SafeNet Network HSM REST API 4.0.0

API Reference Guide

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security to be free

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REST API

4.0

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Contents

Chapter 1

Introduction

SafeNet Network HSM REST API

Introduction

SafeNet Network HSM offers an exciting new way to administer the appliance. In addition to the long-standing Luna shell, administrators now have the ability to use a representational state transfer application programming interface — REST-ful API — to configure and query the appliance.

LunaSH Cross Reference

Most existing SafeNet Network HSM customers are familiar with LunaSH. The first question a SafeNet Network HSM administrator familiar with LunaSH might have is: What is the relationship between the REST API resources and the LunaSH commands of SafeNet Network HSM? The tables at the following links provide a cross reference between existing LunaSH commands and REST API resources. Note that the REST API condenses many of the LunaSH commands together for greater efficiency. For this reason, many cross references are not direct 1:1 mappings.

"client" commands ("client" LunaSH Commands Cross Reference)
"hsm" commands ("hsm" LunaSH Commands Cross Reference)
"ntls" commands ("ntls" LunaSH Commands Cross Reference)
"partition" commands ("partition" LunaSH Commands Cross Reference)
"service" commands ("service" LunaSH Commands Cross Reference)
"stc" commands ("stc" LunaSH Commands Cross Reference)

What Do I Need to Use the REST API?

SafeNet Network HSM 6.1 is the first release to support the REST API feature. If you have an appliance at an older release, you need to upgrade your appliance to 6.1 or a subsequent release to get the support necessary for the feature.

To make use of the REST API on a SafeNet Network HSM 6.1 or subsequent release appliance, you need to first install the rest-api secure package. The version will change over time but here is an example of the steps to install the REST API.

- Obtain the REST API secure package update
- Transfer it to the appliance via SCP
- Login to the HSM (hsm login)
- Apply the package update for the REST API (package update rest-api-1.0.0-45 -auth d69PbsY696LYW5YP)

You may want to test that the REST API is operational. To do so, follow these steps:

- Open a LunaSH prompt on your appliance
- Type: webserver enable NOTE: You must issue this command whenever you reboot or power cycle the appliance. The web server is disabled by default.
- Type: webserver certificate generate –keytype rsa
- Type: service restart webserver
- Copy the following java script to a file and name it `login.html`. Replace YOURLUNASAIPADDRESS with the IP address of the SafeNet Network HSM appliance you want to administer and YOURLUNASAPASSW↩ ORD with the admin account password.

```
<html>
<head>
    <script src="http://code.jquery.com/jquery-1.11.0.min.js"></script>
</head>

<body>
    <input id="login" type="button" value="Login"/>
    <a href="https:/YOURLUNASAIPADDRESS:8080/api/lunasa/hsms">hsms</a>

    <script>

        var loginData = {   username:"admin",
                            password:"YOURLUNASAPASSWORD"};

        $("#login").on("click", function(e){
            $.ajax({
                type: 'post',
                url: "https://YOURLUNASAIPADDRESS:8080/auth/login/basic",
                dataType: 'json',
                data: JSON.stringify(loginData),
                success: function(data) {
                    console.log("worked");
                    console.log(data);
                },
                error: function(e,status,error){
                    console.log(e);
                    console.log(status);
                    console.log(error);
                },
                xhrFields: {
                    withCredentials: true
                },
                timeout: 2000
            });

        });
    </script>

</body>
</html>
```

- Start your favorite browser.
- Open the `login.html` Java script.
- Click the "login" button in the top-right corner.
- Click the "hsms" button in the top-right corner.
- Accept the self-signed server certificate of the SafeNet Network HSM if informed that the server is unsafe or the connection is not private.
- If successfully connected to the web server on the SafeNet Network HSM, you should see something similar to the following example in the top of your browser:

```
{"hsms":[{"id":"117290","label":"mysa","url":"/api/lunasa/hsms/117290"}]}
```

- Form the URL with the serial number of your HSM to query more details of the HSM and hit enter. Using the above example, the URL is:

```
https://YOURLUNASAIPADDRESS:8080/api/lunasa/hsms/117290
```

- You should see information similar to the following example in your browser (formatting with returns in this example):

```
{"storageSpace":{"free":2097152,"used":0,"total":2097152},
"supportInfo":"",
"counter":"/api/lunasa/hsms/117290/counter",
"pkiEnabled":true,
"debugInfo":"",
"fipsModeEnabled":false,
"zeroized":false,
"loggedIn":false,
"authenticationMethod":"PASSWORD",
"model":"K6 Base",
"driverTimeout":0,
"firmwareVersion":"6.22.0",
"label":"Admin",
"licenses":"/api/lunasa/hsms/117290/licenses",
"partitions":"/api/lunasa/hsms/117290/partitions",
"roles":"/api/lunasa/hsms/117290/roles",
"policies":"/api/lunasa/hsms/117290/policies"}
```

Organization of Documentation

The best way to use this documentation is to have the list of pages open on the left and the viewing pane on the right as the following example shows.

The pages in the left pane have the following organization.

- The first page — this one — is an introduction to the REST API.
- The next set up pages describe resources specific to the REST API framework. These pages are in alphabetical order.
- The large set of pages that follow identify the various resources available in the REST API as plug-ins. These pages are in alphabetical order.
- A set of pages thereafter describe each of the REST objects. These pages are in alphabetical order.
- The documentation concludes with cross reference tables for the various LunaSH commands that the REST API replaces.

Notes

- resources and objects are case-sensitive: use the contents of this documentation as a reference for the proper case.
- the default session timeout is 10 minutes: after this period with no activity, the REST server terminates an authenticated session.
- to keep the REST session alive over an extended period (i.e., more than 10 minutes), periodically query a resource such as GET. /api/lunasa/services/webserver ... or to have a record of the keep-alive action: POST /api/lunasa/logs/lunalogs with a suitable log message.
- HSM and partition serial numbers are unique; HSM and partition labels do not have to be: keep this point in mind when constructing logic for REST resources.
- if you encounter the string "NO ERR WITH THIS ID EXISTS", please contact Gemalto technical support and report how you encountered this string.
- LunaSH imposes constraints on names, labels, etc. to prevent characters that could be used to exploit the shell. You should use the same character set with the REST API. See the "Create (Initialize) a Password Authenticated Legacy-style Application Partition" page in the product documentation for more details.
- all discoverable resources (resources with a GET) will be referenced by a href in its parent resource, this documentation may not reflect all resources that follow this rule.

Other Topics

Authentication
Tasks
Indirect Login
Protecting Resources
Headers
Status Codes
Formatting
File I/O

1.1 Authentication

Authenticating to a SafeNet Network HSM Appliance

Introduction

To obtain the services of the REST API, you must authenticate to the web server on the SafeNet Network HSM appliance. SafeNet Network HSM supports password- and certificate-based authentication.

Password Authentication

Password-based authentication is the only method supported for version 1 of the REST API. Other versions also allow PED-based authentication. The client supplies the required credentials (username and password) via POST to /auth/login/basic. The server responds with 204 return code if successful and 401 in case of authentication failure.

Certificate-Based Authentication

The certificate-based authentication uses the following steps:

- Uploading the user certificate

Step 1: Login to server using username and password

Step 2: Upload public key by posting to '/users/{user you wish to use}/certificates' with the certificate.

Replace everything within {} with the username to use in the login process

- Performing the login handshake

Step 1: Create a challenge by invoking POST to '/auth/login/challenge' with your username and the client public key. The server responds with a cryptographic challenge and nonce parameters.

Step 2: Decode the obtained challenge and nonce using base64.

Step 3: Decrypt the decoded challenge using the client private key in order to continue with the login process.

Step 4: To get the answer of the challenge, XOR the decoded and decrypted challenge with the decoded nonce. The result is the un-encrypted challenge answer.

Step 5: Encrypt the answer with the server public key to obtain the final challenge response as expected by the server.

Step 6: In order to transmit it over REST, encode the encrypted answer using base64.

Step 7: Answer the challenge by invoking POST to '/auth/login/basic' with your encrypted challenge response.

The server responds with 204 return code if successful and 401 in case of authentication failure.

1.2 Tasks

Tasks

Introduction

Many administrative actions take noticeable time to complete: they are not instantaneous. For example, the action of updating the firmware on the HSM can take a couple minutes to complete. Rather than block and wait for the action to complete, the REST API creates tasks for time-consuming resources and returns a response immediately for the action. An application can monitor an associated task for state and perform different actions depending upon the state. Returning to firmware update, for example, an application might display: an hour glass to signify that the operation is still in progress; a check mark for a successful completion; or an X for a failed operation. The state obtained for a GET operation on the applicable task identifier provides the information needed to decide what follow on action to take.

How to Use Tasks

An application can use a task and the state returned on query in different ways. The description that follows outlines one way. For the purpose of an example, assume that you want to login to the HSM.

Post the login resource on the HSM:

```
POST /api/lunasa/hsms/151256/login

{"ped": "1", "password": "", "role": "so"}
```

You get back:

```
{
    "finishTime": "",
    "instance": "/tasks/3",
    "responseUrl": "/tasks/3/response",
    "sourceUrl": "/api/lunasa/hsms/151256/login",
    "startTime": "",
    "state": "Waiting",
    "details": ""
}
```

To obtain a list of tasks from the appliance, get the tasks:

```
GET /tasks
```

The server response for our example might include:

```
{
    "tasks": [
        {
            "finishTime": "",
            "instance": "/tasks/6",
            "responseUrl": "/tasks/6/response",
            "sourceUrl": "",
            "startTime": "2015-07-05T06:53:36Z",
            "state": "Running",
            "details":""
        }
    ]
}
```

"Running" means that the HSM login action is still in progress. After sufficient time to allow the login to complete, a query of tasks shows:

```
{
    "tasks": [
        {
            "finishTime": "2015-07-05T06:53:49Z",
            "instance": "/tasks/6",
            "responseUrl": "/tasks/6/response",
            "sourceUrl": "/api/lunasa/hsms/151256/login",
            "startTime": "2015-07-05T06:53:36Z",
            "state": "Finished",
            "details":""
        }
    ]
}
```

Starting a login again and using the task instance returned in the server response to do a GET operation shows:

```
GET /tasks/7
...
{
    "finishTime": "",
    "instance": "/tasks/7",
    "responseUrl": "/tasks/7/response",
    "sourceUrl": "/api/lunasa/hsms/151256/login",
    "startTime": "2015-07-05T09:10:30Z",
    "state": "Running",
    "details":""
}
```

Periodically polling with a GET on this resource continues to show a "Running" state. If the action fails (e.g., no PED response), the server response is:

```
GET /tasks/7
...
    "finishTime": "2015-07-05T09:15:30Z",
    "instance": "/tasks/7",
    "responseUrl": "/tasks/7/response",
    "sourceUrl": "/api/lunasa/hsms/151256/login",
    "startTime": "2015-07-05T09:10:30Z",
    "state": "Error",
    "details":""
}
```

Other states that you might encounter are:

- "Waiting" - This state means that the REST API is blocked from handing off a request to a plugin to complete. For example, with multi-party authentication, login to the REST API reports this state until authentication is established.
- "Cancelled" - This state is reserved for future use and is TBD until then.
- "Timed Out" - This state is reserved for future use and is TBD until then.
- "Skipped" - This state is reserved for future use and is TBD until then.

NOTE: Applications may choose to cleanup the tasks, this is done with the delete task resources (DELETE /tasks/{taskid} and DELETE /tasks), however this is not required as the maxiumum amount of stale tasks is 20. Stale tasks refer to tasks that either need to be started or queried for results in order to be removed (Waiting, Finished, Error).

Tasked Resources

Any resource action can result in a task. The return code for a tasked action on a resource is 202. Some resource actions are more likely to always use tasks to track progress, specifically:

- POST /api/lunasa/hsms/{hsmid}/... (see Note 1)
- POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/actions/backup

- POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/actions/restore
- DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}
- POST /api/lunasa/hsms/{hsmid}/partitions
- POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/actions/initialize
- PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}/password
- PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}
- PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}
- PATCH/api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}
- POST /api/lunasa/hsms/{hsmid}/peds/{pedid}/actions/connect
- POST /api/lunasa/hsms/{hsmid}/peds/{pedid}/actions/disconnect
- POST /api/lunasa/hsms/{hsmid}/firmware/actions/rollback
- POST /api/lunasa/hsms/{hsmid}/firmware/actions/upgrade
- PUT /api/lunasa/hsms/{hsmid}/policies/{policyid}
- PATCH /api/lunasa/hsms/{hsmid}/policies/{policyid}

Note 1: Any resource that uses the PIN entry device is tasked. For example, /api/lunasa/hsms/{hsmid}/login.

Some reference pages show examples of how tasks might result for certain operations.

1.3 Indirect Login

Indirect Login

The indirect login capability of SafeNet Network HSM is a powerful feature used to provision PED-based HSMs. The following steps describe how to achieve indirect login with the REST API. For the purposes of the instructions, "adminHSMid" is the holder of the private key used for indirect login and "serviceHSMid" is the HSM to be provisioned as a service.

Setup

```
1. Log into partition on adminHSMid as the crypto officer ("co").

2. GET /api/lunasa/hsms/{adminHSMid}/partitions/{partitionid}/indirect/key

   OUTPUT:

   BODY:  "exponent": "AQAB",
          "modulus": "tGHiZBb/Ou+VVutU/I9XZhvF410zw307r+GjxuuTKO2e2g/p23EdiJK1ghF2ORGc5qpWBOr0w4V7KarxW/f1ERwI

3. Log into serviceHSMid as Security Officer ("so")

4. POST /api/lunasa/hsms/{serviceHSMid}/indirect/key {"exponent":"<as above>","modulus":"<as above>"}

   OUTPUT:

   HDR: location: /api/lunasa/hsms/{serviceHSMid}/indirect/challenges

5. Log out of serviceHSMid
```

Use Indirect Login

```
1. GET /api/lunasa/hsms/{adminHSMid}/certificate

   OUTPUT:

   BODY: "certificate": "AwAAADCCBAswggHzoAMCAQICAQAwDQYJKoZIhvcNAQEMBQAwJjEkMCIGA1UEAxMbSGFyZHdhcmUgT3JpZ2luI

2. POST /api/lunasa/hsms/{serviceHSMid}/indirect/challenges {"role":"so", "ped":"1", "certificate":"<as above>

   OUTPUT:

   HDR: location: /api/lunasa/hsms/{serviceHSMid}/indirect/challenges/{challengeid}

   BODY:

  "challenge": "AAEAAHlUqZ5blhyvdl/bW9EqXwY9xwlVA/D700rVrErljxLwQznRV6NxGUN4ry3yvi67vcC6agdelBNQL20NMb9qI59WBe
```

Notes

- This object is persistent for the duration of the session.
- There is no GET indirect/challenges to obtain a list of objects.
- The challenge can be retrieved with GET /api/lunasa/hsms/{serviceHSMid}/indirect/challenges/{challengeid}.

```
3. POST /api/lunasa/hsms/{adminHSMid}/partitions/{partitionid}/indirect/responses {"challenge":"<as above>"}

   OUTPUT:

   HDR: location: /api/lunasa/hsms/{adminHSMid}/indirect/responses/{reponseid}

   BODY: "response": "GZvvxqRYqk6LD3fRKm6MtikoBLjUOsgfMdclectEvoo="
```

Notes

- This object is persistent for the duration of the session.
- There is no GET indirect/responses to obtain a list of objects.
- The response can be retrieved with GET /api/lunasa/hsms/{serviceHSMid}/indirect/ responses/{responseid}.

```
4. POST /api/lunasa/hsms/{serviceHSMid}/login {"response":"<as above>"}

   HDR: location: /api/lunasa/hsms/{adminHSMid}/roles/{roleid}
```

At this step, you should now be logged into the serviceHSMid as the Security Officer ("so").

1.4 Protecting Resources

Protecting Resources

Some REST API actions can lead to destructive outcomes. For example:

- HSM zeroization: all partitions and cryptographic material is destroyed
- apply destructive policy setting: all cryptographic material is destroyed
- exceeding last login attempt: all cryptographic material is destroyed
- applying destructive HSM capability update: all cryptographic material is destroyed

To provide an application with a measure of control over actions of this kind, the REST API has a process to protect accessing destructive resources. This two-step process is as follows:

- First, the application requests the destructive resource. This action creates a suspended (WAITING) task.
- Next, the application "kick-starts" the task so that it can run and complete the destructive process.

An application does the kick-start via a task actions resource called “start" as shown by the following prototype:

```
POST /tasks/{taskid}/actions/start
```

Additionally, the REST API has another resource to list all task actions:

```
GET /tasks/{taskid}/actions
```

As an example, the following list show the steps to zeroize an HSM:

- Log into REST
- Log into HSM
- POST /api/lunasa/hsms/{hsmid}/actions/zeroize
- Returned is a task object referenced by /tasks/{taskid}
- GET /tasks/{taskid} and confirm the task is in WAITING (suspended) state
- POST /tasks/{taskid}/actions/start to continue the zeroization
- GET /tasks/{taskid} to confirm the task is in FINISHED or ERROR state
- GET /tasks/{taskid}/response to obtain the output of the zeroization resource

1.5 Headers

Headers

Headers are used by the server to process requests.

Content-Type

Content type is used to define the type of content the server should expect for a request so that the server may process it appropriately, it should be specified when using PUT, PATCH and POST requests.

The template for the Content-Type header is defined as:

```
{
    "Content-Type" : "application/vnd.safenetinc.lunasa+{type};version={version}"
}
```

Types

Currently the REST API supports following types:

json: sending json data to the server.

octet-stream: sending a stream of data to the server.

Version

Version is a number defining the version of the resource to access.

Accept-Type

Accept-Type header entry is defined the same way as the Content-Type except it should be specified when doing a GET and DELETE request.

NOTE: If both the Content-Type and Accept-Type header are given the Content-Type will be used.

1.6 Status Codes

Status Codes

This page summarizes the status codes that the REST API can return. Refer to specific resources for details of what status codes apply and their interpretation.

200

Success

201

Success and a new resource was created

202

Task generated

204

Change successful, no content returned

303

Task finished successfully or with error

400

Request failed due to malformed request. resource, parameters and/or headers may be possible reasons

401

Unauthorized

404

Request failed due to resource being not found

500

REST API framework failed to complete action for resource

501

REST API framework does not support the requested action on the resource

Reference

For a more detailed discussion of the intent of the status codes, refer to RFC 2616: http://www.w3.org/↩Protocols/rfc2616/rfc2616-sec10.html

1.7 Formatting

Formatting Responses

The REST API framework allows the user to format the response of any request. To format any response the user must include their formatting options in the query, see below for available options.

Limit

This is a filter that will limit the number of elements in an array. If for example the server would normaly return 100 elements(0-99) a limit of 20 would return elements 0-19.

e.g. api/hsms/1234/partitions?limit=20

When limit is used with offset it can generate a link header with a link to the "next" page. The link header will not exist is there are no more pages.

Offset

This filter will offset the results of an array. If for example the server would normaly return 100 elements(0-99) a offset of 20 would return elements 20 - 99.

e.g. api/hsms/1234/partitions?offset=20

When limit is used with offset it can generate a link header with a link to the "next" page. The link header will not exist is there are no more pages.

Notes

Any filter that opperates on arrays will modify the first array in an object. For example: if a user expands partitions when fetching an HSM the partitions would be formated not hsm.

Multiple filters can be combined for desired effect. e.g. api/hsms/1234/partitions?limit=2&offset=2 (will get element 2,3 and skip 0 and 1)

Formatting Requests

The REST API framework allows the user to format requests, see below for methods available.

