



Lenovo XClarity Orchestrator REST API Reference



Version 1.2.0

Note

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Summary of changes in the REST API for v1.2.0

Lenovo XClarity Orchestrator v1.2.0 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 .

The following methods were added or updated in this release.

- General
 - All 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. For information about session timeouts, see [Configuring user security settings](#) in the XClarity Orchestrator online documentation..
 - All 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 [Configuring user security settings](#) in the XClarity Orchestrator online documentation..
- Resources
 - GET /api/v1/connector/managers. Added the **healthStateKey** attribute to return the health state key. Removed the following response attributes: **build**, **ipAddress**, **issues**, **ipAddress**, **networkSettings**, **userName**, **uuid**, and **version**. For a complete list of resource manager attributes, use GET /api/v1/connector/managers/<id>.
 - POST /api/v1/connector/managers. The request body is refactored to support multiple resource manager types. 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. If a job was not successfully started, refer to the response code and response body for details.
 - GET /api/v1/connector/managers/<id>. Added the **authenticationKey** attribute to return the authentication key. Added the **connection** attribute to return information about connection settings. Added the **details** attribute to return information about the resource manager properties. Added the **healthStateKey** attribute to return the health state key. Added the **lastInventorySyncTimestamp** attribute to return the timestamp when XClarity Orchestrator last refreshed the inventory for the resource manager. Added the **lastISyncTimestamp** attribute to return the timestamp when XClarity Orchestrator last refreshed the information about the resource manager. Added the **updateMetadata** attribute to return information about the update history for the resource manager. Removed the following response attributes: **build**, **certificateID**, **networkSettings**, **passwordKey**, **userName**, **uuid**, and **version**.
 - (New) PATCH /api/v1/connector/managers/<id>. Modifies authentication and connection settings for a resource manager.
 - (New) DELETE /api/v1/connector/managers/<id>. Disconnects (removes) a specific resource manager.
 - The following REST API is deprecated in this release.
 - **DELETE /api/v1/connector/managers**. Use DELETE /api/v1/connector/managers/<id> instead.

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 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=AAAAAAAAAAAAAAAAAAAAAAAAAAAA

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]=AAAAAAAAAAAAAAAAAAAAAAAAAAAA
&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. <ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> 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 <i>contains</i> 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 <i>exactly matches</i> 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 <i>exactly matches</i> 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 <i>exactly matches</i> 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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.

Important: You must have **supervisor** privileges to perform this action.

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
<code>format=<type></code>	Optional	Response format. This can be one of the following values. <ul style="list-style-type: none">pem. Exports the server certificate as a file in PEM formatjson. (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
  MIIDuCCAqCgAwIBAgIUQ1JWiK2/0UvzWcreEYEtuQ6TgiYwDQYJKoZIhvcNAQEL\n
  BQAwSzEMMAoGA1UECwwDRENHMQ8wDQYDVQQKDAZMZW5vdm8xEDA0BgNVBACMB1Jh\n
  bGVpZ2ZgCzAJBgNVBAGMAK5DMQswCQYDVQQGEwJVUzAeFw0yMDEwMDRa\n
  Fw0zMDUwMDRANDEwMDRANDEwMDRANDEwMDRANDEwMDRANDEwMDRANDEwMDRAN\n
  MUUwQWYyYDVQDDxHZW5lcmF0ZWQgYnkGTVVub3ZvIE1hbmFnZW1lbnQgRWVuc3lz\n
  dGVtIG9uIElQIDwLjIOMy4xNy4xMDgxCzAJBgNVBAGMAK5DMQswCQYDVQQQLDANE\n
  Q0cxEDA0BgNVBACMB1JhbGVpZ2ZgwgEiMA0GCSqGSIb3DQEBAQUAA4IBDwAwggEK\n
  AoIBAQCfkDRxfvLmzd3QswmdFwZRR6X3jLxThRfHca7AwiyKX/CgOI9Vh/TCKw5W\n
  ANLB3DdKfJSntgXTNhrjwk4y1boNdaBmr1eHFhjQYGRteHvrfPPafSYkOAKEIsV9\n
  X9h8i0e7HJZeCqaON6GqK8/uto62kInFqqRE0YqWkO/jFdnKFj69Nf9J0uqABPc\n
  nb+tlXkLwggRDrizvZMs3qRdjktd7Cl+8pbDKJuaUw9ZyfnNFwd2Rv8edITez15pU\n
  bJjlyqUzGaaAr/PnxUBrlZLS9qDPuj6ZxlnxQ2yxy5xsUYVkBumwZq5nCdQ2yLqw\n
  OqB5LFUvJKo3I6m7dXLO9IN8g0hDAgMBAAGjTDBKMB8GA1UdIwQYMBaAFD+FiELg\n
  A+Ofa+IexISpy9kHuj9eMAKGA1UdEwQCMAAwCwYDVROPAQDAgTMA8GA1UdEQQI\n
  MAaHBArzEwWwDQYJKoZIhvcNAQELBQADggEBAE1iJVWctYAQ8lVtegoOnWhscUX\n
  V9lwxuCUtwyKUK9eMF7syrC4TYBad3KLZT8eUvLhn2rA47dNYHc92I9YPRR+DZZQ\n
  CmH3epUXcAKaeCjXsvIRPqGXH07Ziv6xi6yvu2AVbz/bQ0eSrAbFnYnvXTmmQjhx\n
  06mLU3vYLG13fuJZLVRDg+ek0yKEbEyBxMPFFbz2yh/J/dJ4RzSVsOx0tcqAv+8U\n
  W9yqDhK9L7ywhlbhUdeDBS/Ac0yLnRivVPuTRK00MnCoJqEAYD1W28TGaUfqB2+\n
  0v4SuSuv7v6oyDSH3bARQ4ykmyXBlzuMNjD3Pgw6Kp6+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.

Important: You must have **supervisor** privileges to perform this action.

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 retrieve and 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.

Important: You must have **supervisor** privileges to perform this action.

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": "DC6",
  "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.

Important: You must have **supervisor** privileges to perform this action.

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, <code>www.domainname.com</code> or <code>10.15.23.99</code>). 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 <code>/api/v1/service/countryCodes</code> .
notAfter	Optional	String	Timestamp before which the created certificate is not valid This timestamp is specified using ISO-8601 format (for example, <code>2019-05-02T19:28:14.000Z</code>). 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, <code>2019-05-02T19:28:14.000Z</code>). 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 retrieve the 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).

Important: You must have **supervisor** privileges to perform this action.

Authentication

Authentication with user name and password is required.

Resource URI

GET https://<orchestrator_server_IP>/api/v1/maintenance/certificateSigningRequest

