uri": "/api/v1/data/devices/C7199530FEDE4FE09540DFC3D75FC56C/systemBoard"
    }
}
```

/api/v1/data/deviceStatus

Use this REST API to returnstatus information for a specific device.

HTTP methods

GET

GET /api/v1/data/deviceStatus?deviceID=*{id}*

Use this method to return status information for a specific device.

Authentication

Authentication with user name and password is required.

Resource URI

GET `https://{orchestrator_server_IP}/api/v1/data/deviceStatus?deviceID={id}`

Query parameters

Parameters	Re-quired / Optional	Description
deviceID=*{id}*	Required	Returns status for a device, specified by the ID To obtain the device IDs, use GET /api/v1/data/devices

The following example returns status information for a specific device.
GET `https://192.0.2.0/api/v1/data/deviceStatus?deviceID=`
`3015DE7E2B6011E881940A94EF5F5B65-C7199530FEDE4FE09540DFC3D75FC56C`

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully. If a query parameter is specified and the value of that parameter has no matches, the response body returns default values.
400	Bad Request	A query parameter or request attribute is missing or not valid, or the operation is not supported. A descriptive error message is returned in the response body.
404	Not found	A specified resource cannot be found. A descriptive error message is returned in the response body.

Response body

When the request is successful, the following attributes are returned. If the request fails, standard message attributes are returned (see Status messages).

Attributes	Type	Description
criticalAlerts	Integer	Number of critical alerts
faultLedStatus	String	Number of informational alerts
identityLedStatus	String	Fault LED status. This can be one of the following values. • **Off**. The LED is off. • **On**. The LED is on.
informationalAlerts	Integer	Identity LED status. This can be one of the following values. • **Off**. The LED is off. • **On**. The LED is on.
powerStatus	String	Power status. This can be one of the following values. • **Off** • **On** • **Standby** • **Unknown**
warningAlerts	Integer	Number of warning alerts
_links	Object	Device URI (see Links)

The following example is returned if the request is successful.
```
{
    "criticalAlerts": 0,
    "faultLedStatus": "Off",
    "identityLedStatus": "Off",
    "informationalAlerts": 0,
    "powerStatus": "Off",
    "warningAlerts": 1,
    "_links": {
        "rel": "self",
        "uri": "/api/v1/data/devices/C7199530FEDE4FE09540DFC3D75FC56C"
    }
}
```

/api/v1/data/techTips

Use this REST API to return a list of tech tips that are associated with a specific device.

Note: This REST API requires Lenovo XClarity Orchestrator v1.3.0 or later.

HTTP methods

GET

GET /api/v1/data/techTips

Use this method to return a list of technical tips that are associated with a specific device.

Note: This REST API requires Lenovo XClarity Orchestrator v1.3.0 or later.

Authentication

Authentication with user name and password is required.

Resource URI

GET https://*<management_server_IP>*/api/v1/data/techTips

Query parameters

Parameters	Re-quired / Optional	Description
deviceUUID=*{uuid}*	Required	Device UUID To obtain the device UUIDs, use GET /api/v1/data/devices.

The following example return a list of technical tips that are associated with a specific device.
GET https://192.0.2.0/api/v1/data/techTips?deviceUUID=00632D78DE644E23B712E200FE449787

Request body

None

Response codes

Code	Description	Comments
200	OK	The request completed successfully.
400	Bad Request	A query parameter or request attribute is missing or not valid, or the operation is not supported. A descriptive error message is returned in the response body.
404	Not found	A specified resource cannot be found. A descriptive error message is returned in the response body.

Response body

When the request is successful, the following attributes are returned. If the request fails, standard message attributes are returned (see Status messages).

Attributes	Type	Description
results	Array of objects	Information about each tech tip
abstract	String	Tech tip abstract
timestamp	String	Timestamp when the tech tip was created This timestamp is specified using ISO-8601 format (for example, 2019-05-02T19:28:14.000Z). For information about ISO-8601 format, see the [W3C Date and Time Formats webpage](#).
tipID	String	Technical tip ID You can get detailed information for this tech tip from the web using the following URL: `https://datacentersupport.lenovo.com/solutions/<techTipID>`
_links	Object	Request metadata (see Links)

The following example is returned if the request is successful.
```
{
   "results": [{
      "abstract": "System will hang at 'UEFI DXE INIT' when deploying iSCSI BOFM with QL45262
                  adapter - Lenovo ThinkSystem",
      "timestamp": "2021-01-22T00:00:00.000Z",
      "tipID": "HT510220"
   },
   {
      "abstract": "'An Uncorrectable Error has occurred on CPUs' when memory in closed page mode
                   - Lenovo ThinkAgile and Lenovo ThinkSystem",
      "timestamp": "2021-01-22T00:00:00.000Z",
      "tipID": "ht510558"
   }],
   "_links": {
      "rel": "self",
      "uri": "/api/v1/techTips/07389DD8C45D11E793557ED30AE53667-155B46F6F9064C25ACE5177C69F5E07F"
   }
}
```

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