URL encoding

URLs can only be sent using the ASCII character-set.

Since the REST API framework allows the user to use some characters which are outside the ASCII characters-set in URLs. URLs have to be encoded by the REST client and decoded by the server.

Currently, the REST API framework supports the ASCII characters from 32 (space) to 126 (tilde).

e.g. GET api/lunasa/hsms/1234/partitions/20160901/stc/clients/client%20luna

The example above encodes the client name "client luna" to "client%20%luna" in URL.

1.8 File I/O

File I/O

Introduction

The REST API supports file input and output. This allows you to send and receive files within requests and responses.

Receiving Files

When receiving a file the response object will contain the contents of the file in a buffer that can then be iterated and saved to a file.

Example:

```
r = requests.get("/api/lunasa/webServer/config/csr",
                 stream=True,
                 cookies=cookies,
                 verify=False,
                 allow_redirects=False)

with open("ssl.csr", 'wb') as csr:
    for chunk in r.iter_content(chunk_size=1024):
        if chunk:
            csr.write(chunk)
```

Sending Files

Sending files requires one minor change to the request. The header Content-Type needs to be set to 'octet-stream' to notify the server that it will be receiving a file. In python passing the file object to the data parameter is all that is required.

Header format:

```
headers = {'Content-Type': "application/vnd.safenetinc.lunasa+octet-stream;version="}
```

Example:

```
with open(filename, 'rb') as payload:
    r = requests.put("/api/lunasa/webServer/config/certificate",
                     stream=True,
                     cookies=cookies,
                     data=payload,
                     header=headers,
                     verify=False,
                     allow_redirects=False)
```

Chapter 2

Framework

This version of the REST API provides the following framework resources:

- Authentication
- Errors
- Tasks
- User management

2.1 Authentication

Authentication resources provide a facility to obtain access to the REST API.

- GET /auth/certificate
- POST /auth/login/challenge
- POST /auth/login/basic

2.1.1 GET /auth/certificate

GET /auth/certificate

Returns server public certificate. NOTE: The certificate is PEM format with no embedded newlines, with string '\n' instead of the newline character.

Parameters

None

Responses

200

Success

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/auth/certificate
{
}
```

Example Result

```
{
   "certificate": "-----BEGIN CERTIFICATE-----'...'-----END CERTIFICATE-----\n"
}
```

2.1.2 POST /auth/login/challenge

POST /auth/login/challenge

Generate a login challenge which is to be responded to by the client.

Parameters

username

A user defined by the client

Use: `Required`

JSON Schema:

```
Object
type: string
```

certificate

The client's public certificate to register with. NOTE: The certificate must be uploaded to the server before use

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

400

Unexpected error

Example Request

```
POST
https://1.2.3.4:8443/auth/login/challenge
{
   "username": "admin",
   "certificate": "-----BEGIN CERTIFICATE-----\nMIIBxDCCAS2gAwIBAgIBAjANBgkqhkiG9w0BAQUFADAAMB4XDTE2MDUxNzE
}
```

Example Result

```
{
   "nonce": "YjBlNDg0NDUtODE3NS00ZTA4LWJiNjktMDNmMjUyZWMyZDE0"
   "challenge": "nAbCojs0aaezuIFwf1cyjauXESzTS+c0eKneHR4qK3o//dsWs57yzmOQVLiaQuiPOCCj6n6TmAeTVnUq2UA5WHhb17B9K
}
```

2.1.3 POST /auth/login/basic

POST /auth/login/basic

Perform login using challenge response computed by the client.

Parameters

username

A registered client of the REST API

Use: `Optional`

JSON Schema:

```
Object
type: string
```

password

The password credentials for the registered client

Use: `Optional`

JSON Schema:

```
Object
type: string
```

challengeResponse

The challenge for PKI authentication

Use: `Optional`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

400

Unexpected error

401

Authentication failed

Example Request (username and password)

```
POST
https://1.2.3.4:8443/auth/login/basic
{ "username": "admin", "password": "1q@W3e$R" }
```

Example Request (challengeResponse)

```
POST
https://1.2.3.4:8443/auth/login/basic
{ "challengeResponse": "cCaDejm0aafzzIGwd2cyjazZEEzTs+c0eKneHR4qK3o//dsWs57yzmOQVLiaQuiPOCCj6n6TmAeTVnUq2UA
```

Example Result

```
{
}
```

2.2 Errors

Errors resources provide a facility to obtain language-specific text and additional details about each error. This version of the REST API supports English only.

- GET /errors
- GET /errors/languageid
- GET /errors/languageid/errorid

2.2.1 GET /errors

GET /errors

Gets list of all error languages supported by the REST API.

Parameters

None

Responses

200

A list of all error languages. Specifically, the list is unique language identifiers.

JSON Schema: `Languages`

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/errors
```

Example Result

```
{
    "languages": [
        {
        "url": "/errors/en",
        "id": "en"
        }
    ]
}
```

2.2.2 GET /errors/languageid

GET /errors/{languageid}

Gets all errors for the specific language.

Parameters

languageid

The language of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

A list of all errors for the specific language. Specifically, the list is unique error identifiers.

JSON Schema: `Errors`

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/errors/en
```

Example Result


```
{
    "errors":
    [
       {"url": "/errors/en/APICONFIG_CERT_GEN_ERROR", "id": "APICONFIG_CERT_GEN_ERROR"},
       {"url": "/errors/en/APICONFIG_CERT_NOT_FOUND", "id": "APICONFIG_CERT_NOT_FOUND"},
       {"url": "/errors/en/APICONFIG_INVALID_ECC_CURVE", "id": "APICONFIG_INVALID_ECC_CURVE"},
       {"url": "/errors/en/APICONFIG_INVALID_KEY_SIZE", "id": "APICONFIG_INVALID_KEY_SIZE"},
       {"url": "/errors/en/APICONFIG_INVALID_KEY_TYPE", "id": "APICONFIG_INVALID_KEY_TYPE"},
       {"url": "/errors/en/APICONFIG_INVALID_NETDEVICE", "id": "APICONFIG_INVALID_NETDEVICE"},
       {"url": "/errors/en/APICONFIG_INVALID_PORT", "id": "APICONFIG_INVALID_PORT"},
       {"url": "/errors/en/APICONFIG_NETDEVICE_NOT_CONFIGURED", "id": "APICONFIG_NETDEVICE_NOT_CONFIGURED"},
       {"url": "/errors/en/APICONFIG_PORT_CONFIG_FAILED", "id": "APICONFIG_PORT_CONFIG_FAILED"},
       {"url": "/errors/en/FRAMEWORK_BAD_REQUEST", "id": "FRAMEWORK_BAD_REQUEST"},
       ...
    ]
}
```


2.2.3 GET /errors/languageid/errorid

GET /errors/{languageid}/{errorid}

Gets details of the error.

Parameters

languageid

The language of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

errorid

The error of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

Details of the error.

JSON Schema: `JSON Schema: Error Description`

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/errors/en/APICONFIG_CERT_GEN_ERROR
```

Example Result

```
{
   "status": "ERROR",
   "returnCode": 400,
   "details": "Failed to generate certificate, webserver configuration may be off."
   "message": "Certificate failed to generate."
   "type": "API",
   "id": "APICONFIG_CERT_GEN_ERROR"
}
```

2.3 Tasks

Tasks resources enable monitoring and administering REST API resources that may require significant time to complete.

- GET /tasks
- DELETE /tasks
- GET /tasks/{taskid}
- DELETE /tasks/{taskid}
- GET /tasks/{taskid}/response
- GET /tasks/{taskid}/actions
- POST /tasks/{taskid}/actions/{actionid}

2.3.1 GET /tasks

GET /tasks

Gets all tasks created in current session with REST API.

Parameters

None

Responses

200

A list of all tasks created on the appliance during the current REST API session. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: Tasks

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/tasks
```

Example Result

```
{
    "tasks": [
        {
            "finishTime": "2015-07-11T07:23:54Z",
            "instance": "/tasks/22",
            "sourceUrl": "/api/lunasa/hsms/151256/login",
            "startTime": "2015-07-11T07:23:49Z",
            "state": "Finished",
            "details": ""
        },
        {
            "finishTime": "2015-07-11T07:24:10Z",
            "instance": "/tasks/23",
            "sourceUrl": "/api/lunasa/hsms/700088/login",
            "startTime": "2015-07-11T07:24:05Z",
            "state": "Finished",
            "details": ""
        }
    ]
}
```

See Also

GET /tasks/{taskid}

2.3.2 DELETE /tasks

DELETE /tasks

Remove all records of tasked resources.

Parameters

None

Responses

204

Success

400

Unexpected error

Example Request

```
DELETE
https://1.2.3.4:8443/tasks
```

Example Result

```
{
}
```

2.3.3 GET /tasks/{taskid}

GET /tasks/{taskid}

Gets the information associated with a specific task.

Parameters

taskid

The identifier of the task of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

Task is not complete

303

Task is complete

410

Task does not exist

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/tasks/0
```

Example Result

On return code 200


```
{
    "finishTime": "",
    "instance": "/tasks/22",
    "responseUrl": "/tasks/22/response",
    "sourceUrl": "/api/lunasa/hsms/151256/login",
    "startTime": "2015-07-11T07:23:49Z",
    "state": "Running",
    "details": ""
}
```


On return code 303


```
{
    "finishTime": "2015-07-11T07:23:54Z",
    "instance": "/tasks/22",
    "responseUrl": "/tasks/22/response",
    "sourceUrl": "/api/lunasa/hsms/151256/login",
    "startTime": "2015-07-11T07:23:49Z",
    "state": "Finished",
    "details": ""
}
```


2.3.4 DELETE /tasks/{taskid}

DELETE /tasks/{taskid}

Removes the record of a tasked resource.

Parameters

taskid

The identifier of the task of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

The task record removed.
JSON Schema: `The corresponding list member of Tasks associated with taskid`

400

Unexpected error

404

Task does not exist.

Example Request

```
DELETE
https://1.2.3.4:8443/tasks/22
```

Example Result

```
{
    "finishTime": "2015-07-11T07:23:54Z",
    "instance": "/tasks/22",
    "sourceUrl": "/api/lunasa/hsms/151256/login",
    "startTime": "2015-07-11T07:23:49Z",
    "state": "Finished",
    "details": ""
}
```

See Also

GET /tasks

2.3.5 GET /tasks/{taskid}/response

GET /tasks/{taskid}/response

Gets the tasked resource response and removes a task record with state "Finished"; errors otherwise.

Parameters

taskid

The identifier of the task of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

201

Success plus any output from the tasked resource.

JSON Schema: `Response output is specific to the resource tasked.`

204

Success, no output from the tasked resource.

404

The tasked resource is "Running"; not in a "Finished" state.

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/tasks/23/response
```

Example Results

Task State is "Finished"

```
201
{ "partitionID": "MyPartition" }

204
{
}
```

Task State is "Running"

```
404
{
}
```

2.3.6 GET /tasks/{taskid}/actions

GET /tasks/{taskid}/actions

Gets all actions associated with the task.

Parameters

taskid

The identifier of the task of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

The set of all actions associated with the task.

JSON Schema: `Task Actions`

400

Unexpected error

404

Task does not exist.

Example Request

```
GET
https://1.2.3.4:8443/tasks/15/actions
```

Example Result

```
{
    {
        "id": "start",
        "url": "/api/lunasa/hsms/tasks/15/actions/start"
    }
}
```

2.3.7 POST /tasks/{taskid}/actions/{actionid}

POST /tasks/{taskid}/actions/{actionid}

Performs the specified task action.

Parameters

taskid

The identifier of the task of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

actionid

The identifier of the task action to be performed

Use: `Required`

JSON Schema:

```
Object
type: string
```

See Task Actions

Responses

202

Success

Location

JSON Schema:

```
id: Object
    type: string
```

"Location" is the URL to the task.

400

Unexpected error

404

Task does not exist.

Example Request

```
POST
https://1.2.3.4:8443/tasks/15/actions/start
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/15', 'Content-Len

{
}
```

2.4 User management

User management resources provide a facility to manage users used to authenticate to the REST API.

- GET /users
- GET /users/{userid}
- GET /users/{userid}/certificates
- POST /users/{userid}/certificates
- DELETE /users/{userid}/certificates
- GET /users/{userid}/certificates/{certificateId}
- DELETE /users/{userid}/certificates/{certificateId}

2.4.1 GET /users

GET /users

Get list of REST API users.

Parameters

None

Responses

200

Success

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/users
{ }
```

Example Result

```
{"users": [{"url": "/users/admin", "id": "admin"}, {"url": "/users/monitor", "id": "monitor"}]}
```

2.4.2 GET /users/{userid}

GET /users/{userid}

Get information for a specific REST API user.

Parameters

None

Responses

200

Success

400

Unexpected error

404

User does not exist.

Example Request

```
GET
https://1.2.3.4:8443/users/admin
{ }
```

Example Result

{"fullName": "Administrator", "userId": "admin", "email": ""}

2.4.3 GET /users/{userid}/certificates

GET /users/{userid}/certificates

Get list of certificates for a specific REST API user.

Parameters

None

Responses

200

Success

400

Unexpected error

404

User does not exist.

Example Request

```
GET
https://1.2.3.4:8443/users/admin/certificates
{ }
```

Example Result

{"certificates": [{"url": "/users/admin/certificates/87d1c75c6b5d27aa375bafb4405e09ecca25963d", "id": "87d1c75

2.4.4 POST /users/{userid}/certificates

POST /users/{userid}/certificates

Add a login certificate for a REST API user.

Parameters

certificate

Certificate body.

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

Location

JSON Schema:

```
id: Object
        type: string
```

"Location" is the URL to the new certificate resource.

400

Unexpected error

404

User does not exist.

Example Request (password)

```
POST
https://1.2.3.4:8443/users/admin/certificate
{"certificate": "-----BEGIN CERTIFICATE-----\nMIIBxDCCAS2gAwIBAgIBAjANBgkqhkiG9w0BAQUFADAAMB4XDTE2MDExODE3MjYw
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/users/admin/certificate

{}
```

2.4.5 DELETE /users/{userid}/certificates

DELETE /users/{userid}/certificates

Delete all certificate for a given REST API user.

Parameters

None

Responses

204

Success

400

Unexpected error

404

User does not exist.

Example Request (password)

```
DELETE
https://1.2.3.4:8443/users/admin/certificates
{ }
```

Example Result

```
{
}
```

Example Result

```
{}
```

Example Result

{"url": "/errors/en/SERVERPLUGIN_CERT_NOT_FOUND", "message": "No certificate found.", "id": "SERVERPLUGIN_CERT

2.4.6 GET /users/{userid}/certificates/{certificateId}

GET /users/{userid}/certificates/{certificateId}

Get information for a specific user certificate.

Parameters

None

Responses

200

Success

400

Unexpected error

404

User does not exist.

Example Request

```
GET
https://1.2.3.4:8443/users/admin/certificates/87d1c75c6b5d27aa375bafb4405e09ecca25963
{}
```

Example Result

{"id": "87d1c75c6b5d27aa375bafb4405e09ecca25963d"}

2.4.7 DELETE /users/{userid}/certificates/{certificateId}

DELETE /users/{userid}/certificates/{certificateId}

Delete a specific certificate for a given REST API user.

Parameters

None

Responses

204

Success

400

Unexpected error

404

User does not exist.

Example Request (password)

```
DELETE
https://1.2.3.4:8443/users/admin/certificates/87d1c75c6b5d27aa375bafb4405e09ecca25963d
{}
```

Example Result

```
{
}
```

Chapter 3

Plug-ins

This version of the REST API supports the following plug-ins:

- HSMs Plug-in
- Appliance Plug-in

The HSMs plug-in supports administration and monitoring of the internal hardware security module(s) inside the appliance.

The appliance plug-in supports administration and monitoring of the services running within the SafeNet Network HSM appliance.

3.1 HSMs Plug-in

The HSMs plug-in supports the following resources:

- HSM
- Partition

3.1.1 HSM

This section lists the resources that are associated with the HSM.
Note: Refer to Partitions under the HSM Plug-in tab for a list of resources associated with a specific partition.

- GET /api/lunasa/hsms
- GET /api/lunasa/hsms/{hsmid}
- PUT /api/lunasa/hsms/{hsmid}
- GET /api/lunasa/hsms/{hsmid}/actions
- POST /api/lunasa/hsms/{hsmid}/actions/{actionid}
- Authentication

- Capabilities
- Counter
- Firmware
- Indirect
- Licenses
- Partitions
- Peds
- Policies
- Roles
- Storage Space
- Tamper
- Updates

3.1.1.1 GET /api/lunasa/hsms

GET /api/lunasa/hsms

Gets all HSMs associated with the appliance.

Parameters

None

Responses

200

A list of all HSMs associated with the appliance. Specifically, the list is unique HSM serial numbers. An empty list means that no HSMs are available and might mean that HSM(s) is/are out-of-service.

JSON Schema: `HSMs`

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms
```

Example Result

```
{
    "hsms": [
        {
            "id": "154704",
            "label": "label for HSM serial #154704",
            "url": "/api/lunasa/hsms/154704"
        },
        {
            "id": "45906",
            "label": "label for HSM serial #459060",
            "url": "/api/lunasa/hsms/459060"
        }
    ]
}
```

3.1.1.2 GET /api/lunasa/hsms/{hsmid}

GET /api/lunasa/hsms/{hsmid}

Gets the information associated with a specific HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

HSM details

JSON Schema: HSM

400

Unexpected error

404

HSM does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704
```

Example Result

```
{
  "loggedIn": "nobody",
  "peds": "/api/lunasa/hsms/151363/peds",
  "manuallyZeroized": False,
  "actions": "/api/lunasa/hsms/151363/actions",
  "rpvInitialized": False,
  "licenses": "/api/lunasa/hsms/151363/licenses",
  "indirect": "/api/lunasa/hsms/151363/indirect",
  "remoteLoginInitialized": False,
  "firmwareVersion": "6.24.0",
  "soLoginsLeft": 3,
  "certificate": "/api/lunasa/hsms/151363/certificate",
  "tamper": "/api/lunasa/hsms/151363/tamper"
  "firmware": "/api/lunasa/hsms/151363/firmware",
  "state": "initialized",
  "capabilities": "/api/lunasa/hsms/151363/capabilities",
  "label": "myhsm",
  "partitionsAllowed": 20,
  "fipsModeEnabled": False,
  "auditInitialized": False,
  "storageSpace": {
    "total": 16252928,
    "used": 0,
    "free": 16252928
  },
  "partitionsCreated": 0,
  "updates": "/api/lunasa/hsms/151363/updates",
  "pedPresent": True,
  "authenticationMethod": "ped",
  "partitions": "/api/lunasa/hsms/151363/partitions",
  "roles": "/api/lunasa/hsms/151363/roles",
  "counter": "/api/lunasa/hsms/151363/counter",
  "indirectLoginEnabled": False,
  "policies": "/api/lunasa/hsms/151363/policies",
  "model": "K6 Base",
  "isTransportMode" : False,
  "partNumber" : "808-000048-002"
}
```

See Also

GET /api/lunasa/hsms/{hsmid}/counter
GET /api/lunasa/hsms/{hsmid}/licenses
GET /api/lunasa/hsms/{hsmid}/partitions
GET /api/lunasa/hsms/{hsmid}/policies
GET /api/lunasa/hsms/{hsmid}/roles
GET /api/lunasa/hsms/{hsmid}/updates
GET /api/lunasa/hsms/{hsmid}/peds
GET /api/lunasa/hsms/{hsmid}/counter
GET /api/lunasa/hsms/{hsmid}/certificate
GET /api/lunasa/hsms/{hsmid}/actions
GET /api/lunasa/hsms/{hsmid}/firmware
GET /api/lunasa/hsms/{hsmid}/tamper

3.1.1.3 PUT /api/lunasa/hsms/{hsmid}

PUT /api/lunasa/hsms/{hsmid}

Initializes a specific HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

ped

Indicator of whether HSM is local PED (0) or remote PED ($>$ 0): not applicable for password-based HSMs

Use: `Required`

JSON Schema:

```
Object
type: string
```

password

The Security Officer password if password-based HSM: not applicable for PED-based HSMs

Use: `Required`

JSON Schema:

```
Object
type: string
```

domain

The cloning domain if password-based HSM: not applicable for PED-based HSMs

Use: `Required`

JSON Schema:

```
Object
type: string
```

label

The user-friendly name to identify the HSM

Use: `Required`

JSON Schema:

```
Object
type: string
```

defaultDomain

Use a default cloning domain if password-based HSM: not applicable for PED-based HSMs

Use: `Required`

JSON Schema:

```
Object
type: boolean
```

Responses

204

Success

Location

"Location" is the URL to the HSM instance and is returned in the server response. You can use "Location" to form a GET resource to query the HSM instance.

see GET /api/lunasa/hsms/{hsmid}

For PED-based HSMs, "Location" is the URL to the task spawned to initialize the HSM.