Query parameters

Parameters	Re-quired / Optional	Description
format=<type>	Optional	Response format. This can be one of the following values. <ul style="list-style-type: none">pem. Exports the CSR as a file in PEM formatjson. (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-----
  MIIDjDCCAnQCAQAwYoxCzAJBgNVBAYTALVTRCwFYDQVQIEw50b3J0aCBDYXJv
  bGluYTEQMA4GA1UEBxMHUmfSzwlnaDELMCMGA1UEChMcR2VuZXJhdGVkIGJ5IFNL
  cnZlciBGaXJtd2FyZTEaMBGGA1UECxMRT3JnYW5pemF0aW9uIHVuaXQxDALBgNV
  BAMTBExYQ0EwggEiMA0GCSqGSIb3DQEBAQUAA4IBDwAwggEKAoIBAQCmWY8q5PrW
  hHtLv1c00dVJiXTHK3JNcQXicWXzL3/+vhGkgfd8rqqCvvxjTg7N2hYaFlQghEFT
  EWDhmMxvMFZtAhQfBnzcdiWj23I3MSRqDWBa8NsQHwffxyqc0Eqh0GiOMCjHW9zd
  kSkJ0fZvFJ5RTPmhY+Xnt92LZgSGwmnTcGq9dxNvV6ixMvnHzWE9+MguTxsfGMSR
  ZJ4Rf+d35X9ovQHEge1jMaq0coBuqVMK9TkWsb101GJ2tggDR5tp8YHws7wakp1i
  sXc4AAtDDIzrKfhxvxqTHqsAppREQD79srzsG+jNs0Yvg7Jd7bm2/zP9gxMwVFUY0
  m7DYg8HF6mZ9AgMBAAGgbswgbgGCSqGSIb3DQEJJDjGBqjCBpzCBpAYDVRORRBIgc
  MIGZhxD+gAAAAAAAAAAAJ//+zQ6Dgh5mZTgw0jA6MDow0mEwMDoyN2Zm0mZLY2Q6
  ZTgzJTKHBARxieCCIGlwMTAtMjQxLTEzNy0yMjQubGFicy5sZW5vdm8uY29thxAA
  AAAAAAAAAAAAAAAAAABgglsb2NhbgHvc3SHBH8AAAGCCWxvY2FsaG9zdIIJbG9j
  YWxob3N0ggRMWENBMA0GCSqGSIb3DQEBCwUAA4IBAQAQCBKc6nxzo/8NBQ0xuRe+w
  OMNzrAg9cIyh7cFCcTbSVMam0xAaURHvVIsge/x/xQP3tQFvfJ0qYr4eyJvEqHIN
  Y71ZgQjIunMVX90qf5MEdbYEsQE7g/2WzVXIDZ6p1qewjW85YeunHVS3fgWfD3jX
  Z66BXZyEB4L7xRt0r85E6bCkhlmyj3060LHCdmeCewT/r0aOKnR9trSBB2zSkqTP
  SaxJQXB+6rKS+DGu+lSCNHYLr8cKYLoLaG08GaRZF4kedPQ1JSoz4jX0dgpZqAX
  JLOJVPUEkKLpGUomBBBUK5PwBN10kuB8c/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.

Important: You must have **supervisor** privileges to perform this action.

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, <code>www.domainname.com</code> or <code>10.15.23.99</code>) The length of this value cannot exceed 63 characters. The default is <code>LXC0</code> .
country	Optional	String	Two-letter ISO 3166 code for the country or region of origin associated with the certificate organization (for example, <code>US</code> for the United States) To retrieve the country or region codes, use <code>GET /api/v1/service/countryCodes</code> . The default is <code>US</code> .
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 <code>Ltd.</code> , <code>Inc.</code> , or <code>Corp</code> (for example, <code>ACME International Ltd.</code>) The length of this value cannot exceed 60 characters. The default is generated by the server firmware.

Attributes	Re-quired / Optional	Type	Description
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.
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.

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.
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: You must have **supervisor** privileges to perform this action.

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-----
MIIDjDCCAnQCAQAwYoxCzAJBgNVBAYTALVTRcwfQYDVQQIEw50b3J0aCBDYXJv
bGluYTEQMGA4GA1UEBxMHUmfS ZWlnaDELKCMGA1UEChMcR2VuZXJhdGVkIGJ5IFNL
cnZlciBGaXJtd2FyZTEaMBGGA1UECzMRT3JnYW5pemF0aW9uIHVuaXQxDTALBgNV
BAMTBExYQ0EwggEiMA0GCSqGSIb3DQEBAQUAA4IBDwAwggEKAoIBAQCmwy8q5PrW
hHtLv1c00dVJiXTHK3JNcQXicWxL3/+vhGkgfd8rqqCvvxjTg7N2hYaFlQghEFT
EWdhMmxvMFZtAhQfBnzcdiWj23I3MSRqDWBa8NsqHWf fxyqc0EqhoGiOMCjHW9zd
kSkJ0fZvFJ5RTPmhY+Xnt92LZgSGwmnTcGq9dxNvV6ixMvnHzWE9+MguTxsfGMSR
ZJ4Rf+d35X9ovQHEge1jMaQ0coBuqVMK9TKWsb101GJ2tggDR5tp8YHws7wakp1i
```

```
sXc4AtDDIzrKfhvxqTHqsAppREQD79srzsG+jNs0Yvg7Jd7bm2/zP9gxMwVFUY0
m7DYg8HF6mZ9AgMBAAGggbSwgbgGCSqGSIb3DQEJJDjGBqjCBpzCBpAYDVRORBIGc
MIGZhxD+gAAAAAAsAJ//+zQ6Dgh5mZTgwOjA6MDowOmEwMDoyN2ZmOmZLY2Q6
ZTgzJTKHBArxieCCIGLwMTAtMjQxLTEzNy0yMjQubGFicy5sZW5vdm8uY29thxAA
AAAAAAAAAAAAAAAAAABgglsb2NhbGhvc3SHBH8AAAGCCwvY2FsaG9zdIIJbG9j
YWxob3N0ggRMWENBMAOGCSqGSIb3DQEBCwUAA4IBAQAACBKC6nxzo/8NBQ0xuRe+w
OMNzrAg9cIyh7cFCcTbSVmam0xAauRHvVIsge/x/xQP3tQFvfJ0qYr4eyJvEqHIN
Y71ZgQjIunMVX90qf5MEdbYEsQE7g/2WzVXIDZ6p1qewjW85YeunHVS3fgWfD3jX
Z66BXZyEB4L7xRt0r85E6bCkhlymj3060LHCdmeCewT/r0a0KnR9trSBB2zSkqTP
SaxJQXB+6rKS+DGu+lSCNHylr8cKYLoLaG08GaRZF4kedPQ1JSoz4jX0dgkPzqAX
Jl0JVWPUeKklpGUomBBBUK5PwBN10kuB8c/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 retrieve a 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.

Important: You must have **supervisor** privileges to perform this action.

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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Normal • Non-Critical • Warning • Minor-Failure • Major-Failure • Non-Recoverable • Critical • Unknown
name	String	Resource manager name
type	String	Type of resource manager. This can be one of the following values. <ul style="list-style-type: none"> • XClarity Administrator • Schneider Electric EcoStruxure IT Expert
_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": "CA02067068C24A05B6C1A1674E86CCE8",
    "connectTimestamp": "2020-11-16T10:50:51.497Z",
    "healthState": "Normal",
    "healthStateKey": "Normal",
```



```

    "name": "10.241.19.32",
    "type": "XClarity Administrator",
    "_links": {
      "rel": "self",
      "uri": "/api/v1/connector/managers/CA02067068C24A05B6C1A1674E86CCE8"
    }
  },
  ...,
  {
    "id": "28C17EBECF5D470D8223C161466AA0DF",
    "connectTimestamp": "2020-11-16T09:13:51.054Z",
    "healthState": "Normal",
    "healthStateKey": "Normal",
    "name": "host-10-241-54-99.labs.lenovo.com",
    "type": "XClarity Administrator",
    "_links": {
      "rel": "self",
      "uri": "/api/v1/connector/managers/28C17EBECF5D470D8223C161466AA0DF"
    }
  }
}],
"_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: You must have **supervisor** privileges to perform this action.