400

Unexpected error

404

HSM does not exist.

Example Requests

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/154704
{
"ped": "1",
"label": "myPEDHSM",
"password": "",
"defaultDomain": false,
"domain": ""
}

PUT
https://1.2.3.4:8443/api/lunasa/hsms/151256
{
"ped": "",
"label": "myPasswordHSM",
"password": "1q@W3e$R",
"defaultDomain": false,
"domain": "myDomain"
}
```

Example Result

```
{
password-based HSM:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/151256'

PED-based HSM
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/2', 'Content-Leng
}
```

3.1.1.4 GET /api/lunasa/hsms/{hsmid}/actions

GET /api/lunasa/hsms/{hsmid}/actions

Gets all actions that an administrator can perform on the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

A list of all actions associated with the HSM. The list includes unique identifiers that can be used to perform the specific action with a POST.

JSON Schema: `HSM Actions`

400

Unexpected error

404

HSM or action does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/117290/actions
```

Example Result

```
{
    "actions": [
        {
            "id": "zeroize",
            "url": "/api/lunasa/hsms/117290/actions/zeroize"
        },
        {
            "id": "factoryReset",
            "url": "/api/lunasa/hsms/117290/actions/factoryReset"
        },
        {
            "id": "selfTest",
            "url": "/api/lunasa/hsms/117290/actions/selfTest"
        },
        {
            "id": "stmTransport",
            "url": "/api/lunasa/hsms/117290/actions/stmTransport"
        },
        {
            "id": "stmRecover",
            "url": "/api/lunasa/hsms/117290/actions/stmRecover"
        }
    ]
}
```

See Also

POST /api/lunasa/hsms/{hsmid}/actions/{actionid}

3.1.1.5 POST /api/lunasa/hsms/{hsmid}/actions/{actionid}

POST /api/lunasa/hsms/{hsmid}/actions/{actionid}

Sends the specified action to the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

actionid

The identifier of the action to be performed

Use: `Required`

JSON Schema:

```
Object
type: string
```

randomUserString

The random user string returned when running stmTransport. Applies to the stmRecover action.

Use: `Not Required`

JSON Schema:

```
Object
type: string
```

See HSM Actions

Responses

200

Success

Location

JSON Schema:

```
    id: Object
        type: string
```

"Location" is the URL to the task spawned to perform the HSM action.

400

Unexpected error

404

HSM or action does not exist.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/actions/factoryReset
{}
```

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/actions/stmRecover
{
  "randomUserString" : "AX46-s63t-KL7G-tYt6"
}
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Leng

{
}
```

stmTransport

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Leng

{
  "randomUserString" : "AX46-s63t-KL7G-tYt6",
  "verification" : "AZ90-s64y-AU0G-tYL9"
}
```

stmRecover

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Leng

{
  "verification" : "AZ90-s64y-AU0G-tYL9"
}
```

3.1.1.6 Authentication

The following resources are used for authenticating to the HSM.

- GET /api/lunasa/hsms/{hsmid}/certificate
- POST /api/lunasa/hsms/{hsmid}/login
- POST /api/lunasa/hsms/{hsmid}/logout

3.1.1.6.1 GET /api/lunasa/hsms/{hsmid}/certificate

GET /api/lunasa/hsms/{hsmid}/certificate

Gets the token wrapping certificate needed for indirect login.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

Token wrapping certificate used for indirect login.

JSON Schema:

```
Object
   certificate: Object
      type:  string
      description:  certificate is the token wrapping certificate used
                    for indirect login.
```

400

Unexpected error

404

HSM does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/certificate
```

Example Result

```
{
    "certificate": "AwAAADCCBAswggHzo...7ltguqfo="
}
```

3.1.1.6.2 POST /api/lunasa/hsms/{hsmid}/login

POST /api/lunasa/hsms/{hsmid}/login

Logs in to the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

password

The password for authentication if password-based HSM

Use: `Required`

JSON Schema:

```
Object
type: string
```

ped

The identifier of the PED connected to the HSM. '0' is local PED; 1 or greater is remote PED. For remote PED, ped corresponds to the PED identifier. The parameter has no use for password-based HSMs.

Use: `Required`

JSON Schema:

```
Object
type: string
```

role

The security function to login on the HSM

Use: `Required`

JSON Schema:

```
Object
type: string
```

response

The response to provide to the HSM for indirect login

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

Location

"Location" is the URL to the HSM role logged onto and is returned in the server response. You can use "Location" to form a GET resource to query the HSM role.

see GET /api/lunasa/hsms/{hsmid}/roles/{roleid}

For PED-based HSMs, "Location" is the URL to the task spawned to log into the HSM.

400

Unexpected error

404

HSM does not exist.

Example Requests

Direct Login

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/login
{"ped": "0", "password": "1q@W3e$R", "role": "so"}
```

Indirect Login

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/151256/login
{"response": "qlpLRuWfzCpyYkji4YguJSlpkvr9ZTq/NB5ymFPnLxc="}
```

Example Result

```
password-based HSM:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/

PED-based HSM
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/2', 'Content-Leng

{}
```

3.1.1.6.3 POST /api/lunasa/hsms/{hsmid}/logout

POST /api/lunasa/hsms/{hsmid}/logout

Logs out of the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

Location

"Location" is the URL to the HSM logged out and is returned in the server response. You can use "Location" to form a GET resource to query the HSM status.

see GET /api/lunasa/hsms/{hsmid}

For PED-based HSMs, "Location" is the URL to the task spawned to log out the HSM.

400

Unexpected error

404

HSM does not exist.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/logout
{ }
```

Example Result

```
password-based HSM:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704'

PED-based HSM
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/2', 'Content-Leng

{}
```

3.1.1.7 Capabilities

Capabilities resources allow the user to retrieve information regarding the capabilities of the HSM.

- GET /api/lunasa/hsms/{hsmid}/capabilities
- GET /api/lunasa/hsms/{hsmid}/capabilities/{capabilityid}

3.1.1.7.1 GET /api/lunasa/hsms/{hsmid}/capabilities

GET /api/lunasa/hsms/{hsmid}/capabilities

Gets all capabilities associated with the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

A list of all capabilities associated with the appliance. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: `HSM Capabilities`

400

Unexpected error

404

HSM does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/capabilities
```

Example Result


```
{
    "capabilities": [
        {
            "id": "0",
            "name": "Enable PIN-based authentication",
            "url": "/api/lunasa/hsms/117290/capabilities/0"
        },
        {
            "id": "1",
            "name": "Enable PED-based authentication",
            "url": "/api/lunasa/hsms/117290/capabilities/1"
        },
        {
            "id": "2",
            "name": "Performance level",
            "url": "/api/lunasa/hsms/117290/capabilities/2"
        },
        {
            "id": "4",
            "name": "Enable domestic mechanisms & key sizes",
            "url": "/api/lunasa/hsms/117290/capabilities/4"
        },
        {
            "id": "6",
            "name": "Enable masking",
            "url": "/api/lunasa/hsms/117290/capabilities/6"
        },
        {
            "id": "7",
            "name": "Enable cloning",
            "url": "/api/lunasa/hsms/117290/capabilities/7"
        },
        {
            "id": "8",
            "name": "Enable special cloning certificate",
            "url": "/api/lunasa/hsms/117290/capabilities/8"
        },
        {
            "id": "9",
            "name": "Enable full (non-backup) functionality",
            "url": "/api/lunasa/hsms/117290/capabilities/9"
        },
        {
            "id": "12",
            "name": "Enable non-FIPS algorithms",
            "url": "/api/lunasa/hsms/117290/capabilities/12"
        },
        {
            "id": "15",
            "name": "Enable SO reset of partition PIN",
            "url": "/api/lunasa/hsms/117290/capabilities/15"
        },
        {
            "id": "16",
            "name": "Enable network replication",
            "url": "/api/lunasa/hsms/117290/capabilities/16"
        },
        {
            "id": "17",
            "name": "Enable Korean Algorithms",
            "url": "/api/lunasa/hsms/117290/capabilities/17"
        },
        {
            "id": "18",
            "name": "FIPS evaluated",
            "url": "/api/lunasa/hsms/117290/capabilities/18"
        },
        {
            "id": "19",
            "name": "Manufacturing Token",
            "url": "/api/lunasa/hsms/117290/capabilities/19"
```

```
    },
    {
        "id": "20",
        "name": "Enable Remote Authentication",
        "url": "/api/lunasa/hsms/117290/capabilities/20"
    },
    {
        "id": "21",
        "name": "Enable forcing user PIN change",
        "url": "/api/lunasa/hsms/117290/capabilities/21"
    },
    {
        "id": "22",
        "name": "Enable offboard storage",
        "url": "/api/lunasa/hsms/117290/capabilities/22"
    },
    {
        "id": "23",
        "name": "Enable partition groups",
        "url": "/api/lunasa/hsms/117290/capabilities/23"
    },
    {
        "id": "25",
        "name": "Enable remote PED usage",
        "url": "/api/lunasa/hsms/117290/capabilities/25"
    },
    {
        "id": "26",
        "name": "Enable External Storage of MTK Split",
        "url": "/api/lunasa/hsms/117290/capabilities/26"
    },
    {
        "id": "27",
        "name": "HSM non-volatile storage space",
        "url": "/api/lunasa/hsms/117290/capabilities/27"
    },
    {
        "id": "29",
        "name": "Enable Acceleration",
        "url": "/api/lunasa/hsms/117290/capabilities/29"
    },
    {
        "id": "30",
        "name": "Enable unmasking",
        "url": "/api/lunasa/hsms/117290/capabilities/30"
    },
    {
        "id": "31",
        "name": "Enable FW5 compatibility mode",
        "url": "/api/lunasa/hsms/117290/capabilities/31"
    },
    {
        "id": "33",
        "name": "Maximum number of partitions",
        "url": "/api/lunasa/hsms/117290/capabilities/33"
    },
    {
        "id": "34",
        "name": "Enable ECIES support",
        "url": "/api/lunasa/hsms/117290/capabilities/34"
    },
    {
        "id": "35",
        "name": "Enable Single Domain",
        "url": "/api/lunasa/hsms/117290/capabilities/35"
    },
    {
        "id": "36",
        "name": "Enable Unified PED Key",
        "url": "/api/lunasa/hsms/117290/capabilities/36"
    },
    {
        "id": "37",
```

```
            "name": "Enable MofN",
            "url": "/api/lunasa/hsms/117290/capabilities/37"
        },
        {
            "id": "38",
            "name": "Enable small form factor backup/restore",
            "url": "/api/lunasa/hsms/117290/capabilities/38"
        },
        {
            "id": "39",
            "name": "Enable Secure Trusted Channel",
            "url": "/api/lunasa/hsms/117290/capabilities/39"
        },
        {
            "id": "40",
            "name": "Enable decommission on tamper",
            "url": "/api/lunasa/hsms/117290/capabilities/40"
        },
        {
            "id": "41",
            "name": "Enable Per-Partition SO",
            "url": "/api/lunasa/hsms/117290/capabilities/41"
        },
        {
            "id": "42",
            "name": "Enable partition re-initialize",
            "url": "/api/lunasa/hsms/117290/capabilities/42"
        }
    ]
}
```


See Also

GET /api/lunasa/hsms/{hsmid}/capabilities/{capabilityid}

3.1.1.7.2 GET /api/lunasa/hsms/{hsmid}/capabilities/{capabilityid}

GET /api/lunasa/hsms/{hsmid}/capabilities/{capabilityid}

Gets the information associated with a specific capability.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

capabilityid

The identifier of the capability of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

capability details

JSON Schema: `HSM Capability description`

400

Unexpected error

404

HSM or capability does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/capabilities/12
```

Example Result

```
{
    "value": "allowed",
    "description": "Enable non-FIPS algorithms",
    "id": "12"
}
```

3.1.1.8 Counter

Counter resources allow the user to monitor the performance of the HSM.

- GET /api/lunasa/hsms/{hsmid}/counter
- DELETE /api/lunasa/hsms/{hsmid}/counter
- GET /api/lunasa/hsms/{hsmid}/counter/actions
- POST /api/lunasa/hsms/{hsmid}/counter/actions/{actionid}

3.1.1.8.1 GET /api/lunasa/hsms/{hsmid}/counter

GET /api/lunasa/hsms/{hsmid}/counter

Gets all counter information associated with the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

The set of all counters associated with the appliance.

JSON Schema: `Counter`

400

Unexpected error

404

HSM does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/counter
```

Example Result

```
{
    "criticalEvents": 0,
    "cryptoOperationErrors": 0,
    "cryptoOperationRequests": 73,
    "actions": "/api/lunasa/hsms/154704/counter/actions",
    "nonCriticalEvents": 1589,
    "operationErrors": 0,
    "operationRequests": 3591
}
```

See Also

GET /api/lunasa/hsms/{hsmid}/counter/actions
DELETE /api/lunasa/hsms/{hsmid}/counter

3.1.1.8.2 DELETE /api/lunasa/hsms/{hsmid}/counter

DELETE /api/lunasa/hsms/{hsmid}/counter

Resets the counter associated with the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

400

Unexpected error

404

HSM does not exist.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/hsms/154704/counter
```

Example Result

```
{
}
```

See Also

GET /api/lunasa/hsms/{hsmid}/counter

3.1.1.8.3 GET /api/lunasa/hsms/{hsmid}/counter/actions

GET /api/lunasa/hsms/{hsmid}/counter/actions

Gets all actions that an administrator can perform on the counter of the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

A list of all actions associated with the counter of the HSM. The list includes unique identifiers that can be used to perform the specific action with a POST.

JSON Schema: `HSM HSMId Actions`

400

Unexpected error

404

HSM does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/117290/counter/actions
```

Example Result

```
{
    "actions": [
        {
            "id": "monitor",
            "url": "/api/lunasa/hsms/117290/counter/actions/monitor"
        },
    ]
}
```

See Also

POST /api/lunasa/hsms/{hsmid}/actions/{actionid}

3.1.1.8.4 POST /api/lunasa/hsms/{hsmid}/counter/actions/{actionid}

POST /api/lunasa/hsms/{hsmid}/counter/actions/{actionid}

monitor: Sets interval and samples configuration parameters for the counter associated with the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

interval

The interval over which the HSM is polled, in seconds. See "hsm information monitor" of SafeNet Network HSM Product Documentation for more details of this configuration parameter.

Use: `Required`

JSON Schema:

```
Object
type: integer
```

samples

The number of samples to collect during the HSM polling. See "hsm information monitor" of SafeNet Network HSM Product Documentation for more details of this configuration parameter. In the product documentation, the parameter is "rounds."

Use: `Required`

JSON Schema:

```
Object
type: integer
```

Responses

200

A list of counters collected during the HSM polling.

Location

JSON Schema:

```
id: Object
    type: string
```

"Location" is the URL to the task spawned to perform the counter action.

400

Unexpected error

404

HSM or action does not exist.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/counter/actions/monitor
{"interval": 2, "samples": 10}
```

Example Result

{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Leng

{
   "counters": [
      {
         "operationErrors": 2444,
         "cryptoOperationErrors": 0,
         "criticalEvents": 0,
         "operationRequests": 284893,
         "cryptoOperationRequests": 0,
         "nonCriticalEvents": 0
      },
      {
         "operationErrors": 2444,
         "cryptoOperationErrors": 0,
         "criticalEvents": 0,
         "operationRequests": 284941,
         "cryptoOperationRequests": 0,
         "nonCriticalEvents": 0
      },
      {
         "operationErrors": 2444,
         "cryptoOperationErrors": 0,
         "criticalEvents": 0,
         "operationRequests": 284949,
         "cryptoOperationRequests": 0,
         "nonCriticalEvents": 0
      },
      {
         "operationErrors": 2444,
         "cryptoOperationErrors": 0,
         "criticalEvents": 0,
         "operationRequests": 284957,
         "cryptoOperationRequests": 0,
         "nonCriticalEvents": 0
      },
      {
         "operationErrors": 2444,
         "cryptoOperationErrors": 0,
         "criticalEvents": 0,
         "operationRequests": 284965,
         "cryptoOperationRequests": 0,
         "nonCriticalEvents": 0
      },
      {
         "operationErrors": 2444,
         "cryptoOperationErrors": 0,
         "criticalEvents": 0,
         "operationRequests": 284973,
         "cryptoOperationRequests": 0,
         "nonCriticalEvents": 0
      },
      {
         "operationErrors": 2444,
         "cryptoOperationErrors": 0,
         "criticalEvents": 0,
         "operationRequests": 284981,
         "cryptoOperationRequests": 0,
         "nonCriticalEvents": 0
      },
      {
         "operationErrors": 2444,
         "cryptoOperationErrors": 0,
         "criticalEvents": 0,
         "operationRequests": 284989,
         "cryptoOperationRequests": 0,
         "nonCriticalEvents": 0
      },
      {
         "operationErrors": 2444,
         "cryptoOperationErrors": 0,

```
         "criticalEvents": 0,
         "operationRequests": 284997,
         "cryptoOperationRequests": 0,
         "nonCriticalEvents": 0
      },
      {
         "operationErrors": 2444,
         "cryptoOperationErrors": 0,
         "criticalEvents": 0,
         "operationRequests": 285045,
         "cryptoOperationRequests": 0,
         "nonCriticalEvents": 0
      }
   ]
}
```


3.1.1.9 Firmware

Firmware resources allow for modifying the firmware version via the upgrade and rollback actions.

- GET /api/lunasa/hsms/{hsmid}/firmware
- GET /api/lunasa/hsms/{hsmid}/firmware/actions
- POST /api/lunasa/hsms/{hsmid}/firmware/actions/{actionid}

3.1.1.9.1 GET /api/lunasa/hsms/{hsmid}/firmware

GET /api/lunasa/hsms/{hsmid}/firmware

Gets firmware version genealogy for the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

The set of all firmware versions in the genealogy of the HSM.