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. 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

Table 1. Schneider Electric EcoStruxure IT Expert resource managers (continued)

Attributes	Re-quired / Optional	Type	Description
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 2. 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

The following example connects to an XClarity Administrator and an Ecostruxture IT 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"
}
}
}

```

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.

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 retrieve information 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).

Attributes	Type	Description
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 .
connection	Object	Information about connection settings
hostname	String	(XClarity Administrator only) Resource manager host name
port	String	(XClarity Administrator only) Resource manager port
lxcoHostname	String	(XClarity Administrator only) Orchestrator server host name
lxcoPort	String	(XClarity Administrator 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
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

Attributes	Type	Description
ipv6Addresses	Array of strings	List of IPv6 addresses
uuid	String	(XClarity Administrator only) 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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 W3C Date and Time Formats webpage .
lastISyncTimestamp	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

Attributes	Type	Description
type	String	Type of resource manager. This can be one of the following values. <ul style="list-style-type: none"> • XClarity Administrator • Schneider Electric EcoStruxure IT Expert
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
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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • No Policy Assigned • Policy Assigned
policyStateKey	String	Policy state key. This can be one of the following values. <ul style="list-style-type: none"> • No Policy Assigned • Policy Assigned
_links	Object	Resource manager URI (see Links)

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

```
{
  "id": "28C17EBECF5D470D8223C161466AA0DF",
  "connectTimestamp": "2020-11-16T09:13:51.054Z",
  "connection": {
    "hostname": "host-10-241-54-99.labs.lenovo.com",
    "port": 443
  },
  "details": {
    "build": "77",
    "forwarderID": "1605518027917",
    "metricsSubscriptionID": "5fb242cd238cc6e10fe7239c",
    "networkSettings": {
      "domainName": "labs.lenovo.com",
      "hostname": "host-10-241-54-99",
      "ipv4Addresses": ["10.241.54.99"],
      "ipv6Addresses": ["fe80:0:0:0:250:56ff:fea2:78c2"]
    },
    "uuid": "28C17EBECF5D470D8223C161466AA0DF",
    "version": "3.0.0",
    "versionNumber": 300
  },
  "groups": [],
  "healthState": "Normal",
  "healthStateKey": "Normal",
  "issues": [],
  "lastInventorySyncTimestamp": "2020-11-16T16:39:34.629Z",
  "lastSyncTimestamp": "2020-11-16T09:13:51.054Z",
  "name": "host-10-241-54-99.labs.lenovo.com",
  "type": "XClarity Administrator",
  "updates": {
    "identifier": "lxca",
    "components": [{
      "componentID": "lxca",
      "name": "Lenovo XClarity Administrator 3.0.0",
      "targetVersion": null,
      "upgradeable": true,
      "version": {
        "identifier": "77",
        "number": "3.0.0",
        "releaseTimestamp": null
      }
    }
  ],
  "policy": null,
  "policyState": "No Policy Assigned",
  "policyStateKey": "NoPolicyAssigned"
},
"_links": {
  "rel": "self",
  "uri": "/api/v1/connector/managers/28C17EBECF5D470D8223C161466AA0DF"
}
}
```

The following example is returned if the request is successful for an EcoStruxure IT Expert resource manager.

```
{
  "id": "711f73d0f39ead1b6ef157df4f19d994c8ef37ec",
  "connectTimestamp": "2020-11-16T10:21:26.352Z",
  "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": "2020-11-16T10:21:26.352Z",
"name": "Eco-Test",
"type": "Schneider EcoStruxure IT",
"updates": null,
"_links": {
  "rel": "self",
  "uri": "/api/v1/connector/managers/711f73d0f39ead1b6ef157df4f19d994c8ef37ec"
}
}

```

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. <ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> 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: You must have **supervisor** privileges to perform this action.

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/data/deviceInfo

Use this REST API to retrieve general 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	Re-quired / 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?deviceInfo=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. <ul style="list-style-type: none">• Healthy• Warning• Critical
healthStatus	String	Health state key. This can be one of the following values. <ul style="list-style-type: none">• 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. <ul style="list-style-type: none"> • Off • On • Standby • Unknown
powerStatusKey	String	Power status key. This can be one of the following values. <ul style="list-style-type: none"> • 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 retrieve a 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]=AAAAAAAAAAAAAAAAAAAAAAAAAAAA
```

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]=type&filterContains[0][values]=server
&filterEquals[1][attributes]=manufacturer&filterEquals[1][values]=IBM
&includeAttributes=manufacturer
```

The following example returns a list of all managed ThinkSystem servers.

```
GET https://192.0.2.0/api/v1/data/devices
?filterContains[0][attributes]=type&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]=type&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]=type&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]=type&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 (<i>deviceUUID–managerUUID</i>).
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
name	String	Device name
overallHealthState	String	Highest severity of all alerts. This can be one of the following values. <ul style="list-style-type: none">• Normal• Non-Critical• Warning• Minor-Failure• Major-Failure• Non-Recoverable• Critical• Unknown
powerStatus	String	Power status. This can be one of the following values. <ul style="list-style-type: none">• Off• On• Standby• Unknown

Attributes	Type	Description
productName	String	Product name
_links	String	Device URI (see Links)
_metadata	Object	Request metadata (see Metadata)

The following example is returned if the request is successful.

```
{
  "results": [{
    "id": "6D5A35E04F3711EAAB187CD30AEDB6B8-28C17EBECF5D470D8223C161466AA0DF",
    "deviceName": "10.241.19.115",
    "ipv4Addresses": ["10.241.19.115","169.254.95.118"],
    "ipv6Addresses": ["fe80:0:0:0:7ed3:aff:feed:b6b9","fe80:0:0:0:7ed3:aff:feed:b6ba"],
    "lxcaUUID": "28C17EBECF5D470D8223C161466AA0DF",
    "name": "10.241.19.115",
    "overallHealthState": "Critical",
    "powerStatus": "Off",
    "productName": "",
    "_links": {
      "rel": "self",
      "uri": "/api/v1/data/devices/6D5A35E04F3711EAAB187CD30AEDB6B8-28C17EBECF5D470D8223C161466AA0DF"
    }
  }],
  ...,
  {
    "id": "7936DD182C5311E3A8D6000AF7256738-28C17EBECF5D470D8223C161466AA0DF",
    "deviceName": "x3850-X6",
    "ipv4Addresses": ["10.241.19.11","169.254.95.118"],
    "ipv6Addresses": ["3000:0:0:0:0:0:1","fe80:0:0:0:6eae:8bff:fe4b:4f15"],
    "lxcaUUID": "28C17EBECF5D470D8223C161466AA0DF",
    "name": "x3850-X6",
    "overallHealthState": "Critical",
    "powerStatus": "On",
    "productName": "Lenovo System x3850 X6",
    "_links": {
      "rel": "self",
      "uri": "/api/v1/data/devices/7936DD182C5311E3A8D6000AF7256738-28C17EBECF5D470D8223C161466AA0DF"
    }
  }],
  "_metadata": {...}
}
```

/api/v1/data/devices/<id>

Use this REST API to retrieve 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 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. <ul style="list-style-type: none">• Online• Offline• Partial• Pending• Unknown
accessStateKey	String	Access state of the server key. This can be one of the following values. <ul style="list-style-type: none">• Online• Offline• Partial• Pending• Unknown
accurateHealth	Boolean	Indicates whether the health status is accurate. This can be one of the following values. <ul style="list-style-type: none">• true. The accessState is Online or partial.• false. The accessState is Offline, Pending, or Unknown.
activationKeys	Array of objects	List of installed Feature On Demand (FoD) keys

Attributes		Type	Description
	description	String	FoD key description
	keyExpirationDate	String	Date when the FoD key expires
	keyFeatureType	Integer	FoD feature type
	keyIdentifierList	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. <ul style="list-style-type: none"> • ASIC. • MAC. MAC address • MT. Machine type • UNKNOWN
	keyStatus	String	Status of the FoD key. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Primary • Backup • Temporary • Permanent
	softwareID		Firmware ID

Attributes		Type	Description
	status	String	Firmware status. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • ATM • BLUETOOTH • ETHERNET • FC • FDDI • FRAMERELAY • IB • INFRARED • OTHER • TOKENRING • UNKNOWN • WIRELESSLAN
		portNumber	Integer	Number of the logical port
		addresses	String	Assigned addresses
		vnicMode	Boolean	Identifies whether this is a vNIC port. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • ia64 • ppc • ppc64 • x86 • x86_64 • Unknown

Attributes	Type	Description
bladeState	Integer	State of the server. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • true. Address pools are used. • false. Address pools are not used.
complianceStatus	String	Compliance status. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • ASSIGNED. The profile is assigned to the server. • UNASSIGNED. The profile is 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
	entitledSerialNumber	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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Off • On • Standby • Unknown
	powerStatusKey	String	Power status key. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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 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. <ul style="list-style-type: none"> • Primary • Backup • Temporary • Permanent
	softwareID		Firmware ID

Attributes		Type	Description
	status	String	Firmware status. This can be one of the following values. <ul style="list-style-type: none"> • Active • Inactive • Pending
	type	String	Firmware type
	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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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	String	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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • true. This is a vNIC port. • false. This is not a vNIC port.
			physicalPortIndex	Integer	Number of physical ports
			portType	String	Physical port type. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • expansionProducts • expansionCards • addinCards • pciExpressCards
			expansionProductType	String	Expansion product type. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Primary • Backup • Temporary • Permanent
	status	String Firmware status. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Primary • Backup • Temporary • Permanent
	softwareID	String	Firmware identifier
	status	String	Firmware status. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • INUSE • CONFIGURED • ALIAS • UNKNOWN
	IPv4DHCPmode	String	IP address assignment method. This can be one of the following values. <ul style="list-style-type: none"> • STATIC_ONLY • DHCP_ONLY • DHCP_THEN_STATIC • UNKNOWN
	IPv4enabled	Boolean	Identifies whether IPv4 is enabled. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Global • LinkLocal • Unknown

Attributes		Type	Description
	source	String	Source of the IPv6 assignment. This can be one of the following values. <ul style="list-style-type: none"> • DHCP • Stateless • Static • Other • Unknown
	type	String	Type of the IPv6 assignment. This can be one of the following values. <ul style="list-style-type: none"> • INUSE • CONFIGURED • ALIAS • UNKNOWN
	IPv6DHCPEnabled	Boolean	Identifies whether IPv6 DHCP is enabled. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • true. IPv6 is enabled • false. IPv6 is disabled
	IPv6statelessEnabled	Boolean	Identifies whether IPv6 stateless is enabled. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • true. Remote presence is enabled • false. Remote presence is disabled
	isScalable	Boolean	This can be one of the following values. <ul style="list-style-type: none"> • true • false
	lanOverUsb	String	Identifies whether LAN over USB is enabled. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Red • Amber • Yellow • Green • Blue • Unknown
location	String	LED location. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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
ixcaOverallHealthState	String	Resource manager health state. This can be one of the following values. <ul style="list-style-type: none"> • Normal • Non-Critical • Warning • Minor-Failure • Major-Failure • Non-Recoverable • Critical • Unknown
ixcaUUID	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
mgmtProclPAddress	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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Healthy • Warning • Critical
overallHealthStateKey	String	Highest severity key. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Primary • Backup • Temporary • Permanent
softwareID	String	Firmware ID
status	String	Firmware status. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • AC • DC • Unknown
		cappingPolicy	String	Capping policy. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Off • On • Standby • Unknown
powerStatusKey	String	Power status key. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Primary • Backup • Temporary • Permanent
softwareID	String	Firmware ID
status	String	Firmware status. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Red • Amber • Yellow • Green • Blue • Unknown
	location	String	LED location. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • component name • serial number • UUID
	overallHealthState		Highest severity of all power supplies(translated). This can be one of the following values. <ul style="list-style-type: none"> • Healthy • Warning • Critical
	overallHealthStateKey		Highest severity key. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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 NVMe3 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. <ul style="list-style-type: none"> • Primary • Backup • Temporary • Permanent
		softwareID	String	Firmware ID
		status	String	Firmware status. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Primary • Backup • Temporary • Permanent
	softwareID		Firmware ID
	status	String	Firmware status. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Primary • Backup • Temporary • Permanent
	softwareID	String	Firmware ID
	status	String	Firmware status. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. This can be one of the following values. <ul style="list-style-type: none"> • 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.
		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 .

Attributes		Type	Description
	upgradeable	Boolean	Indicates whether the component can be updated. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • No Policy Assigned • Policy Assigned
	policyStateKey	String	Policy state key. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • enabled • disabled
	vpdID	String	VPD ID
	_links	Object	Device URI (see Links)

The following example is returned if the request is successful.

```
{
  "id": "7936DD182C5311E3A8D6000AF7256738-28C17EBECF5D470D8223C161466AA0DF",
  "accessState": "Online",
  "accessStateKey": "Online",
  "accurateHealth": true,
  "activationKeys": [],
  "addinCards": [{
    "class": "Network controller",
    "firmware": [{
      "name": "17.4.4.8-c",
      "date": "",
      "type": "VPD-V0",
      "build": "0",

```

```

    "version": "17.4.4.8-c",
    "role": "Primary",
    "status": "Active",
    "classifications": [33024],
    "revision": "0",
    "softwareID": "10140450"
  }],
  "fodUniqueID": "11S90Y9372Y0502037P0ES",
  "FRU": "90Y9373",
  "fruSerialNumber": "Y0502037P0ES",
  "isAgentless": true,
  "isAddOnCard": true,
  "isPLDMUpdateSupported": false,
  "manufacturer": "IBM",
  "name": "Broadcom 2-port 1GbE NIC Card for IBM",
  "partNumber": "90Y9372",
  "pciBusNumber": "145",
  "pciDeviceNumber": "0",
  "pciFunctionNumber": "0",
  "pciRevision": "0",
  "pciSubID": "450",
  "pciSubVendorID": "1014",
  "portInfo": {
    "physicalPorts": [{
      "logicalPorts": [{
        "addresses": "000AF7256738",
        "logicalPortIndex": 1,
        "portNumber": 1,
        "portType": "ETHERNET",
        "vnicMode": false
      }],
      "peerBay": 0,
      "physicalPortIndex": 1,
      "portNumber": 49,
      "portType": "ETHERNET",
      "speed": 0,
      "status": null
    }
  ]
},
"posID": "165f",
"productName": "Broadcom 2-port 1GbE NIC Card for IBM",
"slotName": "SlotDesig6_Slot 7",
"slotNumber": "7",
"slotSupportsHotPlug": "false",
"uuid": "000000000000000000000000AF7256738",
"vpdID": "14e4"
}],
"addinCardSlots": 0,
"arch": "x86",
"bladeState": 255,
"configCompliance": [{
  "addressPresent": null,
  "complianceStatus": null,
  "managementPatternPresent": null,
  "profileName": null,
  "profileStatus": "UNASSIGNED",
  "templateId": null,
  "type": null,
}],
"contact": "@123Test",
"dataHandle": 1605545866804,