JSON Schema: `Firmware`

400

Unexpected error

404

HSM does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/firmware
```

Example Result

```
{
    "current": "6.10.7",
    "rollback": "6.2.1",
    "upgrade": "6.21.2",
    "actions": "/api/lunasa/hsms/154704/firmware/actions"

}
```

3.1.1.9.2 GET /api/lunasa/hsms/{hsmid}/firmware/actions

GET /api/lunasa/hsms/{hsmid}/firmware/actions

Gets all firmware-related actions associated with the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

The set of all firmware actions associated with the HSM.

JSON Schema: `Firmware Actions`

400

Unexpected error

404

HSM does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/firmware/actions
```

Example Result

```
{
    "actions": [
        {
            "id": "upgrade",
            "url": "/api/lunasa/hsms/117290/firmware/actions/upgrade"
        },
        {
            "id": "rollback",
            "url": "/api/lunasa/hsms/117290/firmware/actions/rollback"
        }
    ]
}
```

3.1.1.9.3 POST /api/lunasa/hsms/{hsmid}/firmware/actions/{actionid}

POST /api/lunasa/hsms/{hsmid}/firmware/actions/{actionid}

Sends the specified firmware action to the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

actionid

The identifier of the firmware action to be performed

Use: `Required`

JSON Schema:

```
Object
type: string
```

See Firmware Actions

Responses

204

Success

Location

JSON Schema:

```
id: Object
    type: string
```

"Location" is the URL to the task spawned to perform the firmware action.

400

Unexpected error

404

HSM or action does not exist.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/firmware/actions/upgrade
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Leng

{
}
```

3.1.1.10 Indirect

The following resources enable an HSM indirect login to be performed.

- GET /api/lunasa/hsms/{hsmid}/indirect/challenges/{challengeid}
- POST /api/lunasa/hsms/{hsmid}/indirect/challenges
- GET /api/lunasa/hsms/{hsmid}/indirect/key
- POST /api/lunasa/hsms/{hsmid}/indirect/key
- DELETE /api/lunasa/hsms/{hsmid}/indirect/key
- GET /api/lunasa/hsms/{hsmid}/indirect/responses/{responseid}
- POST /api/lunasa/hsms/{hsmid}/indirect/responses

3.1.1.10.1 GET /api/lunasa/hsms/{hsmid}/indirect/challenges/{challengeid}

GET /api/lunasa/hsms/{hsmid}/indirect/challenges/{challengeid}

Gets from the administration partition of the admin HSM the challenge necessary for indirect login by a service HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

challengeid

The identifier of the challenge of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

201

A challenge needed to authenticate to the service HSM for indirect login.

JSON Schema:

```
type:  string
description:  challenge is the authentication data to be provided to obtain the response
              needed for indirect login.
```

400

Unexpected error

404

HSM or challenge does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/indirect/challenges/1
```

Example Result

```
{
    "challenge": "AAEAAH84Pr7nvSvccf0BXZ0/bcus/ANbeT6jXmY45/yI3GbcOUe5pFC3fGpEYa/129ii7+Xkkz9Gh/fNx6wr2m2uRm0N
}
```

3.1.1.10.2 POST /api/lunasa/hsms/{hsmid}/indirect/challenges

POST /api/lunasa/hsms/{hsmid}/indirect/challenges

Gets the indirect login challenge from the administration partition of the admin HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

ped

The identifier of the PED used to authenticate to the HSM

Use: `Required`

JSON Schema:

```
Object
type: string
```

role

The identifier of the role needed to authenticate to the HSM

Use: `Required`

JSON Schema:

```
Object
type: string
```

see HSM Roles

certificate

The certificate needed to secure wrap data off and onto HSMs

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

201

A challenge needed by the service HSM to authenticate for indirect login.

JSON Schema:

```
type:  string
description:  challenge is the authentication data to be provided to obtain the response
              needed for indirect login.
```

Location

"Location" is the URL to the challenge and is returned in the server response. You can use "Location" to form a GET resource to obtain the challenge.

see GET /api/lunasa/hsms/{hsmid}/indirect/challenges/{challengeid}

400

Unexpected error

404

HSM does not exist.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/indirect/challenges
{"ped": "1",
 "role": "so",
 "certificate": "AwAAADCCBA...R7ltguqfo="}
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/151256/
```

```
{
   "challenge": "AAEAAOer3y90rahjhG2OybC2srtUfhz4YY/WhVyhbbDj6f47mIfgJe90sLR+te4uk8XU3vj/rTWwJSIAEnIo5QycW7sj
}
```

3.1.1.10.3 GET /api/lunasa/hsms/{hsmid}/indirect/key

GET /api/lunasa/hsms/{hsmid}/indirect/key

Gets indirect login public key stored in the administration partition of the admin HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

The public key used for indirect login.

JSON Schema: `Indirect Key`

400

Unexpected error

404

HSM does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/indirect/key
```

Example Result


```
{
    "exponent": "AQAB",
    "modulus": "1QgJJEQuDhjYFyV5KB7s/19DTPik0y5mcTAxKJ/anP2vCLNhymZ+wQx9pUUtyaTMskWXbIvxR36/Coi2Qd2/AW2BZDxUwE
}
```


3.1.1.10.4 POST /api/lunasa/hsms/{hsmid}/indirect/key

POST /api/lunasa/hsms/{hsmid}/indirect/key

Loads the indirect login public key onto the service HSM in the administration partition.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

modulus

The modulus of the public key used for indirect login

Use: `Required`

JSON Schema:

```
Object
type: string
```

exponent

The exponent of the public key used for indirect login

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

Location

JSON Schema:

```
id: Object
    type: string
```

see POST /api/lunasa/hsms/{hsmid}/indirect/challenges

400

Unexpected error

404

HSM does not exist.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/indirect/key
{"modulus": "1QgJJEQuDhjYFyV5KB7s/19DTPik0y5mcTAxKJ/anP2vCLNhymZ+wQx9pUUtyaTMskWXbIvxR36/Coi2Qd2/AW2BZDxUwE
"exponent": "AQAB"}
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/

{
}
```

3.1.1.10.5 DELETE /api/lunasa/hsms/{hsmid}/indirect/key

DELETE /api/lunasa/hsms/{hsmid}/indirect/key

Revokes the indirect login public key from the administration partition of the service HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

Success

400

Unexpected error

404

HSM does not exist.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/hsms/154704/indirect/key
{}
```

Example Result

```
{
}
```

3.1.1.10.6 GET /api/lunasa/hsms/{hsmid}/indirect/responses/{responseid}

GET /api/lunasa/hsms/{hsmid}/indirect/responses/{responseid}

Gets from the administration partition of the admin HSM the response necessary for indirect login.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

responseid

The identifier of the response of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

201

The response to provide to the service HSM for indirect login.

JSON Schema:

```
type:  string
description:  response is the authentication data to be provided for indirect login
              to the service HSM.
```

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/700088/indirect/responses/1
```

Example Result

```
{
    "response": "qlpLRuWfzCpyYkji4YguJSlpkvr9ZTq/NB5ymFPnLxc="
}
```

3.1.1.10.7 POST /api/lunasa/hsms/{hsmid}/indirect/responses

POST /api/lunasa/hsms/{hsmid}/indirect/responses

Gets the indirect login response needed for the service HSM from the administration partition on the admin HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

challenge

The challenge needed to authenticate to the service HSM

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

201

The response to provide to the service HSM for indirect login.

JSON Schema:

```
type:  string
description:  response is the authentication data to be provided for indirect login
              to the service HSM.
```

Location

"Location" is the URL to the response and is returned in the server response. You can use "Location" to form a GET resource to obtain the response.

see GET /api/lunasa/hsms/{hsmid}/indirect/responses/{responseid}

400

Unexpected error

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/700088/indirect/responses
{"challenge": "AAEAAOer3y90rahjhG2OybC2srtUfhz4YY/WhVyhbbDj6f47mIfgJe90sLR+te4uk8XU3vj/rTWwJSIAEnIo5QycW7sj
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/700088/
```

```
{
    "response": "qlpLRuWfzCpyYkji4YguJSlpkvr9ZTq/NB5ymFPnLxc="
}
```

3.1.1.11 Licenses

Licenses resources allow the user to retrieve information regarding the licenses associated with the HSM.

- GET /api/lunasa/hsms/{hsmid}/licenses
- GET /api/lunasa/hsms/{hsmid}/licenses/{licenseid}

3.1.1.11.1 GET /api/lunasa/hsms/{hsmid}/licenses

GET /api/lunasa/hsms/{hsmid}/licenses

Gets all licenses associated with the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

A list of all licenses associated with the appliance. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: `Licenses`

400

Unexpected error

404

HSM does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/licenses
```

Example Result


```
{
    "licenses": [
        {
            "url": "/api/lunasa/hsms/150607/licenses/621000026-000",
            "id": "621000026-000",
            "name": "K6 base configuration"
        },
        {
            "url": "/api/lunasa/hsms/150607/licenses/620127-000",
            "id": "620127-000",
            "name": "Elliptic curve cryptography"
        },
        {
            "url": "/api/lunasa/hsms/150607/licenses/620114-001",
            "id": "620114-001",
            "name": "Key backup via cloning protocol"
        },
        {
            "url": "/api/lunasa/hsms/150607/licenses/621000021-001",
            "id": "621000021-001",
            "name": "Performance level 15"
        },
        {
            "url": "/api/lunasa/hsms/150607/licenses/620124-000",
            "id": "620124-000",
            "name": "Maximum 20 partitions"
        },
        {
            "url": "/api/lunasa/hsms/150607/licenses/621010089-001",
            "id": "621010089-001",
            "name": "Enable remote PED capability"
        },
        {
            "url": "/api/lunasa/hsms/150607/licenses/621000099-001",
            "id": "621000099-001",
            "name": "Enable per-partition Security Officer"
        },
        {
            "url": "/api/lunasa/hsms/150607/licenses/621000079-001",
            "id": "621000079-001",
            "name": "Enable Small Form Factor Backup (destructive)"
        }
    ]
}
```


See Also

GET /api/lunasa/hsms/{hsmid}/licenses/{licenseid}

3.1.1.11.2 GET /api/lunasa/hsms/{hsmid}/licenses/{licenseid}

GET /api/lunasa/hsms/{hsmid}/licenses/{licenseid}

Gets the information associated with a specific license.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

licenseid

The identifier of the license of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

License details

JSON Schema: `License description`

400

Unexpected error

404

HSM or license does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/licenses/4
```

Example Result

```
{
    "id": "620124-000",
    "description": "Maximum 20 partitions"
}
```

3.1.1.12 Partitions

Partitions resources allow for access to all partitions on the HSM.
NOTE: Resources related to a specific HSM partition are listed under HSMs Plug-in Partition.

- GET /api/lunasa/hsms/{hsmid}/partitions
- POST /api/lunasa/hsms/{hsmid}/partitions
- DELETE /api/lunasa/hsms/{hsmid}/partitions

3.1.1.12.1 GET /api/lunasa/hsms/{hsmid}/partitions

GET /api/lunasa/hsms/{hsmid}/partitions

Gets all partitions associated with the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

A list of all partitions associated with the appliance. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: `Partitions`

400

Unexpected error

404

HSM does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions
```

Example Result

```
{
    "partitions": [
        {
            "id": "273087011269",
            "label": "ABC125",
            "url": "/api/lunasa/hsms/117290/partitions/273087011269"
        },
        {
            "id": "273087011268",
            "label": "ABC124",
            "url": "/api/lunasa/hsms/117290/partitions/273087011268"
        },
        {
            "id": "273087011267",
            "label": "ABC123",
            "url": "/api/lunasa/hsms/117290/partitions/273087011267"
        }
    ]
}
```

See Also

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}

3.1.1.12.2 POST /api/lunasa/hsms/{hsmid}/partitions

POST /api/lunasa/hsms/{hsmid}/partitions

Creates a partition.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

defaultDomain

Indicates whether to create the partition with a default domain. Note that if you set this flag to true the domain parameter is ignored. Either the defaultDomain parameter or the domain parameter is required when creating a legacy partition.

Use: `Not Required`

JSON Schema:

```
Object
type: boolean
      false = do not use a default domain
      true = use a default domain
```

defaultChallenge

Indicates whether to create the partition with a default challenge.

Use: `Not Required`

JSON Schema:

```
Object
type: boolean
      false = do not use a default challenge
      true = use a default challenge
```

name

A user-friendly text string to reference the partition after it is created

Use: `Required`

JSON Schema:

```
Object
type: string
```

allStorageSpace

Indicates whether to create the partition with all available storage space assigned to it. Note that if you set this flag to true the size parameter is ignored. Either the allStorageSpace parameter or the size parameter is required when creating a legacy partition.

Use: `Not Required`

JSON Schema:

```
Object
type: boolean
      false = do not use all available storage space
      true = assign all remaining, available storage space to the partition
```

label

A user-friendly text string to reference the partition after it is created The label parameter is required when creating a legacy partition.

Use: `Not Required`

JSON Schema:

```
Object
type: string
```

domain

The cloning domain name associated with password-based partitions (not applicable for PED-based partitions). For PED-based partitions, you must provide the "domain" parameter with the POST: use "" in this case. Either the defaultDomain parameter or the domain parameter is required when creating a legacy partition.

Use: `Not Required`

JSON Schema:

```
Object
type: string
```

hasPso

Indicates whether to create the partition with a Security Officer

Use: `Required`

JSON Schema:

```
Object
type: boolean
      false = do not create the partition with a Security Officer
      true = create the partition with a Security Officer
```

password

The password for password-based partitions (not applicable for PED-based partitions) The password parameter is required when creating a legacy partition.

Use: `Not Required`

JSON Schema:

```
Object
type: string
```

size

The number of bytes of storage space to assign to the partition if allStorageSpace is false Either the allStorageSpace parameter or the size parameter is required when creating a legacy partition.

Use: `Not Required`

JSON Schema:

```
Object
type: integer
```

Responses

204

Partition details

JSON Schema: `Partition description`

Location

"Location" is the URL to the partition and is returned in the server response. You can use "Location" to form a GET resource to obtain the partition.

see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}

For PED-based partitions, "Location" is the URL to the task spawned to create the partition.

400

Unexpected error

404

HSM does not exist.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions
{
   "defaultDomain": true,
   "defaultChallenge": true,
   "name": "123",
   "allStorageSpace": false,
   "label": "123",
   "domain": "",
   "hasPso": false,
   "password": "",
   "size": 20480
}
```

Example Result

```
Password-based partition:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/151256/

PED-based partition:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Leng

{
}
```

3.1.1.12.3 DELETE /api/lunasa/hsms/{hsmid}/partitions

DELETE /api/lunasa/hsms/{hsmid}/partitions

Removes all partitions from the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

400

Unexpected error

404

HSM does not exist.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions
```

Example Result

```
{
}
```

3.1.1.13 Peds

The following resources allow the user to handle PIN-entry devices (PEDs) associated with the HSM.

- GET /api/lunasa/hsms/{hsmid}/peds
- GET /api/lunasa/hsms/{hsmid}/peds/{pedid}
- GET /api/lunasa/hsms/{hsmid}/peds/{pedid}/actions
- POST /api/lunasa/hsms/{hsmid}/peds/{pedid}/actions/{actionid}

3.1.1.13.1 GET /api/lunasa/hsms/{hsmid}/peds

GET /api/lunasa/hsms/{hsmid}/peds

Gets all PIN-entry devices associated with the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

A list of all PEDs associated with the appliance. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: `PEDs`

400

Unexpected error

404

HSM does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/151256/peds
```

Example Result

```
{
    "peds": [
        {
            "id": "0",
            "url": "/api/lunasa/hsms/151256/peds/0"
        },
        {
            "id": "1",
            "url": "/api/lunasa/hsms/151256/peds/1"
        }
    ]
}
```

See Also

GET /api/lunasa/hsms/{hsmid}/peds/{pedid}

3.1.1.13.2 GET /api/lunasa/hsms/{hsmid}/peds/{pedid}

GET /api/lunasa/hsms/{hsmid}/peds/{pedid}

Gets the information associated with a specific PED.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

pedid

The identifier of the PED of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

PED information

JSON Schema: `PED description`

400

Unexpected error

404

HSM or PED does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/peds/0
```

Example Result

Local PED:

```
{
   "pedId": 0, "ipAddress": "null", "port": 0, "isConnected": true
}
```

Remote PED:

```
{
   "pedId": 3, "ipAddress": "1.2.3.8", "port": 1503, "isConnected": true
}
```

Password-based HSM:

```
{}
```

3.1.1.13.3 GET /api/lunasa/hsms/{hsmid}/peds/{pedid}/actions

GET /api/lunasa/hsms/{hsmid}/peds/{pedid}/actions

Gets a list of actions permitted on a PED.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

pedid

The identifier of the PED of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

The set of all actions that can be performed on a PED.

See PED Actions

400

Unexpected error

404

HSM or PED does not exist.

Example Requests

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/151256/peds/0/actions
```

Example Result

```
{
    "actions": [
        {
            "id": "connect",
            "url": "/api/lunasa/hsms/151256/peds/0/actions/connect"
        },
        {
            "id": "disconnect",
            "url": "/api/lunasa/hsms/151256/peds/0/actions/disconnect"
        },
        {
            "id": "vectorInitialize",
            "url": "/api/lunasa/hsms/151256/peds/0/actions/vectorInitialize"
        },
        {
            "id": "vectorErase",
            "url": "/api/lunasa/hsms/151256/peds/0/actions/vectorErase"
        }
    ]
}
```

3.1.1.13.4 POST /api/lunasa/hsms/{hsmid}/peds/{pedid}/actions/{actionid}

POST /api/lunasa/hsms/{hsmid}/peds/{pedid}/actions/{actionid}

Performs the action on the PED.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

pedid

The identifier of the PED of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

actionid

The identifier of the PED action to be performed

Use: `Required`

JSON Schema:

```
Object
type: string
```

See PED Actions

ipAddress

Applies for the "connect" action. Specifies the location of the PED server.

Use: `Required`

JSON Schema:

```
Object
type: string
```

ipPort

Applies for the "connect" action. Specifies the port for the PED server (80-65535).

Use: `Required`

JSON Schema:

```
Object
type: integer
```

Responses

204

Success

Location

JSON Schema:

```
  id: Object
      type: string
```

"Location" is the URL to the task spawned to perform the action on the PED.

400

Unexpected error

404

HSM, PED or action does not exist.