```

```

"description": "Chassis",
"deviceInfo": {
  "domainName": null,
  "entitleSerialNumber": null,
  "groupNames": [],
  "healthStatus": "Critical",
  "healthStatusKey": "Critical",
  "hostname": "IMM2-6cae8b4b4f15",
  "ipv4Addresses": ["10.241.19.11","169.254.95.118"],
  "ipv6Addresses": ["3000:0:0:0:0:0:1","fe80:0:0:0:6eae:8bff:fe4b:4f15"],
  "location": {
    "location": "2",
    "lowestRackUnit": 0,
    "rack": "",
    "room": "2"
  },
},
"machineType": "6241",
"manager": {
  "hostname": "host-10-241-54-99",
  "domainName": "labs.lenovo.com",
  "ipv4Addresses": ["10.241.54.99"],
  "ipv6Addresses": ["fe80:0:0:0:250:56ff:fea2:78c2"],
  "inContextHref": "/ui/index.html#/compDetails/Rack-Tower Server/7936DD182C5311E3A8D6000AF7256738/"
},
"model": "AC1",
"powerStatus": "On",
"powerStatusKey": "On",
"productName": "Lenovo System x3850 X6",
"serialNumber": "23Y6458",
"userDefinedName": "x3850-X6",
"uuid": "7936DD182C5311E3A8D6000AF7256738"
},
"discoveryTimestamp": "2020-11-16T09:13:52.352Z",
"deviceName": "x3850-X6",
"deviceType": "Rack-Tower Server",
"domainName": "",
"driveBays": 17,
"drives": [{
  "bay": 0,
  "blockSize": 512,
  "capacity": 300000000000,
  "description": "ST300MM0006",
  "diskState": "Online",
  "firmware": [{
    "name": "Drive",
    "date": "",
    "type": "Firmware",
    "build": "0",
    "version": "B56T",
    "role": "Primary",
    "status": "Active",
    "classifications": [10],
    "revision": "0",
    "softwareID": "ST300MM0006"
  }],
  "FRU": "42D0628",
  "healthState": "Normal",
  "healthStateKey": "Normal",
  "interfaceType": "SAS",
  "largestAvailableSize": 512,
  "m2Location": "",

```

```

    "manufacturer": "IBM-ESXS",
    "mediaType": "Rotational",
    "model": "ST300MM0006",
    "name": "Disk 0_0",
    "numberOfBlocks": 585937500,
    "partNumber": "42D0631",
    "serialNumber": "S0K09V6W",
    "remainingLife": null,
    "temperature": 28,
    "uuid": "",
  }],
  "encapsulation": {
    "encapsulationMode": "normal"
  },
  "expansionCards": [],
  "expansionCardSlots": 0,
  "expansionProducts": [],
  "expansionProductType": "",
  "hostname": "IMM2-6cae8b4b4f15",
  "firmware": [{
    "build": "TC0073V",
    "classifications": [],
    "date": "2020-09-21T00:00:00Z",
    "name": "Integrated Management Module Version 2",
    "revision": "9.00",
    "role": "Primary",
    "status": "Active",
    "type": "IMM2",
    "version": "9.00"
  }],
  ...,
  {
    "build": "DSA0B5S",
    "classifications": [],
    "date": "2020-07-09T00:00:00Z",
    "name": "Dynamic System Analysis",
    "revision": "10.8",
    "role": "Primary",
    "status": "Active",
    "type": "DSA",
    "version": "10.8"
  }],
  "fans": [{
    "description": "Logical Device for fan / cooling device 1",
    "healthState": "Normal",
    "healthStateKey": "Normal",
    "name": "Fan 1",
    "slots": 1,
    "speed": 3440,
    "status": "OK"
  }],
  ...,
  {
    "description": "Logical Device for fan / cooling device 5",
    "healthState": "Warning",
    "healthStateKey": "Warning",
    "name": "Fan 5",
    "slots": 5,
    "speed": 3440,
    "status": "Degraded"
  }],
}],

```

```

"firmwareCompliance": {
  "status": "compliant"
},
"flashStorage": [],
"FQDN": "10.241.19.11",
"groups": [],
"hasOS": false,
"height": 4,
"ipInterfaces": [{
  "IPv4assignments": [{
    "id": 0,
    "subnet": "255.255.255.128",
    "gateway": "10.241.19.1",
    "address": "10.241.19.11",
    "type": "INUSE"
  }],
  "IPv4DHCPmode": "STATIC_ONLY",
  "IPv4enabled": true,
  "IPv6assignments": [{
    "id": 0,
    "scope": "Global",
    "gateway": "3000:0:0:0:0:0:0:5",
    "source": "Static",
    "address": "3000:0:0:0:0:0:0:1",
    "prefix": 64,
    "type": "INUSE"
  }],
  {
    "id": 0,
    "scope": "LinkLocal",
    "gateway": "3000:0:0:0:0:0:0:5",
    "source": "Other",
    "address": "fe80:0:0:0:6eae:8bff:fe4b:4f15",
    "prefix": 64,
    "type": "INUSE"
  }],
  "IPv6DHCPenabled": true,
  "IPv6enabled": true,
  "IPv6statelessEnabled": true,
  "IPv6staticEnabled": true,
  "label": "unknown",
  "name": "eth0"
}],
"ipv4Addresses": ["10.241.19.11", "169.254.95.118"],
"ipv6Addresses": ["3000:0:0:0:0:0:0:1", "fe80:0:0:0:6eae:8bff:fe4b:4f15"],
"isRemotePresenceEnabled": true,
"isEmbedded": false,
"isScalable": true,
"isITME": false,
"lanOverUsb": "enabled",
"lanOverUsbPortForwardingModes": [{
  "state": "disabled",
  "type": "DSA",
  "externalIPAddress": ""
}],
{
  "state": "disabled",
  "type": "OSDeploy",
  "externalIPAddress": ""
}],
"lastSyncTimestamp": "2020-11-16T20:14:49.776Z",

```



```

"lastUpdateTimestamp": "2020-11-16T20:14:49.726Z",
"leds": [{
  "color": "Yellow",
  "location": "FRU",
  "name": "CPU 3 DIMM 7",
  "state": "Off"
}],
...,
{
  "color": "Yellow",
  "location": "FRU",
  "name": "CPU 1 DIMM 9",
  "state": "Off"
}],
"location": {
  "location": "2",
  "lowestRackUnit": 0,
  "rack": "",
  "room": "2"
},
"lxcaOverallHealthState": "Critical",
"lxcaUUID": "28C17EBECF5D470D8223C161466AA0DF",
"m2Presence": false,
"machineType": "6241",
"manager": {
  "domainName": "labs.lenovo.com",
  "hostname": "host-10-241-54-99",
  "inContextHref": "/ui/index.html#/compDetails/Rack-Tower Server/7936DD182C5311E3A8D6000AF7256738/",
  "ipv4Addresses": ["10.241.54.99"],
  "ipv6Addresses": ["fe80:0:0:0:250:56ff:fea2:78c2"]
},
"manufacturer": " IBM(CLCN)",
"manufacturerId": " IBM(CLCN)",
"mgmtProcIPAddress": "10.241.19.11",
"memoryModules": [{
  "capacity": 4,
  "displayName": "CPU 1 DIMM 1",
  "manufacturer": "Samsung",
  "model": "DDR3",
  "partNumber": "M393B5270CH0-YH9",
  "serialNumber": "87390472",
  "slot": 1,
  "speed": 1333,
  "speedMBs": 10666,
  "type": "DDR3"
}],
...,
{
  "capacity": 4,
  "displayName": "CPU 2 DIMM 24",
  "manufacturer": "Micron Technology",
  "model": "DDR3",
  "partNumber": "18KSF51272PZ-1G6K1K1",
  "serialNumber": "3AAF593C",
  "slot": 24,
  "speed": 1600,
  "speedMBs": 12800,
  "type": "DDR3"
}],
"mgmtProcType": "IMM2",
"mtm": "6241/AC1",

```

```

"model": "AC1",
"name": "x3850-X6",
"onboardPciDevices": [{
  "firmware": [{
    "name": "PCIFirmware",
    "date": "",
    "type": "",
    "build": "0",
    "version": "",
    "role": "Primary",
    "status": "Active",
    "classifications": [0],
    "revision": "0",
    "softwareID": "0:0"
  }],
  "pciRevision": "0",
  "pciBusNumber": "27",
  "pciDeviceNumber": "0",
  "pciFunctionNumber": "0",
  "name": "",
  "portInfo": {},
  "pciSubID": "0",
  "fodUniqueID": "",
  "isAgentless": false,
  "pciSubVendorID": "0",
  "isAddOnCard": false,
  "posID": "534",
  "vpdID": "102b",
  "class": "Display controller",
  "isPLDMUpdateSupported": false
}],
"overallHealthState": "Critical",
"overallHealthStateKey": "Critical",
"parent": {
  "uri": "cabinet/",
  "uuid": ""
},
"parentComplexID": "7936DD182C5311E3A8D6000AF7256738",
"partNumber": "00D0188",
"pciDevices": [{
  "class": "Network controller",
  "firmware": [{
    "build": "0",
    "classifications": [33024],
    "date": "",
    "name": "17.4.4.8-c",
    "revision": "0",
    "role": "Primary",
    "softwareID": "10140450",
    "status": "Active",
    "type": "VPD-V0",
    "version": "17.4.4.8-c"
  }],
  "fodUniqueID": "11S90Y9372Y0502037P0ES",
  "fruSerialNumber": "Y0502037P0ES",
  "FRU": "90Y9373",
  "isAgentless": true,
  "isAddOnCard": true,
  "isPLDMUpdateSupported": false,
  "manufacturer": "IBM",
  "name": "Broadcom 2-port 1GbE NIC Card for IBM",

```

```

"partNumber": "90Y9372",
"pciBusNumber": "145",
"pciDeviceNumber": "0",
"pciFunctionNumber": "0",
"pciRevision": "0",
"pciSubID": "450",
"pciSubVendorID": "1014",
"portInfo": {
  "physicalPorts": [{
    "logicalPorts": [{
      "addresses": "000AF7256738",
      "logicalPortIndex": 1,
      "portNumber": 1,
      "portType": "ETHERNET",
      "vnicMode": false
    }],
    "peerBay": 0,
    "physicalPortIndex": 1,
    "portNumber": 49,
    "portType": "ETHERNET",
    "speed": 0,
    "status": null
  ]
}],
"posID": "165f",
"productName": "Broadcom 2-port 1GbE NIC Card for IBM",
"slotName": "SlotDesig6_Slot 7",
"slotNumber": "7",
"slotSupportsHotPlug": "false",
"uuid": "000000000000000000000000AF7256738",
"vpdID": "14e4"
}],
"powerAllocation": {
  "maximumAllocatedPower": 900,
  "minimumAllocatedPower": 26
},
"powerCappingPolicy": {
  "cappingACorDCMode": "DC",
  "cappingPolicy": "OFF",
  "currentPowerCap": 0,
  "maximumPowerCappingHotPlugLevel": 944000,
  "maxPowerCap": 623000,
  "minimumHardCapLevel": 500800,
  "minimumPowerCappingHotPlugLevel": 821000,
  "minPowerCap": 141000,
  "powerCappingAllocUnit": "watts*10^-3"
},
"powerStatus": "On",
"powerStatusKey": "On",
"primary": false,
"processorIntelSpeedSelect": {
  "currentValue": "",
  "possibleValues": []
},
"processors": [{
  "cores": 15,
  "displayName": "Intel(R) Xeon(R) CPU E7-8880L v2 @ 2.20GHz",
  "family": "PENTIUM_R_4",
  "manufacturer": "Intel(R) Corporation",
  "maxSpeedMHZ": 2200,
  "productVersion": "Intel(R) Xeon(R) CPU E7-8880L v2 @ 2.20GHz",

```

```

    "slot": 1,
    "socket": "Socket 1",
    "speed": 2.2
  },
  {
    "cores": 15,
    "displayName": "Intel(R) Xeon(R) CPU E7-8880L v2 @ 2.20GHz",
    "family": "PENTIUM_R_4",
    "maxSpeedMHZ": 2200,
    "manufacturer": "Intel(R) Corporation",
    "productVersion": "Intel(R) Xeon(R) CPU E7-8880L v2 @ 2.20GHz",
    "slot": 2,
    "socket": "Socket 2",
    "speed": 2.2
  }
],
"processorSlots": 2,
"productId": "4D4F00",
"productName": "Lenovo System x3850 X6",
"ports": [{
  "ioModuleBay": 0,
  "portNumber": 49
},
{
  "ioModuleBay": 0,
  "portNumber": 50
}],
"posID": "",
"powerSupplies": [{
  "cmmDisplayName": "Power Supply 3",
  "cmmHealthState": "Unknown",
  "dataHandle": 0,
  "description": "",
  "excludedHealthState": "Normal",
  "firmware": [],
  "FRU": "",
  "fruSerialNumber": "",
  "hardwareRevision": "",
  "healthState": "Normal",
  "healthStateKey": "Normal",
  "inputVoltageIsAC": true,
  "inputVoltageMax": -1,
  "inputVoltageMin": -1,
  "leds": [],
  "machineType": "",
  "manufactureDate": "",
  "manufacturer": "DELTA",
  "manufacturerId": "",
  "model": "",
  "name": "Power Supply 3",
  "overallHealthState": "Normal",
  "overallHealthStateKey": "Normal",
  "parent": {
    "uri": "chassis/",
    "uuid": ""
  },
  "partNumber": "94Y8066",
  "posID": "",
  "powerAllocation": {
    "totalInputPower": 0,
    "totalOutputPower": 900
  },
},

```

```

    "powerState": "Unknown",
    "productId": "",
    "productName": "",
    "serialNumber": "K115136V11L",
    "slots": [3],
    "type": "PowerSupply",
    "userDescription": "",
    "uri": "powerSupply/",
    "uuid": "",
    "vpdID": "",
  }],
  "raidSettings": [{
    "batteryData": []
    "description": "ServeRAID M5210",
    "diskDrives": [{
      "bay": 0,
      "blockSize": 512,
      "capacity": 300000000000,
      "description": "ST300MM0006",
      "diskState": "Online",
      "firmware": [{
        "build": "0",
        "classifications": [10],
        "date": "",
        "name": "Drive",
        "revision": "0",
        "role": "Primary",
        "softwareID": "ST300MM0006",
        "status": "Active",
        "type": "Firmware",
        "version": "B56T"
      }],
      "FRU": "42D0628",
      "healthState": "Normal",
      "healthStateKey": "Normal",
      "interfaceType": "SAS",
      "largestAvailableSize": 512,
      "m2Location": "",
      "manufacturer": "IBM-ESXS",
      "mediaType": "Rotational",
      "model": "ST300MM0006",
      "name": "Disk 0_0",
      "numberOfBlocks": 585937500,
      "partNumber": "42D0631",
      "remainingLife": null,
      "serialNumber": "SOK09V6W",
      "temperature": 28,
      "uuid": ""
    }],
    "firmware": [{
      "build": "0",
      "classifications": [10],
      "date": "2017-09-07T00:00:00Z",
      "name": "MegaRAID Controller Firmware",
      "revision": "0",
      "role": "Primary",
      "softwareID": "10140454",
      "status": "Active",
      "type": "Firmware",
      "version": "24.21.0-0020"
    }],
  }],