Example Requests

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/peds/0/actions/vectorInitialize
{  }

POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/peds/0/actions/connect
{ "ipAddress" : "1.2.3.70", "ipPort" : 1503 }
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/tasks/3

{
}
```

3.1.1.14 Policies

Policies resources allow the user to modify the capabilities of the HSM.

- GET /api/lunasa/hsms/{hsmid}/policies
- GET /api/lunasa/hsms/{hsmid}/policies/{policyid}
- PUT /api/lunasa/hsms/{hsmid}/policies/{policyid}
- PATCH /api/lunasa/hsms/{hsmid}/policies/{policyid}

3.1.1.14.1 GET /api/lunasa/hsms/{hsmid}/policies

GET /api/lunasa/hsms/{hsmid}/policies

Gets all policies associated with the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

A list of all policies associated with the HSM. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: HSM Policies

400

Unexpected error

404

HSM does not exist.

Example Request

```
GET
https://1.2.3.4:8443//api/lunasa/hsms/117290/policies
```

Example Result

```
{
    "policies": [
        {
            "id": "0",
            "name": "PIN-based authentication",
            "url": "/api/lunasa/hsms/117290/policies/0"
        },
        {
            "id": "1",
            "name": "PED-based authentication",
            "url": "/api/lunasa/hsms/117290/policies/1"
        },
        {
            "id": "6",
            "name": "Allow masking",
            "url": "/api/lunasa/hsms/117290/policies/6"
        },
        {
            "id": "7",
            "name": "Allow cloning",
            "url": "/api/lunasa/hsms/117290/policies/7"
        },
        {
            "id": "12",
            "name": "Allow non-FIPS algorithms",
            "url": "/api/lunasa/hsms/117290/policies/12"
        },
        {
            "id": "15",
            "name": "SO can reset partition PIN",
            "url": "/api/lunasa/hsms/117290/policies/15"
        },
        {
```

```
        "id": "16",
        "name": "Allow network replication",
        "url": "/api/lunasa/hsms/117290/policies/16"
    },
    {
        "id": "20",
        "name": "Allow Remote Authentication",
        "url": "/api/lunasa/hsms/117290/policies/20"
    },
    {
        "id": "21",
        "name": "Force user PIN change after set/reset",
        "url": "/api/lunasa/hsms/117290/policies/21"
    },
    {
        "id": "22",
        "name": "Allow offboard storage",
        "url": "/api/lunasa/hsms/117290/policies/22"
    },
    {
        "id": "23",
        "name": "Allow partition groups",
        "url": "/api/lunasa/hsms/117290/policies/23"
    },
    {
        "id": "25",
        "name": "Allow remote PED usage",
        "url": "/api/lunasa/hsms/117290/policies/25"
    },
    {
        "id": "26",
        "name": "Store MTK Split Externally",
        "url": "/api/lunasa/hsms/117290/policies/26"
    },
    {
        "id": "29",
        "name": "Allow Acceleration",
        "url": "/api/lunasa/hsms/117290/policies/29"
    },
    {
        "id": "30",
        "name": "Allow unmasking",
        "url": "/api/lunasa/hsms/117290/policies/30"
    },
    {
        "id": "31",
        "name": "Allow FW5 compatibility mode",
        "url": "/api/lunasa/hsms/117290/policies/31"
    },
    {
        "id": "33",
        "name": "Current maximum number of partitions",
        "url": "/api/lunasa/hsms/117290/policies/33"
    },
    {
        "id": "34",
        "name": "Allow ECIES support",
        "url": "/api/lunasa/hsms/117290/policies/34"
    },
    {
        "id": "35",
        "name": "Force Single Domain",
        "url": "/api/lunasa/hsms/117290/policies/35"
    },
    {
        "id": "36",
        "name": "Allow Unified PED Key",
        "url": "/api/lunasa/hsms/117290/policies/36"
    },
    {
        "id": "37",
        "name": "Allow MofN",
        "url": "/api/lunasa/hsms/117290/policies/37"
```

```
        },
        {
            "id": "38",
            "name": "Allow small form factor backup/restore",
            "url": "/api/lunasa/hsms/117290/policies/38"
        },
        {
            "id": "39",
            "name": "Allow Secure Trusted Channel",
            "url": "/api/lunasa/hsms/117290/policies/39"
        },
        {
            "id": "40",
            "name": "Allow decommission on tamper",
            "url": "/api/lunasa/hsms/117290/policies/40"
        },
        {
            "id": "42",
            "name": "Allow partition re-initialize",
            "url": "/api/lunasa/hsms/117290/policies/42"
        }
    ]
}
```

See Also

GET /api/lunasa/hsms/{hsmid}/policies/{policyid}

3.1.1.14.2 GET /api/lunasa/hsms/{hsmid}/policies/{policyid}

GET /api/lunasa/hsms/{hsmid}/policies/{policyid}

Gets the information associated with a specific HSM policy.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

policyid

The identifier of the policy of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

Policy details.

JSON Schema: HSM Policy description

400

Unexpected error

404

HSM or policy does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/policies/26
```

Example Result

```
{
    "destructive": false,
    "changeable": false,
    "description": "Store MTK Split Externally",
    "enabled": true,
    "id": "26",
    "value": 0
}
```

3.1.1.14.3 PUT /api/lunasa/hsms/{hsmid}/policies/{policyid}

PUT /api/lunasa/hsms/{hsmid}/policies/{policyid}

Sets a specific HSM policy.

Parameters

hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

policyid

The identifier of the policy to change

Use: `Required`

JSON Schema:

```
Object
type: string
```

value

The new value for the HSM policy

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

Location

JSON Schema:

```
 id: Object
     type: string
```

"Location" is the URL to the task spawned to perform the action on the HSM policy.

400

Unexpected error

Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/154704/policies/33
{"value": 0}
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/tasks/2

{
}
```

3.1.1.14.4 PATCH /api/lunasa/hsms/{hsmid}/policies/{policyid}

PATCH /api/lunasa/hsms/{hsmid}/policies/{policyid}

Changes a specific HSM policy.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

policyid

The identifier of the policy to change

Use: `Required`

JSON Schema:

```
Object
type: string
```

value

The new value for the HSM policy

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

Location

JSON Schema:

```
    id: Object
        type: string
```

"Location" is the URL to the task spawned to perform the action on the HSM policy.

400

Unexpected error

Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/hsms/154704/policies/33
{"value": 0}
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/tasks/2

{
}
```

3.1.1.15 Roles

The following resources allow the user to manage roles associated with the HSM.

- GET /api/lunasa/hsms/{hsmid}/roles
- GET /api/lunasa/hsms/{hsmid}/roles/{roleid}
- GET /api/lunasa/hsms/{hsmid}/roles/{roleid}/actions
- POST /api/lunasa/hsms/{hsmid}/roles/{roleid}/actions/{actionid}
- PUT /api/lunasa/hsms/{hsmid}/roles/{roleid}
- PATCH /api/lunasa/hsms/{hsmid}/roles/{roleid}

3.1.1.15.1 GET /api/lunasa/hsms/{hsmid}/roles

GET /api/lunasa/hsms/{hsmid}/roles

Gets all roles associated with the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

A list of all roles associated with the appliance. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: `HSM Roles`

400

Unexpected error

404

HSM does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/roles
```

Example Result

```
{
    "roles": [
        {
            "id": "audit",
            "name": "Auditor",
            "url": "/api/lunasa/hsms/151256/roles/audit"
        },
        {
            "id": "so",
            "name": "Security Officer",
            "url": "/api/lunasa/hsms/151256/roles/so"
        }
    ]
}
```

See Also

GET /api/lunasa/hsms/{hsmid}/roles/{roleid}

3.1.1.15.2 GET /api/lunasa/hsms/{hsmid}/roles/{roleid}

GET /api/lunasa/hsms/{hsmid}/roles/{roleid}

Gets the information associated with a specific HSM role.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

roleid

The identifier of the role of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

role details

JSON Schema: HSM Role description

400

Unexpected error

404

HSM and role does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/roles/audit
```

Example Result

```
{
    "primaryAuthentication": "PIN",
    "secondaryAuthentication": "None"
    "loginAttemptsLeft": 10,
    "name": "Auditor",
    "lockedOut": False,
    "activated": False,
    "challengeToBeChanged": False,
    "initialized": False,
    "pinToBeChanged": False,
    "id": "audit"
}
```

3.1.1.15.3 GET /api/lunasa/hsms/{hsmid}/roles/{roleid}/actions

GET /api/lunasa/hsms/{hsmid}/roles/{roleid}/actions

Gets all role-related actions associated with the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

roleid

The HSM role of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

The set of all role actions associated with the HSM.

JSON Schema: `HSM Role Actions`

400

Unexpected error

404

HSM or role does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/roles/SO/actions
```

Example Result

```
{
  "actions":
    [
       {"url": "/api/lunasa/hsms/154704/roles/so/actions/reset", "id": "reset"},
       {"url": "/api/lunasa/hsms/154704/roles/so/actions/createChallenge", "id": "createChallenge"}
    ]
}
```

3.1.1.15.4 POST /api/lunasa/hsms/{hsmid}/roles/{roleid}/actions/{actionid}

POST /api/lunasa/hsms/{hsmid}/roles/{roleid}/actions/{actionid}

Sends the specified role action to the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

roleid

The identifier of the HSM role of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

actionid

The identifier of the HSM role action to be performed

Use: `Required`

JSON Schema:

```
Object
type: string
```

See HSM Role Actions

password

Applies for the "reset" action. The new challenge for a password-based HSM. Pass an empty string for a PED-based HSM.

Use: `Not required`

JSON Schema:

```
Object
type: string
```

defaultChallenge

Applies for the "createChallenge" action. The new challenge for a PED-based HSM. Pass True to have the challenge set to the default value; pass False to have the challenge set to a random value.

Use: `Not required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

Location

JSON Schema:

```
 id: Object
     type: string
```

"Location" is the URL to the task spawned to perform the action for the HSM role.

400

Unexpected error

404

HSM, role or action does not exist.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/roles/co/actions/createChallenge
{ "defaultChallenge": true }
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/7', 'Content-Leng

{
}
```

3.1.1.15.5 PUT /api/lunasa/hsms/{hsmid}/roles/{roleid}

PUT /api/lunasa/hsms/{hsmid}/roles/{roleid}

Initializes the HSM role.

This resource is forbidden on the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

roleid

The identifier of the role of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

password

The password to be used to authenticate for the role

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

Location

"Location" is the URL to the role and is returned in the server response. You can use "Location" to form a PATCH resource to change the role password or to form a GET resource to query the role.

see PATCH /api/lunasa/hsms/{hsmid}/roles/{roleid}
see GET /api/lunasa/hsms/{hsmid}/roles/{roleid}

For PED-based partitions, "Location" is the URL to the task spawned to initialize the HSM role.

400

Unexpected error

404

HSM or role does not exist.

Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/roles/co
{ "password": "1q@W3e$R" }
```

Example Result

```
password-based HSM:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/
{}

PED-based partition:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/3', 'Content-Lenc
{}
```

3.1.1.15.6 PATCH /api/lunasa/hsms/{hsmid}/roles/{roleid}

PATCH /api/lunasa/hsms/{hsmid}/roles/{roleid}

Changes the password for an HSM role.

This resource is forbidden on the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

roleid

The identifier of the role of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

oldPassword

The existing password for the role

Use: `Required`

JSON Schema:

```
Object
type: string
```

newPassword

The desired password for the role

Use: `Required`

JSON Schema:

```
Object
type: string
```

changeSecret

(Optional) Change the secret for a PED-authenticated HSM. This parameter applies for the CO (Admin User) role.

Use: `Required`

JSON Schema:

```
Object
type: boolean
```

Responses

204

Success

Location

"Location" is the URL to the role and is returned in the server response. You can use "Location" to form a GET resource to query the role.

see GET /api/lunasa/hsms/{hsmid}/roles/{roleid}

For PED-based partitions, "Location" is the URL to the task spawned to change the password for the HSM role.

400

Unexpected error

404

HSM or role does not exist.

Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/hsms/154704/roles/co
{ "newPassword": "Aaaa1234",
  "oldPassword": "1q@W3e$R" }
```

Example Result

```
{
password-based HSM:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/

PED-based HSM:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/9', 'Content-Leng
}
```

3.1.1.16 Storage Space

Storage space resources allows for querying of the HSM storage information.

- GET /api/lunasa/hsms/{hsmid}/storageSpace

3.1.1.16.1 GET /api/lunasa/hsms/{hsmid}/storageSpace

GET /api/lunasa/hsms/{hsmid}/storageSpace

Gets the storage information associated with the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

The storage information associated with the HSM.

JSON Schema: `HSM Storage Space`

400

Unexpected error

404

HSM does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/storageSpace
```

Example Result

```
{
    "free": 20480,
    "total": 20480,
    "used": 0
}
```

3.1.1.17 Tamper

Tamper resources allows for querying and clearing of the HSM tamper information.

- GET /api/lunasa/hsms/{hsmid}/tamper
- GET /api/lunasa/hsms/{hsmid}/tamper/actions
- POST /api/lunasa/hsms/{hsmid}/tamper/actions/{actionid}

3.1.1.17.1 GET /api/lunasa/hsms/{hsmid}/tamper

GET /api/lunasa/hsms/{hsmid}/tamper

Gets the information regarding detected tampers.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

Tamper information

JSON Schema: `Tamper`

400

Unexpected error

404

HSM does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/521154/tamper
```

Example Result

```
{
    "Temperature" : null,
    "VCCIVoltage" : null,
    "VBATVoltage" : null,
    "tamperTime" : "2016-11-18T11:34:41",
    "actions" : "/api/lunasa/hsms/521154/tamper/actions",
    "tampers" : {
        0 : "Chassis_open"
    },
    "VREFVoltage" : null
}
```

See Also

GET /api/lunasa/hsms/{hsmid}/tamper/actions

3.1.1.17.2 GET /api/lunasa/hsms/{hsmid}/tamper/actions

GET /api/lunasa/hsms/{hsmid}/tamper/actions

Gets all actions applicable to tampers

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

The set of all actions applicable to tampers.

JSON Schema: `Tamper Actions`

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/521154/tamper/actions
```

Example Result

```
{
  {
    "id": "clear",
    "url": "/api/lunasa/hsms/521154/tamper/actions/clear"
  }
}
```

3.1.1.17.3 POST /api/lunasa/hsms/{hsmid}/tamper/actions/{actionid}

POST /api/lunasa/hsms/{hsmid}/tamper/actions/{actionid}

Performs the action on tampers

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

actionid

The identifier of the tamper action to be performed

Use: `Required`

JSON Schema:

```
Object
type: string
```

See Tamper Actions

Responses

204

Success

Location

JSON Schema:

```
id: Object
  type: string
```

"Location" is the URL to the task spawned to perform the tamper action.

400

Unexpected error

404

HSM or action does not exist.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/521154/tamper/actions/clear
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Leng

{
}
```

3.1.1.18 Updates

The following resources enable updates to the HSM.

- GET /api/lunasa/hsms/{hsmid}/updates
- GET /api/lunasa/hsms/{hsmid}/updates/{updateid}
- POST /api/lunasa/hsms/{hsmid}/updates/{updateid}

3.1.1.18.1 GET /api/lunasa/hsms/{hsmid}/updates

GET /api/lunasa/hsms/{hsmid}/updates

Gets all updates associated with the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

A list of all updates associated with the appliance. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: `Updates`

400

Unexpected error

404

HSM does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/462283/updates
```

Example Result


```
{
 "updates":
    [
        { "url": "/api/lunasa/hsms/462283/updates/FIPS3", "id": "FIPS3", "name": "FIPS3" },
        { "url": "/api/lunasa/hsms/462283/updates/50Partition", "id": "50Partition", "name": "50Partition" },
        { "url": "/api/lunasa/hsms/462283/updates/20Partition", "id": "20Partition", "name": "20Partition" },
        { "url": "/api/lunasa/hsms/462283/updates/ppso", "id": "ppso", "name": "ppso" },
        { "url": "/api/lunasa/hsms/462283/updates/RPED", "id": "RPED", "name": "RPED" },
        { "url": "/api/lunasa/hsms/462283/updates/SFF", "id": "SFF", "name": "SFF" },
        { "url": "/api/lunasa/hsms/462283/updates/partitions100", "id": "partitions100", "name": "partitions10
        { "url": "/api/lunasa/hsms/462283/updates/HSM_Storage_15.5M", "id": "HSM_Storage_15.5M", "name": "HSM_
        { "url": "/api/lunasa/hsms/462283/updates/15Partition", "id": "15Partition", "name": "15Partition" },
        { "url": "/api/lunasa/hsms/462283/updates/10Partition", "id": "10Partition", "name": "10Partition" }
    ]
}
```


See Also

GET /api/lunasa/hsms/{hsmid}/updates/{updateid}

3.1.1.18.2 GET /api/lunasa/hsms/{hsmid}/updates/{updateid}

GET /api/lunasa/hsms/{hsmid}/updates/{updateid}

Gets the information associated with a specific update.

NOTE: This version of the REST API does not support this resource. It is for a future release.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

updateid

The identifier of the update of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

License details

JSON Schema: Update description

400

Unexpected error

404

HSM or update does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/updates/ppso
```

Example Result

The following example is a place holder: this version of the REST API does not support this object. It is for a future release.

```
{
   "description": "Security Officer role available on partitions"
}
```

3.1.1.18.3 POST /api/lunasa/hsms/{hsmid}/updates/{updateid}

POST /api/lunasa/hsms/{hsmid}/updates/{updateid}

Applies a specific HSM update.

Parameters

hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

updateid

The identifier of the update to apply

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success.

Location

JSON Schema:

```
id: Object
    type: string
```

"Location" is the URL to the task spawned to perform the HSM update.

400

Unexpected error

404

HSM or update does not exist.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/updates/ppso
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/8', 'Content-Leng

{
}
```

3.1.2 Partition

This section lists the resources associated with partitions created on the HSM.

- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}
- PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}
- DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}
- Authentication
- Capabilities
- Indirect
- Objects
- Policies
- Roles
- SFF
- STC
- Storage Space

3.1.2.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}

Gets the information associated with a specific partition.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

Partition details

JSON Schema: Partition description

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011389
```

Example Result

```
{
    "loggedIn": "nobody",
    "capabilities": "/api/lunasa/hsms/117290/partitions/273087011389/capabilities",
    "label": "ABC123",
    "name": "ABC123",
    "objectCount": 0,
    "objects": "/api/lunasa/hsms/117290/partitions/273087011389/objects",
    "policies": "/api/lunasa/hsms/117290/partitions/273087011389/policies",
    "roles": "/api/lunasa/hsms/117290/partitions/273087011389/roles",
    "state": "initialized",
    "stc": "/api/lunasa/hsms/117290/partitions/273087011389/stc",
    "storageSpace": {
        "free": 20480,
        "total": 20480,
        "used": 0
    }
}
```

3.1.2.2 PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}

PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}

Initializes the partition.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

label

A user-friendly text string to reference the partition after it is created

Use: `Required`

JSON Schema:

```
Object
type: string
```

domain

The cloning domain name associated with password-based partitions (not applicable for PED-based partitions)

Use: `Required`

JSON Schema:

```
Object
type: string
```

password

The password for password-based partitions (not applicable for PED-based partitions)

Use: `Required`

JSON Schema:

```
Object
type: string
```

defaultDomain

Use a default cloning domain if password-based partition (not applicable for PED-based partitions)

Use: `Required`

JSON Schema:

```
Object
type: boolean
      false = do not use a default cloning domain
      true = use a default cloning domain
```

ped

The identifier of the PED connected to the HSM. '0' is local PED; 1 or greater is remote PED. For remote PED, ped corresponds to the PED identifier. The parameter has no use for password-based HSMs.

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

Location

"Location" is the URL to the initialized partition and is returned in the server response. You can use "Location" to form a GET resource to query the partition.

see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}

For PED-based partitions, "Location" is the URL to the task spawned to initialize the partition.

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011507
{
  "password": "password",
  "label": "ABC123",
  "domain": "domain",
  "defaultDomain": true,
  "ped": "0"
}
```

Example Result

```
{
password-based partition:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/

PED-based partition:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/5', 'Content-Leng
}

{}
```

3.1.2.3 DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}

DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}

Removes a specific partition from the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011389
```

Example Result

```
{
}
```

See Also

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}

3.1.2.4 Authentication

The following resources are used for authenticating to an HSM partition.

- POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/login
- POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/logout

3.1.2.4.1 POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/login

POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/login

Logs in to the partition.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The partition identifier of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

password

The password for authentication if password-based partition

Use: `Required`

JSON Schema:

```
Object
type: string
```

ped

Indicator of whether the HSM uses PED-based ("1") or password-based ("0") authentication

Use: `Required`

JSON Schema:

```
Object
type: string
```

role

The security function to login on the partition

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

Location

"Location" is the URL to the partition role logged onto and is returned in the server response. You can use "Location" to form a GET resource to query the partition role.

see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}

For PED-based partitions, "Location" is the URL to the task spawned to log into the partition.