```

```

"isAddOnCard": false,
"name": "ServeRAID M5210",
"slotNumber": "",
"storagePools": [{
  "arrayStatus": "Offline",
  "arrayUid": "0",
  "combinedRaidLevel": "0",
  "description": "0000000000000000500605B006E6ED5B_Storage Pool_M5210_0000000000000000500605B006E6ED5B_c:Pool:0",
  "diskDrives": [{
    "bay": 0,
    "blockSize": 512,
    "capacity": 300000000000,
    "description": "ST300MM0006",
    "diskState": "Online",
    "firmware": [{
      "build": "0",
      "classifications": [10],
      "date": "",
      "name": "Drive",
      "revision": "0",
      "role": "Primary",
      "softwareID": "ST300MM0006",
      "status": "Active",
      "type": "Firmware",
      "version": "B56T"
    }],
    "FRU": "42D0628",
    "healthState": "Normal",
    "healthStateKey": "Normal",
    "interfaceType": "SAS",
    "largestAvailableSize": 512,
    "m2Location": "",
    "manufacturer": "IBM-ESXS",
    "mediaType": "Rotational",
    "model": "ST300MM0006",
    "name": "Disk 0_0",
    "numberOfBlocks": 585937500,
    "partNumber": "42D0631",
    "remainingLife": 100,
    "serialNumber": "SOK09V6W",
    "temperature": 28,
    "uuid": ""
  }],
  "name": "Pool_0",
  "raidLevel": 0,
  "remainingSpace": 0,
  "storageVolumes": [{
    "accessPermission": null,
    "blockSize": 512,
    "bootable": true,
    "description": "Volume 0 0000000000000000500605B006E6ED5B_0",
    "driveIndex": 0,
    "health": "Unknown",
    "isSDRAID": null,
    "LUN": -1,
    "name": "GenericRO_0",
    "numberOfBlocks": 583983104,
    "primaryPartition": 0,
    "removable": false,
    "stripeSize": 65536,
    "targetType": null,
  }],
}]]

```

```

        "volumeOwner": null,
        "volumeStatus": "Dynamic Reconfig",
        "volumeType": null,
        "volumeID": "1",
        "volumeUID": "0"
    }},
    "totalManagedSpace": 298999349248,
    },
    "uuid": "00000000000000000500605B006E6ED5B",
}],
"serialNumber": "23Y6458",
"slots": [1],
"subSlots": [],
"systemBoard": {
    "machineType": "6241",
    "model": "AC1",
    "productName": "Lenovo System x3850 X6",
    "serialNumber": "23Y6458",
    "uuid": "7936DD182C5311E3A8D6000AF7256738"
},
"type": "server",
"updates": {
    "identifier": "8722",
    "components": [{
        "componentID": "IMM",
        "mainComponentName": "Integrated Management Module",
        "name": "Integrated Management Module",
        "targetVersion": null,
        "upgradeable": true,
        "version": {
            "identifier": "",
            "number": "1A0077J-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": "x3850-X6",
  "userDescription": "",
  "uuid": "7936DD182C5311E3A8D6000AF7256738",
  "vnicMode": "disabled",
  "vpdID": "",
  "_links": {
    "rel": "self",
    "uri": "/api/v1/data/devices/7936DD182C5311E3A8D6000AF7256738-28C17EBECF5D470D8223C161466AA0DF"
  }
}

```

/api/v1/data/devices/<id>/fans

Use this REST API to retrieve fan 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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": 3440,
    "status": "OK"
  },
  ...,
  {
    "description": "Logical Device for fan / cooling device 5",
    "healthState": "Warning",
    "healthStateKey": "Warning",
    "name": "Fan 5",
    "slots": 5,
    "speed": 3440,
    "status": "Degraded"
  }
],
  "_links": {
    "rel": "self",
    "uri": "/api/v1/data/devices/7936DD182C5311E3A8D6000AF7256738-28C17EBECF5D470D8223C161466AA0DF/fans"
  }
}
```

/api/v1/data/devices/<id>/memoryModules

Use this REST API to retrieve memory 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 (mega-transfers per second)

Attributes	Type	Description
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": 4,
    "displayName": "CPU 1 DIMM 1",
    "manufacturer": "Samsung",
    "model": "DDR3",
    "partNumber": "M393B5270CH0-YH9",
    "serialNumber": "87390472",
    "slot": 1,
    "speed": 1333,
    "speedMBs": 10666,
    "type": "DDR3"
  },
  ...,
  {
    "capacity": 4,
    "displayName": "CPU 2 DIMM 24",
    "manufacturer": "Micron Technology",
    "model": "DDR3",
    "partNumber": "18KSF51272PZ-1G6K1K1",
    "serialNumber": "3AAF593C",
    "slot": 24,
    "speed": 1600,
    "speedMBs": 12800,
    "type": "DDR3"
  }
],
  "_links": {
    "rel": "self",
    "uri": "/api/v1/data/devices/7936DD182C5311E3A8D6000AF7256738-28C17EBECF5D470D8223C161466AA0DF/memoryModules"
  }
}
```

/api/v1/data/devices/<id>/pciDevices

Use this REST API to retrieve PCI-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. <ul style="list-style-type: none"> • 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

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. <ul style="list-style-type: none"> • Primary • Backup • Temporary • Permanent
	softwareID	String	Firmware ID
	status	String	Firmware status. This can be one of the following values. <ul style="list-style-type: none"> • Active • Inactive • Pending
	type	String	Firmware type, such as UEFI, MP, or DSA
	version	String	Firmware version
	fodUniqueID	String	FoD unique ID
	FRU	String	FRU part number
	fruSerialNumber	String	FRU serial number
	isAddOnCard	Boolean	Identifies whether the device is an add-on card. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • true. PLDM update is supported. • false. PLDM update is not supported.
	manufacturer	String	Manufacturer
	name	String	Description
	partNumber	String	Part number
	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

Attributes			Type	Description
		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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • true. This is a vNIC port. • false. This is not a vNIC port.
		peerBay	Integer	Peer Flex switch bay
		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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • up • down • unknown
		posID	String	Device ID
		productName	String	Product name
		slotName	String	Slot name
		slotNumber	String	Slot number
		slotSupportsHotPlug	String	Indicates whether the slot supports hot plug. This can be one of the following values. <ul style="list-style-type: none"> • true • false

Attributes	Type	Description
uuid	String	PCI device UUID
vpdID	String	PCI device VPD ID
_links	Object	Device URI (see Links)

String

The following example is returned if the request is successful.

```
{
  "pciDevices": [{
    "class": "Network controller",
    "firmware": [{
      "build": "0",
      "classifications": [33024],
      "date": "",
      "name": "17.4.4.8-c",
      "revision": "0",
      "role": "Primary",
      "softwareID": "10140450",
      "status": "Active",
      "type": "VPD-V0",
      "version": "17.4.4.8-c"
    }],
    "fodUniqueID": "11S90Y9372Y0502037P0ES",
    "FRU": "90Y9373",
    "fruSerialNumber": "Y0502037P0ES",
    "isAddOnCard": true,
    "isAgentless": true,
    "isPLDMUpdateSupported": false,
    "manufacturer": "IBM",
    "name": "Broadcom 2-port 1GbE NIC Card for IBM",
    "partNumber": "90Y9372",
    "pciBusNumber": "145",
    "pciDeviceNumber": "0",
    "pciFunctionNumber": "0",
    "pciRevision": "0",
    "pciSubID": "450",
    "pciSubVendorID": "1014",
    "portInfo": {
      "physicalPorts": [{
        "logicalPorts": [{
          "addresses": "000AF7256738",
          "logicalPortIndex": 1,
          "portNumber": 1,
          "portType": "ETHERNET",
          "vnicMode": false
        }],
        "peerBay": 0,
        "physicalPortIndex": 1,
        "portNumber": 49,
        "portType": "ETHERNET",
        "speed": 0,
        "status": null
      }],
    }
  }],
  "posID": "165f",
  "productName": "Broadcom 2-port 1GbE NIC Card for IBM",
  "slotName": "SlotDesig6_Slot 7",
}
```

```

        "slotNumber": "7",
        "slotSupportsHotPlug": "false",
        "uuid": "000000000000000000000000AF7256738",
        "vpdID": "14e4",
    }],
    "_links": {
        "rel": "self",
        "uri": "/api/v1/data/devices/7936DD182C5311E3A8D6000AF7256738-28C17EBECF5D470D8223C161466AA0DF/pciDevices"
    }
}