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/352170252337/login
{"ped": "1", "role": "so"}
```

Example Result

```
password-based HSM:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/

PED-based HSM
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/2', 'Content-Leng

{}
```

3.1.2.4.2 POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/logout

POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/logout

Logs out of the partition.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The partition identifier of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

Location

"Location" is the URL to the partition logged out and is returned in the server response. You can use "Location" to form a GET resource to query the partition status.

see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}

For PED-based partitions, "Location" is the URL to the task spawned to log out the partition.

400

Unexpected error

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/352170252337/logout
{ }
```

Example Result

```
password-based HSM:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/

PED-based HSM
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/2', 'Content-Leng

{}
```

3.1.2.5 Capabilities

Capabilities resources allow the user to retrieve information regarding the capabilities of the HSM partition.

- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/capabilities
- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/capabilities/{capabilityid}

3.1.2.5.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/capabilities

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/capabilities

Gets all capabilities associated with the partition.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

A list of all capabilities associated with the partition. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: `Partition Capabilities`

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
GET
https://1.2.3.4:8443//api/lunasa/hsms/117290/partitions/273087011507/capabilities
```

Example Result


```
{
    "capabilities": [
        {
            "id": "0",
            "name": "Enable private key cloning",
            "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/0"
        },
        {
            "id": "1",
            "name": "Enable private key wrapping",
            "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/1"
        },
        {
            "id": "2",
            "name": "Enable private key unwrapping",
            "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/2"
        },
        {
            "id": "3",
            "name": "Enable private key masking",
            "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/3"
        },
        {
            "id": "4",
            "name": "Enable secret key cloning",
            "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/4"
        },
        {
            "id": "5",
            "name": "Enable secret key wrapping",
            "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/5"
        },
        {
            "id": "6",
            "name": "Enable secret key unwrapping",
            "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/6"
        },
        {
            "id": "7",
            "name": "Enable secret key masking",
            "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/7"
        },
        {
            "id": "10",
            "name": "Enable multipurpose keys",
            "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/10"
        },
        {
            "id": "11",
            "name": "Enable changing key attributes",
            "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/11"
        },
        {
            "id": "15",
            "name": "Allow failed challenge responses",
            "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/15"
        },
        {
            "id": "16",
            "name": "Enable operation without RSA blinding",
            "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/16"
        },
        {
            "id": "17",
            "name": "Enable signing with non-local keys",
            "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/17"
        },
        {
            "id": "18",
            "name": "Enable raw RSA operations",
            "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/18"
```

```
},
{
    "id": "20",
    "name": "Max failed user logins allowed",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/20"
},
{
    "id": "21",
    "name": "Enable high availability recovery",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/21"
},
{
    "id": "22",
    "name": "Enable activation",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/22"
},
{
    "id": "23",
    "name": "Enable auto-activation",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/23"
},
{
    "id": "25",
    "name": "Minimum pin length (inverted: 255 - min)",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/25"
},
{
    "id": "26",
    "name": "Maximum pin length",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/26"
},
{
    "id": "28",
    "name": "Enable Key Management Functions",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/28"
},
{
    "id": "29",
    "name": "Enable RSA signing without confirmation",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/29"
},
{
    "id": "30",
    "name": "Enable Remote Authentication",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/30"
},
{
    "id": "31",
    "name": "Enable private key unmasking",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/31"
},
{
    "id": "32",
    "name": "Enable secret key unmasking",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/32"
},
{
    "id": "33",
    "name": "Enable RSA PKCS mechanism",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/33"
},
{
    "id": "34",
    "name": "Enable CBC-PAD (un)wrap keys of any size",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/34"
},
{
    "id": "35",
    "name": "Enable private key SFF backup/restore",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/35"
},
{
    "id": "36",
```

```
            "name": "Enable secret key SFF backup/restore",
            "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/36"
        },
        {
            "id": "37",
            "name": "Enable Secure Trusted Channel",
            "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/37"
        }
    ]
}
```


See Also

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/capabilities/{capabilityid}

3.1.2.5.2 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/capabilities/{capabilityid}

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/capabilities/{capabilityid}

Gets the information associated with a specific partition capability.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

capabilityid

The identifier of the capability of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

Capability details.

JSON Schema: `Partition Capability description`

400

Unexpected error

404

HSM, partition or capability does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/capabilities/22
```

Example Result

```
{
    "value": "disallowed",
    "description": "Enable activation",
    "id": "22"
}
```

3.1.2.6 Indirect

The following resources enable an HSM partition indirect login to be performed.

- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/key
- POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/key
- DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/key
- POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/challenges
- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/challenges/{challengeid}
- POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/responses
- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/responses/{responseid}

3.1.2.6.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/key

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/key

Gets indirect login public key stored in a user partition of the admin HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

The public key used for indirect login.

JSON Schema: `Indirect Key`

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
GET
https://1.2.3.4:8443//api/lunasa/hsms/700088/partitions/700088016/indirect/key
```

Example Result


```
{
    "exponent": "AQAB",
    "modulus": "1QgJJEQuDhjYFyV5KB7s/19DTPik0y5mcTAxKJ/anP2vCLNhymZ+wQx9pUUtyaTMskWXbIvxR36/Coi2Qd2/AW2BZDxUwE
}
```


3.1.2.6.2 POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/key

POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/key

Loads the indirect login public key onto the service HSM in a specified user partition.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier for the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

modulus

The modulus of the public key used for indirect login

Use: `Required`

JSON Schema:

```
Object
type: string
```

exponent

The exponent of the public key used for indirect login

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

Success

Location

JSON Schema:

```
id: Object
    type: string
```

see POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/challenges

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/700088/indirect/key
{"modulus": "1QgJJEQuDhjYFyV5KB7s/19DTPik0y5mcTAxKJ/anP2vCLNhymZ+wQx9pUUtyaTMskWXbIvxR36/Coi2Qd2/AW2BZDxUwE
"exponent": "AQAB"}
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/

{
}
```

3.1.2.6.3 DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/key

DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/key

Revokes the indirect login public key from a specified user partition on the service HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier for the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

Success

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/700088/indirect/key
{}
```

Example Result

```
{
}
```

3.1.2.6.4 POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/challenges

POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/challenges

Gets the indirect login challenge from a user partition of the admin HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

hsmid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

ped

The identifier of the PED used to authenticate to the HSM

Use: `Required`

JSON Schema:

```
Object
type: string
```

role

The identifier of the role needed to authenticate to the HSM

Use: `Required`

JSON Schema:

```
Object
type: string
```

see HSM Roles

certificate

The certificate needed to secure wrap data off and onto HSMs

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

A challenge needed by the service HSM to authenticate for indirect login.

JSON Schema:

```
type:  string
description:  challenge is the authentication data to be provided to obtain the response
              needed for indirect login.
```

Location

"Location" is the URL to the challenge and is returned in the server response. You can use "Location" to form a GET resource to obtain the challenge.

see GET /api/lunasa/hsms/{hsmid}/indirect/challenges/{challengeid}

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/challenges
{"ped": "1",
 "role": "so",
 "certificate": "AwAAADCCBA...R7ltguqfo="}
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/
{
    "challenge": "AAEAAOer3y90rahjhG2OybC2srtUfhz4YY/WhVyhbbDj6f47mIfgJe90sLR+te4uk8XU3vj/rTWwJSIAEnIo5QycW7sj
}
```

3.1.2.6.5 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/challenges/{challengeid}

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/challenges/{challengeid}

Gets from a user partition of the admin HSM the challenge necessary for indirect login by a service HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

challengeid

The identifier of the challenge of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

201

A challenge needed to authenticate to the service HSM for indirect login.

JSON Schema:

```
type:  string
description:  challenge is the authentication data to be provided to obtain the response
              needed for indirect login.
```

400

Unexpected error

404

HSM, partition or challenge does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/challenges/1
```

Example Result

```
{
    "challenge": "AAEAAH84Pr7nvSvccf0BXZ0/bcus/ANbeT6jXmY45/yI3GbcOUe5pFC3fGpEYa/129ii7+Xkkz9Gh/fNx6wr2m2uRm0N
}
```

3.1.2.6.6 POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/responses

POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/responses

Gets the indirect login response needed for the service HSM from a user partition on the admin HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

challenge

The challenge needed to authenticate to the service HSM

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

201

The response to provide to the service HSM for indirect login.

JSON Schema:

```
type:  string
description:  response is the authentication data to be provided for indirect login
              to the service HSM.
```

Location

"Location" is the URL to the response and is returned in the server response. You can use "Location" to form a GET resource to obtain the response.

see GET /api/lunasa/hsms/{hsmid}/partitions/partitionid/indirect/responses/{responseid}

400

Unexpected error

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/700088/partitions/700088016/indirect/responses
{"challenge": "AAEAAOer3y90rahjhG2OybC2srtUfhz4YY/WhVyhbbDj6f47mIfgJe90sLR+te4uk8XU3vj/rTWwJSIAEnIo5QycW7sj
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/700088/

{
    "response": "qlpLRuWfzCpyYkji4YguJSlpkvr9ZTq/NB5ymFPnLxc="
}
```

3.1.2.6.7 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/responses/{responseid}

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/responses/{responseid}

Gets from a user partition of the admin HSM the response necessary for indirect login.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

responseid

The identifier of the response of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

201

The response to provide to the service HSM for indirect login.

JSON Schema:

```
type:  string
description:  response is the authentication data to be provided for indirect login
              to the service HSM.
```

400

Unexpected error

404

HSM, partition or response does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/700088/partitions/700088016/indirect/responses/1
```

Example Result

```
{
    "response": "qlpLRuWfzCpyYkji4YguJSlpkvr9ZTq/NB5ymFPnLxc="
}
```

3.1.2.7 Objects

The following resources enable object handling.

- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects
- DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects
- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/{objectid}
- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/actions
- POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/actions/{actionid}

3.1.2.7.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects

Gets all objects in the partition.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

A list of all objects and the url to the list of actions in the partition. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: Partition Objects

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
GET
https://1.2.3.4:8443//api/lunasa/hsms/117290/partitions/273087011507/objects
```

Example Result

```
{
    "objects": [
        {
            "id": "19",
            "label": "RecoveryInit RSA Public Key",
            "url": "/api/lunasa/hsms/151256/partitions/352170252337/objects/19"
        },
        {
            "id": "30",
            "label": "RecoveryInit RSA Private Key",
            "url": "/api/lunasa/hsms/151256/partitions/352170252337/objects/30"
        }
    ],
    "actions": "/api/lunasa/hsms/151256/partitions/352170252337/objects/actions"
}
```

See Also

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/{objectid}
GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/actions

3.1.2.7.2 DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects

DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects

Removes all objects from a partition on the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

400

Unexpected error

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011389/objects
```

Example Result

```
{
}
```

3.1.2.7.3 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/{objectid}

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/{objectid}

Gets the information associated with a specific partition object.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

Object details.

JSON Schema: `Partition Object Description`

400

Unexpected error

404

HSM, partition, or object does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/objects/19
```

Example Result

```
{
    "id": "19",
    "label": "RecoveryInit RSA Public Key",
    "type": "Public Key",
    "uid": "7600000184010000b8ae0a00"
}
```

3.1.2.7.4 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/actions

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/actions

Gets all actions applicable to an object.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

objectid

The identifier of the object of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

The set of all actions applicable to objects.

JSON Schema: `Partition Objects Actions`

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011507/objects/actions
```

Example Result

```
{
    {
        "id": "backup",
        "url": "/api/lunasa/hsms/154704/partitions/273087011507/objects/actions/backup"
    },
    {
        "id": "restore",
        "url": "/api/lunasa/hsms/154704/partitions/273087011507/objects/actions/restore"
    }
}
```

3.1.2.7.5 POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/actions/{actionid}

POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/actions/{actionid}

Performs the action on the object.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

objectid

The identifier of the object of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

actionid

The identifier of the object action to be performed

Use: `Required`

JSON Schema:

```
Object
type: string
```

See Partition Objects Actions

name

The reference to be assigned to a backup device

Use: `Required`

JSON Schema:

```
Object
type: string
```

ids

A list of identifier to objects to be backed up or objects restored

Use: `Required`

JSON Schema:

```
Array
    id: Object
        type: string
        description:  id is a reference to an object.
                      A null list ([]) means backup or restore all objects.
```

Responses

200

Success, response returned

JSON Schema:

```
    Response returned is specific to the object action performed.
```

204

Success, no response returned

Location

"Location" is the URL to the task spawned to perform the requested action on the partition object.

400

Unexpected error

404

HSM, partition, or action does not exist.

Example Requests

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011507/objects/actions/backup
{"ids":["31","22","35","36"], "name":"targetBackupName"}

POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011507/objects/actions/restore
{"ids":["0","1","2"]}
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/13', 'Content-Len

{}
```

In this example, do GET on '/tasks/13/response' to get the results of the task, assuming the action was 'restore':

```
{
    "ids": [
        "19",
        "23",
        "24"
    ]
}
```

Notes

The 'restore' action returns the new object handles.

3.1.2.8 Policies

Policies resources allow the user to modify the capabilities associated with an HSM partition.

- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies
- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}
- PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}
- PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}

3.1.2.8.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies

Gets all policies associated with the partition.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

A list of all policies associated with the partition. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: `Partition Policies`

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
GET
https://1.2.3.4:8443//api/lunasa/hsms/117290/partitions/273087011507/policies
```

Example Result


```
{
    "policies": [
        {
            "id": "0",
            "name": "Allow private key cloning",
            "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/0"
        },
        {
            "id": "1",
            "name": "Allow private key wrapping",
            "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/1"
        },
        {
            "id": "2",
            "name": "Allow private key unwrapping",
            "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/2"
        },
        {
            "id": "3",
            "name": "Allow private key masking",
            "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/3"
        },
        {
            "id": "4",
            "name": "Allow secret key cloning",
            "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/4"
        },
        {
            "id": "5",
            "name": "Allow secret key wrapping",
            "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/5"
        },
        {
            "id": "6",
            "name": "Allow secret key unwrapping",
            "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/6"
        },
        {
            "id": "7",
            "name": "Allow secret key masking",
            "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/7"
        },
        {
            "id": "10",
            "name": "Allow multipurpose keys",
            "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/10"
        },
        {
            "id": "11",
            "name": "Allow changing key attributes",
            "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/11"
        },
        {
            "id": "15",
            "name": "Ignore failed challenge responses",
            "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/15"
        },
        {
            "id": "16",
            "name": "Operate without RSA blinding",
            "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/16"
        },
        {
            "id": "17",
            "name": "Allow signing with non-local keys",
            "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/17"
        },
        {
            "id": "18",
            "name": "Allow raw RSA operations",
            "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/18"
```

```
},
{
    "id": "20",
    "name": "Max failed user logins allowed",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/20"
},
{
    "id": "21",
    "name": "Allow high availability recovery",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/21"
},
{
    "id": "22",
    "name": "Allow activation",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/22"
},
{
    "id": "23",
    "name": "Allow auto-activation",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/23"
},
{
    "id": "25",
    "name": "Minimum pin length (inverted: 255 - min)",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/25"
},
{
    "id": "26",
    "name": "Maximum pin length",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/26"
},
{
    "id": "28",
    "name": "Allow Key Management Functions",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/28"
},
{
    "id": "29",
    "name": "Perform RSA signing without confirmation",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/29"
},
{
    "id": "30",
    "name": "Allow Remote Authentication",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/30"
},
{
    "id": "31",
    "name": "Allow private key unmasking",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/31"
},
{
    "id": "32",
    "name": "Allow secret key unmasking",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/32"
},
{
    "id": "33",
    "name": "Allow RSA PKCS mechanism",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/33"
},
{
    "id": "34",
    "name": "Allow CBC-PAD (un)wrap keys of any size",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/34"
},
{
    "id": "35",
    "name": "Allow private key SFF backup/restore",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/35"
},
{
    "id": "36",
```

```
            "name": "Allow secret key SFF backup/restore",
            "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/36"
        },
        {
            "id": "37",
            "name": "Force Secure Trusted Channel",
            "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/37"
        }
    ]
}
```

See Also

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}

3.1.2.8.2 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}

Gets the information associated with a specific partition policy.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

policyid

The identifier of the policy of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

Policy details.

JSON Schema: `Partition Policy description`

400

Unexpected error

404

HSM, partition or policy does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/policies/33
```

Example Result

```
{
    "destructive": false,
    "changable": true,
    "description": "Allow RSA PKCS mechanism",
    "enabled": true,
    "id": "33",
    "value": 1
}
```

3.1.2.8.3 PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}

PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}

Sets a specific partition policy.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

policyid

The identifier of the policy to change

Use: `Required`

JSON Schema:

```
Object
type: string
```

value

The new value for the partition policy

Use: `Required`

JSON Schema:

```
Object
type: integer
```

Responses

204

Success

Location

JSON Schema:

```
id: Object
    type: string
```

"Location" is the URL to the task spawned to perform the action on the partition policy.

400

Unexpected error

404

HSM, partition or policy does not exist.

Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/policies/33
{"value": 0}
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/tasks/3

{
}
```

3.1.2.8.4 PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}

PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}

Changes a specific partition policy.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

policyid

The identifier of the policy to change

Use: `Required`

JSON Schema:

```
Object
type: string
```

value

The new value for the partition policy

Use: `Required`

JSON Schema:

```
Object
type: integer
```

Responses

204

Success

Location

JSON Schema:

```
id: Object
    type: string
```

"Location" is the URL to the task spawned to perform the action on the partition policy.

400

Unexpected error

404

HSM, partition or policy does not exist.

Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/policies/33
{"value": 0}
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/tasks/3

{
}
```

3.1.2.9 Roles

The following resources allow the user to manage roles associated with the HSM partition.

- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles
- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}
- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}/actions
- POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}/actions/{actionid}
- PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}
- PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}

3.1.2.9.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles

Gets all roles associated with the partition.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

A list of all roles associated with the partition. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: `Partition Roles`

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
GET
https://1.2.3.4:8443//api/lunasa/hsms/117290/partitions/273087011507/roles
```

Example Result

```
{
    "roles": [
        {
            "id": "co",
            "name": "Crypto Officer",
            "url": "api/lunasa/hsms/117290/partitions/273087011507/roles/co"
        },
        {
            "id": "cu",
            "name": "Crypto User",
            "url": "api/lunasa/hsms/117290/partitions/273087011507/roles/cu"
        },
        {
            "id": "so",
            "name": "Security Officer",
            "url": "api/lunasa/hsms/117290/partitions/273087011507/roles/so"
        }
    ]
}
```

See Also

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}

3.1.2.9.2 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}

Gets the information associated with a specific partition role.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

roleid

The identifier of the role of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

Role details.

JSON Schema: Partition Role description

400

Unexpected error

404

HSM, partition or role does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/roles/co
```

Example Result

```
{
    "loginAttemptsLeft": 0,
    "secondaryAuthentication": "None",
    "pinToBeChanged": false,
    "activated": false,
    "challengeToBeChanged": false,
    "primaryAuthentication": "PED",
    "lockedOut": false,
    "initialized": false,
    "id": "co",
    "name": "Crypto Officer"
}
```

3.1.2.9.3 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}/actions

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}/actions

Gets all role-related actions associated with the partition.

Parameters

hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

partitionid

The partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

roleid

The HSM role of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

The set of all role actions associated with the partition.