```

/api/v1/data/devices/<id>/processors

Use this REST API to retrieve processor 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

Attributes	Type	Description
displayName	String	Display name
family	String	Family
manufacturer	String	Manufacturer
maxSpeedMHZ	String	Processor speed, in MHz
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": 15,
    "displayName": "Intel(R) Xeon(R) CPU E7-8880L v2 @ 2.20GHz",
    "family": "PENTIUM_R_4",
    "manufacturer": "Intel(R) Corporation",
    "maxSpeedMHZ": 2200,
    "productVersion": "Intel(R) Xeon(R) CPU E7-8880L v2 @ 2.20GHz",
    "slot": 1,
    "socket": "Socket 1",
    "speed": 2.2
  },
  {
    "cores": 15,
    "displayName": "Intel(R) Xeon(R) CPU E7-8880L v2 @ 2.20GHz",
    "family": "PENTIUM_R_4",
    "manufacturer": "Intel(R) Corporation",
    "maxSpeedMHZ": 2200,
    "productVersion": "Intel(R) Xeon(R) CPU E7-8880L v2 @ 2.20GHz",
    "slot": 2,
    "socket": "Socket 2",
    "speed": 2.2
  }],
  "_links": {
    "rel": "self",
    "uri": "/api/v1/data/devices/7936DD182C5311E3A8D6000AF7256738-28C17EBECF5D470D8223C161466AA0DF/processors"
  }
}
```

/api/v1/data/devices/<id>/powerSupplies

Use this REST API to retrieve power-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. <ul style="list-style-type: none">• 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	
firmware	Array of objects	Power-supply firmware details
build	String	Firmware build
classifications	String	Firmware type codes

Attributes		Type	Description
	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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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
	color	String	LED color. This can be one of the following values. <ul style="list-style-type: none"> • Red • Amber • Yellow • Green • Blue • Unknown

Attributes		Type	Description
	location	String	LED location. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Off • On • Blinking • Unknown
	machineType	String	Machine type
	manufactureDate	String	Manufacture date
	manufacturer	String	Manufacture name
	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. <ul style="list-style-type: none"> • Healthy • Warning • Critical
	overallHealthStateKey	String	Highest severity key. This can be one of the following values. <ul style="list-style-type: none"> • Healthy • Warning • Critical
	parent	Object	Information about the parent device
	uri	String	Parent URI
	uuid	String	Parent UUID
	partNumber	String	Part number
	posID	String	Position ID
	powerAllocation	Object	Information about power allocation
	totalInputPower	Long	Total input power
	totalOutputPower	Long	Total output power
	powerState	String	Power state (translated). This can be one of the following values. <ul style="list-style-type: none"> • Off • On • Standby • Unknown
	powerStatus	String	Power status (translated). This can be one of the following values. <ul style="list-style-type: none"> • Off • On • Standby • Unknown

Attributes	Type	Description
powerStatusKey	String	Power status key. This can be one of the following values. <ul style="list-style-type: none"> • 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 3",
    "cmmHealthState": "Unknown",
    "dataHandle": 0,
    "description": "",
    "excludedHealthState": "Normal",
    "firmware": [],
    "FRU": "",
    "fruSerialNumber": "",
    "healthState": "Normal",
    "hardwareRevision": "",
    "healthStateKey": "Normal",
    "inputVoltageIsAC": true,
    "inputVoltageMax": -1,
    "inputVoltageMin": -1,
    "leds": [],
    "machineType": "",
    "manufactureDate": "",
    "manufacturer": "DELT",
    "manufacturerId": "",
    "model": "",
    "name": "Power Supply 3",
    "overallHealthState": "Normal",
    "overallHealthStateKey": "Normal",
    "parent": {
      "uri": "chassis/",
      "uuid": ""
    },
    "partNumber": "94Y8066",
    "posID": "",
    "powerAllocation": {
      "totalInputPower": 0,
      "totalOutputPower": 900
    }
  ]
}
```

```

    },
    "powerState": "Unknown",
    "powerStatus": "Unknown",
    "powerStatusKey": "Unknown",
    "productId": "",
    "productName": "",
    "serialNumber": "K115136V11L",
    "slots": [3],
    "type": "PowerSupply",
    "uri": "powerSupply/",
    "userDescription": "",
    "uuid": "",
    "vpdID": "",
  },],
  "_links": {
    "rel": "self",
    "uri": "/api/v1/data/devices/7936DD182C5311E3A8D6000AF7256738-28C17EBECF5D470D8223C161466AA0DF/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	Storage capacity, in KB
description	String	Description
diskState	String	Disk-drive state
firmware	Array of objects	Information about drive firmware
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. This can be one of the following values. <ul style="list-style-type: none">• Primary• Backup• Temporary• Permanent
softwareID	String	Firmware ID
status	String	Firmware status. This can be one of the following values. <ul style="list-style-type: none">• Active• Inactive• Pending
type	String	Firmware type
version	String	Firmware version
FRU	String	FRU
healthState	String	Health summary(translated) that corresponds to the highest event severity of all disk drives in the device. This can be one of the following values. <ul style="list-style-type: none">• Normal• Non-Critical• Warning• Minor-Failure• Major-Failure• Non-Recoverable• Critical• Unknown

Attributes	Type	Description
healthStateKey	String	Health summary key that corresponds to the highest event severity of all disk drives in the device. This can be one of the following values. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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	Storage device UUID

The following example is returned if the request is successful.

```
{
  "bay": 0,
  "blockSize": 512,
  "capacity": 300000000000,
  "description": "ST300MM0006",
  "diskState": "Online",
  "firmware": [{
    "build": "0",
    "classifications": [10],
    "date": "",
    "name": "Drive",
    "revision": "0",
    "role": "Primary",
    "softwareID": "ST300MM0006"
    "status": "Active",
    "type": "Firmware",
    "version": "B56T",
  }],
  "FRU": "42D0628",
}
```



```

    "healthState": "Normal",
    "healthStateKey": "Normal",
    "interfaceType": "SAS",
    "largestAvailableSize": 512,
    "m2Location": "",
    "manufacturer": "IBM-ESXS",
    "mediaType": "Rotational",
    "model": "ST300MM0006",
    "name": "Disk_0_0",
    "numberOfBlocks": 585937500,
    "partNumber": "42D0631",
    "remainingLife": null,
    "serialNumber": "S0K09V6W",
    "temperature": 28,
    "uuid": "",
  }
}

```

/api/v1/data/devices/<id>/systemBoard

Use this REST API to retrieve system-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": "6241",
  "model": "AC1",
  "productName": "Lenovo System x3850 X6",
  "serialNumber": "23Y6458",
  "uuid": "7936DD182C5311E3A8D6000AF7256738",
  "_links": {
    "rel": "self",
    "uri": "/api/v1/data/devices/7936DD182C5311E3A8D6000AF7256738-28C17EBECF5D470D8223C161466AA0DF/systemBoard"
  }
}
```

/api/v1/data/deviceStatus

Use this REST API to retrieve status 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. <ul style="list-style-type: none">• Off. The LED is off.• On. The LED is on.
informationalAlerts	Integer	Identity LED status. This can be one of the following values. <ul style="list-style-type: none">• Off. The LED is off.• On. The LED is on.
powerStatus	String	Power status. This can be one of the following values. <ul style="list-style-type: none">• 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"
  }
}
```




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Lenovo