JSON Schema: `Partition Role Actions`

400

Unexpected error

404

HSM, partition or role does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/462283/partitions/1076336284686/roles/co/actions
```

Example Result

```
{
   "actions": [
        {
            "id": "createChallenge",
            "url": "/api/lunasa/hsms/462283/partitions/1076336284686/roles/co/actions/createChallenge"
        },
        {
            "id": "reset",
            "url": "/api/lunasa/hsms/462283/partitions/1076336284686/roles/co/actions/reset"
        },
      {
         "id": "deactivate",
         "url": "/api/lunasa/hsms/462283/partitions/1076336284686/roles/co/actions/deactivate"
      }
    ]
}
```

3.1.2.9.4 POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}/actions/{actionid}

POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}/actions/{actionid}

Sends the specified partition role action to the HSM.

Parameters

hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

roleid

The identifier of the HSM role of interest

Use: Required

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

actionid

The identifier of the partition role action to be performed

Use: `Required`

JSON Schema:

```
Object
type: string
```

See Partition Role Actions

password

Applies for the "reset" action. The new challenge for a password-based partition. Pass an empty string for a PED-based partition.

Use: `Not Required`

JSON Schema:

```
Object
type: string
```

defaultChallenge

Applies for the "createChallenge" action. The new challenge for a PED-based partition. Pass True to have the challenge set to the default value; pass False to have the challenge set to a random value.

Use: `Not Required`

JSON Schema:

```
Object
type: boolean
```

Responses

204

Success

Location

JSON Schema:

```
 id: Object
     type: string
```

"Location" is the URL to the task spawned to perform the action for the partition role.

400

Unexpected error

404

HSM, partition, role or action does not exist.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/352170252337/roles/co/actions/reset
{ "password": "newpassword" }


POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/352170252337/roles/co/actions/createChallenge
{ "defaultChallenge": true }


POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/352170252337/roles/co/actions/createChallenge
{"password" : "newpassword" }


POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/352170252337/roles/co/actions/deactivate
{}
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/6', 'Content-Leng

{
}
```

3.1.2.9.5 PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}

PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}

Initializes the partition role.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

roleid

The identifier of the role of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

defaultChallenge

Indicates whether to create the partition role with a default challenge. If you create a password-based partition, set "defaultChallenge" to false. defaultChallenge is ignored when used on CO and CU roles if the partition type is PPSO. You must use another REST resource to set a secondary authentication default challenge on a PPSO partition role. See POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}/actions/{actionid}

Use: `Required`

JSON Schema:

```
Object
type: boolean
      false = do not use a default challenge
      true = use a default challenge
```

password

The password to be used to authenticate for the role. password is unused and should be blank ("") if using a PED-based partition.

Use: `Required`

JSON Schema:

```
Object
type: string
```

ped

The identifier of the PED of interest. '0' is local PED; 1 or greater is remote PED.

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

Location

"Location" is the URL to the role and is returned in the server response. You can use "Location" to form a PATCH resource to change the role password or to form a GET resource to query the role.

see PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}
see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}

For PED-based partitions, "Location" is the URL to the task spawned to initialize the partition role.

400

Unexpected error

404

HSM, partition or role does not exist.

Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/roles/cuco
{ "ped": "0", "defaultChallenge": true, "password": "" }
```

Example Result

```
{
password-based partition:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/

PED-based partition:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Leng
}
```

3.1.2.9.6 PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}

PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}

Changes the password for a partition role.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

roleid

The identifier of the role of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

oldPassword

The current password for the role

Use: `Required`

JSON Schema:

```
Object
type: string
```

newPassword

The desired password for the role

Use: `Required`

JSON Schema:

```
Object
type: string
```

changeSecret

(Optional) Change the secret for a PED-authenticated partition. This parameter applies for CO (Crypto Officer) and CU (Crypto User) roles.

Use: `Required`

JSON Schema:

```
Object
type: boolean
```

changeChallenge

(Optional) Change the challenge for a PED-authenticated partition. This parameter applies for CO (Crypto Officer) and CU (Crypto User) roles.

Use: `Required`

JSON Schema:

```
Object
type: boolean
```

Responses

204

Success

202

Task generated for resource

Location

"Location" is the URL to the role and is returned in the server response. You can use "Location" to form a GET resource to query the role.

see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}

For PED-based partitions, "Location" is the URL to the task spawned to change the password for the partition role.

400

Unexpected error

404

HSM, partition or role does not exist.

Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/roles/cu
{
"oldPassword": "myoldpassword",
"newPassword": "mynewpassword"
}
```

Example Result

```
{
password-based partition:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/

PED-based partition:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Leng
}
```

3.1.2.10 SFF

SFF resources enable small form factor (SFF) backup devices to be used.

- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff
- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects
- DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects
- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects/{objectid}

3.1.2.10.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff

Gets the small form factor backup device information.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

The small form factor backup device information.

JSON Schema: `SFF description`

Location

JSON Schema:

```
id: Object
    type: string
```

"Location" is the URL to the task spawned to get the small form factor backup device information.

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/117290/partitions/273087011507/sff
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Leng

{}
```

In this example, do GET on '/tasks/0/response' to get the results of the task:

```
{
    "name": "SomeBackupName",
    "objectCount": 4,
    "uid": "fb0200004600000c4f4c0200"
}
```

3.1.2.10.2 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects

Gets a list of objects on the small form factor backup device.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

The objects on the small form factor backup device.

JSON Schema: `SFF Objects`

Location

JSON Schema:

```
id: Object
    type: string
```

"Location" is the URL to the task spawned to get the list of objects on the SFF backup device.

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/117290/partitions/273087011507/sff/objects
```

Example Result

```
<code>
\verbatim
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/8', 'Content-Leng

{}
```

In this example, do GET on '/tasks/8/response' to get the results of the task:

```
{
    {
        "id": "1",
        "label": "Created data object",
        "url": "/api/lunasa/hsms/117290/partitions/273087011507/sff/objects/1"
    },
    {
        "id": "2",
        "label": "Created data object",
        "url": "/api/lunasa/hsms/117290/partitions/273087011507/sff/objects/2"
    },
    {
        "id": "3",
        "label": "Created data object",
        "url": "/api/lunasa/hsms/117290/partitions/273087011507/sff/objects/3"
    }
}
```

3.1.2.10.3 DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects

DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects

Removes all objects from a small form factor backup device.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

Location

JSON Schema:

```
    id: Object
        type: string
```

"Location" is the URL to the task spawned to get the delete all objects on the SFF backup device.

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011389/sff/objects
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/6', 'Content-Leng
```

```
{}
```

In this example, do GET on '/tasks/6/response' to get the results of the task:

```
{
}
```

3.1.2.10.4 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects/{objectid}

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects/{objectid}

Gets the information associated with a specific SFF backup object.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

objectid

The identifier of the SFF object of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

Object details.

JSON Schema: `SFF Object Description`

400

Unexpected error

404

HSM, partition or object does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/SFF/objects/1
```

Example Result

```
{
    "fingerprint": "9d9d8be7873ddf135f952ea43d581685d7dad2919b49f006d7fad71ad0935cac",
    "id": "1",
    "label": "Created data object",
    "type": "Data",
    "uid": "0c0300004600000c4f4c0200"
}
```

3.1.2.11 STC

STC resources enable security during HSM/client communications through the use of a secure trusted channel (STC) configuration.

- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc
- PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc
- PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc
- Ciphers
- Clients
- HMACs

3.1.2.11.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc

Gets the secure trusted channel configuration and partition identity.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

The secure trusted channel configuration and partition identity.

JSON Schema: `STC Configuration and Partition Identity description`

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/150607/partitions/350659181804/stc
```

Example Result


```
{
    "activationTimeout": 120,
    "ciphers": "/api/lunasa/hsms/150607/partitions/350659181804/stc/ciphers",
    "clients": "/api/lunasa/hsms/150607/partitions/350659181804/stc/clients",
    "fingerprint": "9c68d686097269caf87c87a78c6fbffa031c284d",
    "hmacs": "/api/lunasa/hsms/150607/partitions/350659181804/stc/hmacs",
    "publicKey": "U2FmZU5ldFN0Y1BhcnRpdGlvbklkZW50aXR5AAAAAAABHjIAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAC0tLS0t
    "rekeyThreshold": 400,
    "replayWindow": 120
}
```


3.1.2.11.2 PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc

PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc

Sets the secure trusted channel link configuration.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

activationTimeout, rekeyThreshold and replayThreshold

The secure trusted channel link configuration.

JSON Schema: `See STC Configuration and Partition Identity description`

Responses

204

Success.

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/150607/partitions/350659181804/stc
{
    "activationTimeout": 60,
    "rekeyThreshold": 500,
     "replayWindow": 100
}
```

Example Result

```
{
}
```

3.1.2.11.3 PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc

PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc

Changes the secure trusted channel link configuration.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

activationTimeout, rekeyThreshold and/or replayThreshold

One or more of the objects that specify the secure trusted channel link configuration.

JSON Schema: `See STC Configuration and Partition Identity description`

Responses

204

Success.

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/hsms/150607/partitions/350659181804/stc
{
    "activationTimeout": 180
}
```

Example Result

```
{
}
```

3.1.2.11.4 Ciphers

STC ciphers resources enable the encryption of data on an STC link.

- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers
- PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers
- PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers

3.1.2.11.4.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers

Gets the ciphers allowed for the secure trusted channel.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Query Parameters

display

Specifies which ciphers to query. Defined as "enabled", "disabled" or "all".

Use: `Not required.`

Responses

200

The secure trusted channel cipher suite.

JSON Schema: `STC Ciphers`

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/150607/partitions/350659181804/stc/ciphers
```

Example Result

```
{
    "ids": [
        "AES128_CBC",
        "AES192_CBC",
        "AES256_CBC"
    ]
}
```

3.1.2.11.4.2 PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers

PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers

Enables ciphers accepted for the secure trusted channel.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

ciphers

The ciphers to enable for the STC channel

JSON Schema: `STC Ciphers`

Responses

204

Success

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/150607/partitions/350659181804/stc/ciphers
{
"ids": ["AES128_CBC", "AES256_CBC"]
}
```

Example Result

```
{
}
```

3.1.2.11.4.3 PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers

PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers

Enables ciphers accepted for the secure trusted channel. PATCH operates the same as PUT. We provide both because some clients may not support PATCH. See PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers and substitute PATCH for PUT in the text.

3.1.2.11.5 Clients

STC clients resources allow the user to register and deregister an STC client.

- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients
- POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients
- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients/{clientid}
- DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients/{clientid}
- DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients

3.1.2.11.5.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients

Gets all client identities associated with the secure trusted channel for the partition.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

A list of all client identities associated with the secure trusted channel for partition. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: `STC Client Identities`

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
GET
https://1.2.3.4:8443//api/lunasa/hsms/117290/partitions/273087011507/stc/clients
```

Example Result

```
{
    "clients": [
        {
            "clientID": "0",
            "url": "/api/lunasa/hsms/151256/partitions/352170252337/stc/clients/0"
        },
        {
            "clientID": "1",
            "url": "/api/lunasa/hsms/151256/partitions/352170252337/stc/clients/1"
        }
    ]
}
```

See Also

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients/{clientid}

3.1.2.11.5.2 POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients

POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients

Registers a client identity for secure trusted communication with a partition.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

identity

The client identity, a base64-encoded version of the client identity file created by lunacm

Use: `Required`

JSON Schema:

```
Object
type: string
```

label

The user-friendly name to refer to the client identity

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

The client identity registered.

JSON Schema:

```
type:  string
description:  client is the identifier for identity now registered with the partition.
```

Location

JSON Schema:

```
id: Object
    type: string
```

"Location" is the URL to the client identity and is returned in the server response. You can use "Location" to form a GET resource to obtain the client identity.

see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients/{clientid}

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011507/stc/clients
{
"identity": "U2FmZU5ldFN0Y0NsaWVudElkZW50aXR5UHViAAAAAAABLS0tLS1CRUdJTiBQVUJMSUMgS0VZLS0tLS0KTUlJQklqQU5CZ2
"label": "client3"
}
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/

{
    "client": "3"
}
```

3.1.2.11.5.3 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients/{clientid}

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients/{clientid}

Gets a description of the client identity used to secure the trusted channel for the partition.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

clientid

The identifier of the client of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

The description of the client identity that secures the trusted channel.

JSON Schema: `STC Client Identity description`

400

Unexpected error

404

Partition or client does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011507/stc/clients/1
```

Example Result

```
{
    "fingerprint": "91ee10ff31325b74fcc2c630332be4618a28442d",
    "label": "client2"
}
```

3.1.2.11.5.4 DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients/{clientid}

DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients/{clientid}

Deletes the client identity that secures the trusted channel for the partition.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

clientid

The identifier of the client of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

400

Unexpected error

404

HSM, partition or client does not exist.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/stc/clients/1
```

Example Result

```
{
}
```

3.1.2.11.5.5 DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients

DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients

Deletes all client identities that secure the trusted channel for the partition.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/stc/clients
```

Example Result

```
{
}
```

3.1.2.11.6 HMACs

STC HMAC resources enable message integrity verification.

- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs
- PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs
- PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs

3.1.2.11.6.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs

Gets the message digest algorithms allowed for the secure trusted channel.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Query Parameters

display

Specifies which hmacs to query. Defined as "enabled", "disabled" or "all".

Use: `Not required.`

Responses

200

The secure trusted channel HMAC suite.

JSON Schema: `HMAC Ciphers`

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/150607/partitions/350659181804/stc/hmacs
```

Example Result

```
{
    "ids": ["HMAC_SHA256", "HMAC_SHA512"]
}
```

3.1.2.11.6.2 PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs

PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs

Enables message digest algorithms accepted for the secure trusted channel.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

hmacs

The message digest algorithms to enable for the STC channel

JSON Schema: `STC HMACs`

Responses

204

Success

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/150607/partitions/350659181804/stc/hmacs
{
"ids": ["AES128_CBC"]
}
```

Example Result

```
{
}
```

3.1.2.11.6.3 PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs

PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs

Enables message digest algorithms accepted for the secure trusted channel. PATCH operates the same as PUT.
We provide both because some clients may not support PATCH. See PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs and substitute PATCH for PUT in the text.

3.1.2.12 Storage Space

The following resources retrieve information and resize the storage space associated with an HSM partition.

- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/storageSpace
- PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/storageSpace

3.1.2.12.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/storageSpace

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/storageSpace

Gets the storage information associated with the partition.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

The storage information associated with the partition.

JSON Schema: `Partition Storage Space`

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011507/storageSpace
```

Example Result

```
{
    "free": 20480,
    "total": 20480,
    "used": 0
}
```

3.1.2.12.2 PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/storageSpace

PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/storageSpace

Resizes the storage space of a partition.

Parameters

hsmid

The serial number of the HSM of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

partitionid

The identifier of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

allStorageSpace

Indicates whether to resize the partition with all available storage space assigned to it.

Use: `Required`

JSON Schema:

```
Object
type: boolean
      false = do not use all available storage space
      true = assign all remaining, available storage space to the partition
```

size

The number of bytes of storage space to assign to the partition if allStorageSpace is false

Use: `Required`

JSON Schema:

```
Object
type: integer
```

Responses

204

Success

400

Unexpected error

404

HSM or partition does not exist.

Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/150607/partitions/350659181804/storageSpace
{"allStorageSpace": false, "size": 30000}
```

Example Result

```
{
    "total": 30000, "used": 0, "free": 30000
}
```

3.2 Appliance Plug-in

The appliance plug-in supports the following resources:

- Appliance
- Logs
- NTLS
- Services
- WebServer
- Network
- Syslog
- NTP
- SNMP
- SSH
- Sensor

3.2.1 Appliance

Appliance resources allow you to get and configure appliance specific parameters.

3.2.1.1 GET /api/lunasa

GET /api/lunasa

Gets information associated with the appliance.

Parameters

None

Responses

200

Appliance details

JSON Schema: `Lunasa`

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa
```

Example Result

```
{
    "hsms": "/api/lunasa/hsms",
    "syslog": "/api/lunasa/syslog",
    "ssh": "/api/lunasa/ssh",
    "network": "/api/lunasa/network",
    "services": "/api/lunasa/services",
    "actions": "/api/lunasa/actions",
    "ntp": "/api/lunasa/ntp",
    "forceSoLogin": false,
    "version": "6.2.0-6",
    "time": "/api/lunasa/time",
    "snmp": "/api/lunasa/snmp",
    "webServer": "/api/lunasa/webServer",
    "ntls": "/api/lunasa/ntls",
    "ssh": "/api/lunasa/ssh",
    "sensors": "/api/lunasa/sensors"
}
```

See Also

GET /api/lunasa/hsms
GET /api/lunasa/syslog
GET /api/lunasa/network
GET /api/lunasa/ntp
GET /api/lunasa/actions
GET /api/lunasa/services
GET /api/lunasa/time
GET /api/lunasa/snmp
GET /api/lunasa/ntls
GET /api/lunasa/ssh
GET /api/lunasa/sensors
GET /api/lunasa/webServer/config

3.2.1.2 PUT /api/lunasa

PUT /api/lunasa

Changes the state of forceSoLogin flag.

Parameters

forceSoLogin

Indicates whether to force security officer authentication credentials on specific resources.

Use: `Required`

JSON Schema:

```
   Object
   type: boolean
         false = do not use forceSoLogin
         true = use forceSoLogin
```

Responses

204

Success

400

Unexpected error

Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa
{
   "forceSoLogin": true
}
```

Example Result

```
Headers:
{'access-control-allow-origin': '*', 'content-type': 'application/json', 'content-length': '0', 'access-contro
""
```

3.2.1.3 PATCH /api/lunasa

PATCH /api/lunasa

Changes the state of forceSoLogin flag.

Parameters

forceSoLogin

Indicates whether to force security officer authentication credentials on specific resources.

Use: `Required`

JSON Schema:

```
Object
type: boolean
      false = do not use forceSoLogin
      true = use forceSoLogin
```

Responses

204

Success

400

Unexpected error

Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa
{
   "forceSoLogin": true
}
```

Example Result

```
Headers:
{'access-control-allow-origin': '*', 'content-type': 'application/json', 'content-length': '0', 'access-contro
""
```

3.2.1.4 GET /api/lunasa/actions

GET /api/lunasa/actions

Gets all lunasa actions.

Parameters

None

Responses

200

A list of all actions that can be performed under lunasa.

JSON Schema: Lunasa Actions

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/actions
```

Example Result

```
{
    "actions": [
        {
            "id": "reboot",
            "url": "/api/lunasa/actions/reboot"
        }
    ]
}
```

See Also

GET /api/lunasa/actions/{actionid}

3.2.1.5 POST /api/lunasa/actions/{actionid}

POST /api/lunasa/actions/{actionid}

Performs the specified action.

Reboot: Reboot will restart the appliance, this will cause downtime in the server and the loss of all sessions. If the webServer service is not set to run on boot, the server will not run when the appliance starts back up.

RegenerateCertificate: RegenerateCertificate will generate a new appliance certificate with default arguments unless otherwise specified.

Parameters

actionid

The identifier of the action to be performed

Use: `Required`

JSON Schema:

```
Object
type: string
```

address

The address to be assigned to the CN of the certificate. The default of the attribute is the hostname of the appliance. This is used only for RegenerateCertificate.

Use: `Optional`

JSON Schema:

```
Object
type: string
```

days

The number of days for the certificate to be valid. The default value of the attribute is 365. This is used only for RegenerateCertificate.

Use: `Optional`

JSON Schema:

```
Object
type: int
```

startDate

The date on which this certificate will be valid. The default of the attribute is now. This is used only for Regenerate↩ Certificate.

Use: `Optional`

JSON Schema:

```
Object
type: date
```

Responses

204

Success

400

Unexpected error

404

Invalid action.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/actions/reboot
{}


POST
https://1.2.3.4:8443/api/lunasa/actions/regenerateCertificate
{
    "startDate" : "2018-2-30",
    "days" : 300,
    "address" : "123.43.23.1"
}
```

Example Result

```
{}
```

Notes

Reboot action will create a waiting task.

RegenerateCertificate will require SO authentication when the forceSoLogin flag is enabled. (See GET /api/lunasa)

3.2.1.6 GET /api/lunasa/time

GET /api/lunasa/time

This resource returns the values of the appliance time, date and time zone information.

Parameters

None

Responses

200

Success

JSON Schema: `Time`

400

Unexpected failure

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/time
{
}
```

Example Response

```
{
    "time": "18:56:24",
    "date": "2016-05-27",
    "timeZone": "JST"
}
```

3.2.1.7 PUT /api/lunasa/time

PUT /api/lunasa/time

This resource configures time, date and time zone on the appliance.

Parameters

time

This parameter specifies the hour, minute, and second values. The format must be HH:MM:SS.

Use: `Required`

JSON Schema:

```
Object
type:string
```

date

This parameter specifies the date. The format must be YYYY-MM-DD.

Use: `Required`

JSON Schema:

```
Object
type:string
```

timeZone

This parameter specifies the time zone. Please refer to SafeNet Network HSM documentation for details.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

204

Success

400

Unexpected error

Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/time
{
    "time": "15:00:00",
    "date": "2016-05-27",
    "timeZone": "EST"
}
```

Example Result

```
{
}
```

Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See GET /api/lunasa)

3.2.1.8 PATCH /api/lunasa/time

PATCH /api/lunasa/time

This resource sets time, date or time zone information of the appliance.

Parameters

time

This parameter specifies the hour, minute, and second values. The format must be HH:MM:SS.

Use: `Not Required`

JSON Schema:

```
Object
type:string
```

date

This parameter specifies the date. The format must be YYYY-MM-DD.

Use: `Not Required`

JSON Schema:

```
Object
type:string
```

timeZone

This parameter specifies the time zone. Please refer to SafeNet Network HSM documentation for details.

Use: `Not Required`

JSON Schema:

```
Object
type:string
```

Responses

204

Success

400

Unexpected error

Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/time
{
    "time": "15:00:00",
    "date": "2016-05-27",
    "timeZone": "EST"
}
```

Example Result

```
{
}
```

Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See GET /api/lunasa)

3.2.2 Logs

Logs resources enable collecting and adding log records from/to the SafeNet Network HSM appliance.

- GET /api/lunasa/logs
- POST /api/lunasa/logs

3.2.2.1 GET /api/lunasa/logs

GET /api/lunasa/logs

Gets the logs accumulated on the appliance.

Note: Version 3 of REST API does not support this resource.

Parameters

None

Responses

200

A binary stream that represents an archive of the appliance logs. This archive is in compressed tar format (tgz). Write the return of GET:/api/lunasa/logs to a file with a .tgz extension.

JSON Schema:

```
<binary stream>
```

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/logs
```

Example Result

```
{
   <binary stream>
}
```

3.2.2.2 POST /api/lunasa/logs

POST /api/lunasa/logs

Creates a log record on the appliance. The log record goes into lunalogs.

Note: Version 3 of REST API does not support this resource.

Parameters

title

A designator to categorize log messages by a user-defined scheme. For example, a client application might have a sub-system "Dispatcher" and a sub-system "Monitor" logging messages via the REST API. The title parameter enables differentiation of log messages with similar content.

Use: `Required`

JSON Schema:

```
Object
type: string
```

content

Principally the description field of the log record as described in "SafeNet Network HSM Monitoring: Syslog and SNMP" product documentation.

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

Location

JSON Schema:

```
    id: Object
        type: string
```

400

Unexpected error

Example Request

```
POST
https://1.2.3.4:8443//api/lunasa/logs
{"title": "DOCSigner", "content": "HSM zeroized on client initiation"}
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': 'api/lunasa/logs', 'Conte

{
}
```

3.2.3 NTLS

NTLS resources enable administration and configuration of the Network Trust Link Service.

- GET /api/lunasa/ntls
- GET /api/lunasa/ntls/certificate
- GET /api/lunasa/ntls/clients
- POST /api/lunasa/ntls/clients
- GET /api/lunasa/ntls/clients/{clientid}
- DELETE /api/lunasa/ntls/clients/{clientid}
- GET /api/lunasa/ntls/clients/{clientid}/links
- POST /api/lunasa/ntls/clients/{clientid}/links
- DELETE /api/lunasa/ntls/clients/{clientid}/links/{linkid}
- GET /api/lunasa/ntls/clients/{clientid}/links/{linkid}
- DELETE /api/lunasa/ntls/clients

3.2.3.1 GET /api/lunasa/ntls

GET /api/lunasa/ntls

Gets information about NTLS.

NOTE: This version of the REST API does not support this resource. It is for a future release.

Parameters

None

Responses

200

State information related to the NTLS service.

JSON Schema: NTLS

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ntls
```

Example Result

```
{
TBD when defined in a future release
}
```

3.2.3.2 GET /api/lunasa/ntls/certificate

GET /api/lunasa/ntls/certificate

Gets the server-side certificate used by NTLS to establish connections with clients.

Parameters

None

Responses

200

NTLS server certificate.

JSON Schema:

```
Object
certificate: Object
    type:  string
    description:  certificate is a privacy enhanced mail-format string.
                  Save this string to a file named "server.pem" to recreate
                  the server certificate as represented on the appliance.
```

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443///api/lunasa/ntls/certificate
```

Example Result

```
{
    "certificate": "-----BEGIN CERTIFICATE-----
    ... <certificate> ...
    -----END CERTIFICATE-----\n"
}
```

3.2.3.3 GET /api/lunasa/ntls/clients

GET /api/lunasa/ntls/clients

Gets the list of all clients registered with the appliance.

Parameters

None

Responses

200

List of registered clients

JSON Schema: Clients

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ntls/clients
```

Example Result

```
{
    "clients": [
        {
            "clientID": "jseDev",
            "url": "/api/lunasa/ntls/clients/jseDev"
        },
        {
            "clientID": "testClient",
            "url": "/api/lunasa/ntls/clients/testClient"
        },
        {
            "clientID": "testClient2",
            "url": "/api/lunasa/ntls/clients/testClient2"
        },
        {
            "clientID": "testClient3",
            "url": "/api/lunasa/ntls/clients/testClient3"
        }
    ]
}
```

3.2.3.4 POST /api/lunasa/ntls/clients

POST /api/lunasa/ntls/clients

Registers a client with the appliance.

Parameters

ip

The IP address of the client

Use: Required

JSON Schema:

```
Object
type: string
```

clientName

The human-friendly name used to reference the client

Use: `Required`

JSON Schema:

```
Object
type: string
```

certificate

The PEM-encoded certificate for the client

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

The client identifier registered with the appliance. Response includes the URL to the client identifier to obtain additional information.

JSON Schema:

```
Object
client: Object
     type:  string
     description:  client is the name of the client registered with the appliance.
```

Location

JSON Schema:

```
 id: Object
     type: string
```

see GET /api/lunasa/ntls/clients/{clientid}

400

Unexpected error

Example Request

```
POST
https://1.2.3.4:8443//api/lunasa/ntls/clients
{"ip": "1.2.3.4", "certificate": "-----BEGIN CERTIFICATE-----\n...<certificate>...\n-----END CERTIFICATE---
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': 'api/lunasa/ntls/clients/

{
    "client": "testClient3"
}
```

Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See GET /api/lunasa)

To form the "certificate" parameter, use "\n" to delimit end of lines. The following diagram highlights where the delimiter is needed.

Here is a partial "certificate" parameter to show the use of the delimiter.

```
"-----BEGIN CERTIFICATE-----\nMIIDJzCCAg+gAwIBAgIBADANBgkqhkiG9w0BAQsFADBXMQswCQYDVQQGEwJDQTEQ\nMA4GA1UECAwHT2
                           ^                                                    ^
```

3.2.3.5 GET /api/lunasa/ntls/clients/{clientid}

GET /api/lunasa/ntls/clients/{clientid}

Gets the information associated with a specific client.

Parameters

clientid

The identifier of the client of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

client details

JSON Schema: `Client description`

400

Unexpected error

404

Client does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ntls/clients/testClient
```

Example Result

```
{
    "htlRequired": false,
    "clientID": "testClient",
    "links": "/api/lunasa/ntls/clients/testClient/links",
    "hostname": "1.2.3.4"
}
```

3.2.3.6 DELETE /api/lunasa/ntls/clients/{clientid}

DELETE /api/lunasa/ntls/clients/{clientid}

Removes a client from the list of those registered on the appliance.

Parameters

clientid

The identifier of the client of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

400

Unexpected error

404

Client does not exist.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/ntls/clients/testClient
```

Example Result

```
{
}
```

Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See GET /api/lunasa)

3.2.3.7 GET /api/lunasa/ntls/clients/{clientid}/links

GET /api/lunasa/ntls/clients/{clientid}/links

Gets a list of all partition links assigned to a client.

Parameters

clientid

The identifier of the client of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

A list of all links registered to the client.

JSON Schema: `Links`

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ntls/clients/testClient3/links
```

Example Result

```
{
    "links": [
        {
            "id": "362126088892",
            "url": "/api/lunasa/ntls/clients/testClient/links/362126088892"
        }
    ]
}
```

See Also

GET /api/lunasa/ntls/clients/{clientid}/links/{linkid}

3.2.3.8 POST /api/lunasa/ntls/clients/{clientid}/links

POST /api/lunasa/ntls/clients/{clientid}/links

Registers a link to a partition with a client.

Parameters

clientid

The identifier of the client of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

url

The url of the partition of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Link created.

Location

JSON Schema:

```
id: Object
    type: string
```

"Location" is the URL to the link registered to the client and is returned in the server response. You can use "Location" to form a DELETE resource to remove the link from the client.

see DELETE /api/lunasa/ntls/clients/{clientid}/links/{linkid}

400

Unexpected error

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/ntls/clients/testClient3/links
{
     "url": "/api/lunasa/hsms/155532/partitions/362126088893"
}
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/ntls/clients
```

```
{
}
```

Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See GET /api/lunasa)

3.2.3.9 DELETE /api/lunasa/ntls/clients/{clientid}/links/{linkid}

DELETE /api/lunasa/ntls/clients/{clientid}/links/{linkid}

Deletes a link from a client.

Parameters

clientid

The identifier of the client of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

linkid

The identifier of the link of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

400

Unexpected error

404

Specified client or link does not exist.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/ntls/clients/testClient3/links/273087011269
```

Example Result

```
{
}
```

Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See GET /api/lunasa)

3.2.3.10 GET /api/lunasa/ntls/clients/{clientid}/links/{linkid}

GET /api/lunasa/ntls/clients/{clientid}/links/{linkid}

Gets a specified link

Parameters

clientid

The identifier of the client of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

linkid

The identifier of the link of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

A list of all links registered to the client.

JSON Schema: Links

400

Unexpected error

404

Specified link does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ntls/clients/testClient/links/362126088892
```

Example Result

```
{
    "url": "/api/lunasa/hsms/155532/partitions/362126088892",
    "type": "hsm/partition"
}
```

See Also

GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}

3.2.3.11 DELETE /api/lunasa/ntls/clients

DELETE /api/lunasa/ntls/clients

Removes all clients registered on the appliance.

Parameters

None

Responses

204

Success

400

Unexpected error

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/ntls/clients
```

Example Result

```
{
}
```

Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See GET /api/lunasa)

3.2.4 Services

Services resources enable starting, stopping and checking the status appliance services.

- GET /api/lunasa/services
- GET /api/lunasa/services/{serviceid}
- PUT /api/lunasa/services/{serviceid}
- PATCH /api/lunasa/services/{serviceid}
- GET /api/lunasa/services/{serviceid}/actions
- POST /api/lunasa/services/{serviceid}/actions/{actionid}

3.2.4.1 GET /api/lunasa/services

GET /api/lunasa/services

Gets all services associated with the appliance.

Parameters

None

Responses

200

A list of all services associated with the appliance. Specifically, the list is unique identifiers.

JSON Schema: services

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/services
```

Example Result


```
{
    "services": [
        {
            "id": "cbs",
            "url": "/api/lunasa/services/cbs"
        },
            "id": "htl",
            "url": "/api/lunasa/services/htl"
        },
            "id": "lsta",
            "url": "/api/lunasa/services/lsta"
        },
            "id": "network",
            "url": "/api/lunasa/services/network"
        },
            "id": "ntls",
            "url": "/api/lunasa/services/ntls"
        },
            "id": "ntp",
            "url": "/api/lunasa/services/ntp"
        },
            "id": "snmp",
            "url": "/api/lunasa/services/snmp"
        },
            "id": "ssh",
            "url": "/api/lunasa/services/ssh"
        },
            "id": "stc",
            "url": "/api/lunasa/services/stc"
        },
            "id": "syslog",
            "url": "/api/lunasa/services/syslog"
        },
            "id": "sysstat",
            "url": "/api/lunasa/services/sysstat",
        }
            "id": "webserver",
            "url": "/api/lunasa/services/webserver"
        }
    ]
}
```

3.2.4.2 GET /api/lunasa/services/{serviceid}

GET /api/lunasa/services/{serviceid}

Gets specific information about the service.

Parameters

serviceid

The identifier of the service of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

The information about the service.

JSON Schema: `Service`

400

Unexpected error

404

Service does not exist

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/services/stc
```

Example Result

```
{
    "status" : "running"
    "onBoot" : true
}
```

3.2.4.3 PUT /api/lunasa/services/{serviceid}

PUT /api/lunasa/services/{serviceid}

Modifies the service attributes.

Parameters

serviceid

The identifier of the service of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

onBoot

This parameter specifies the onBoot option for the service.

Use: `Required`

JSON Schema:

```
Object
type:boolean
```

Responses

200

Success

400

Unexpected error

404

Service does not exist

Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/services/stc
{
"onBoot" : true
}
```

Example Result

```
{

}
```

3.2.4.4 PATCH /api/lunasa/services/{serviceid}

PATCH /api/lunasa/services/{serviceid}

Modifies the service attributes.

Parameters

serviceid

The identifier of the service of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

onBoot

This parameter specifies the onBoot option for the service.

Use: `Required`

JSON Schema:

```
Object
type:boolean
```

Responses

200

Success

400

Unexpected error

404

Service does not exist

Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/services/stc
{
"onBoot" : true
}
```

Example Result

```
 {

 }
```

3.2.4.5 GET /api/lunasa/services/{serviceid}/actions

GET /api/lunasa/services/{serviceid}/actions

Gets all actions associated with the service.

Parameters

serviceid

The identifier of the service of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

The set of all actions associated with the service.

JSON Schema: `Service Actions`

400

Unexpected error

404

Service does not exist

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/services/stc/actions
```

Example Result

```
{
    "actions": [
        {
            "id": "start",
            "url": "/api/lunasa/lunasa/services/stc/actions/start"
        },
        {
            "id": "stop",
            "url": "/api/lunasa/lunasa/services/stc/actions/stop"
        },
        {
            "id": "restart",
            "url": "/api/lunasa/lunasa/services/stc/actions/restart"
        }
    ]
}
```

3.2.4.6 POST /api/lunasa/services/{serviceid}/actions/{actionid}

POST /api/lunasa/services/{serviceid}/actions/{actionid}

Performs the specified action on the service.

Parameters

serviceid

The identifier of the service of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

actionid

The identifier of the action of interest

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success.

Location

JSON Schema:

```
id: Object
    type: string
```

"Location" is the URL to the task spawned to perform the action on the service.

id

The identifier for the service actioned.

JSON Schema:

```
id: Object
    type: string
```

400

Unexpected error

404

Service or action does not exist.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/services/stc/actions/restart
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/3', 'Content-Leng

{}
```

3.2.5 WebServer

Web Server resources enable monitoring and administering the service responsible for the REST API.

- GET /api/lunasa/webServer
- PUT /api/lunasa/webServer
- PATCH /api/lunasa/webServer
- GET /api/lunasa/webServer/actions
- POST /api/lunasa/webServer/actions/{actionid}
- GET /api/lunasa/webServer/certificate
- PUT /api/lunasa/webServer/certificate
- PUT /api/lunasa/webServer/certificate
- PATCH /api/lunasa/webServer/certificate
- GET /api/lunasa/webServer/csr
- GET /api/lunasa/webServer/certificate/actions
- POST /api/lunasa/webServer/certificate/actions/{actionid}

3.2.5.1 GET /api/lunasa/webServer

GET /api/lunasa/webServer

Gets the configuration of the web server providing the REST API.

Parameters

None

Responses

200

The configuration of the web server.

JSON Schema: Web Server Configuration Description

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/webServer
```

Example Result

```
{
   "apiVersion": 3,
   "cipherList": "ECDHE-RSA-AES256-GCM-SHA384,ECDHE-ECDSA-AES256-GCM-SHA384,ECDHE-RSA-AES256-SHA384,ECDHE-ECDS
   "ipAddress": "0.0.0.0",
   "netDevice" : "eth1",
   "port" : 8443,
   "threads" : 5,
   "certificate": "/api/lunasa/webServer/certificate",
   "actions": "/api/lunasa/webServer/actions",
   "csr": "/api/lunasa/webServer/csr"
}
```

3.2.5.2 PUT /api/lunasa/webServer

PUT /api/lunasa/webServer

Sets the configuration of the web server providing the REST API.

Parameters

cipherList

cipherList is the cipher suite the REST API service is to accept for applications requesting connection to the web server. cipherList is a sub-set of the ciphers known to the REST API service.

Use: Required

JSON Schema:

```
Object
type: string
```

netDevice

netDevice is the interface to which the REST API service is bound. Valid interfaces are: eth0, eth1, eth2, eth3, all, all_ipv6, bond0 and bond1.

Use: `Required`

JSON Schema:

```
Object
type: string
```

port

port is the logical end-point number reserved for the REST API service. The port must be within the range: 80 to 65535.

Use: `Required`

JSON Schema:

```
Object
type: integer
```

threads

threads is the number of simultaneous connections the REST API service supports. A small number of threads implies restricted administrative access to the appliance.

Use: `Required`

JSON Schema:

```
Object
type: integer
```

Responses

204

Success

400

Unexpected error

Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/webServer
{
   "cipherList" : "SRP-RSA-3DES-EDE-CBC-SHA, ECDH-ECDSA-RC4-SHA, DHE-RSA-SEED-SHA, EDH-RSA-DES-CBC-SHA",
   "netDevice" : "eth1",
   "port" : 8443,
   "threads" : 5
}
```

Example Result

```
{
}
```

3.2.5.3 PATCH /api/lunasa/webServer

PATCH /api/lunasa/webServer

Changes the configuration of the web server providing the REST API.

Parameters

cipherList

cipherList is the cipher suite the REST API service is to accept for applications requesting connection to the web server. cipherList is a sub-set of the ciphers known to the REST API service.

Use: `Not Required`

JSON Schema:

```
Object
type: string
```

netDevice

netDevice is the interface to which the REST API service is bound. Valid interfaces are: eth0, eth1, eth2, eth3, all, all_ipv6, bond0 and bond1.

Use: `Not Required`

JSON Schema:

```
Object
type: string
```

port

port is the logical end-point number reserved for the REST API service. The port must be within the range: 80 to 65535.

Use: `Not Required`

JSON Schema:

```
Object
type: integer
```

threads

threads is the number of simultaneous connections the REST API service supports. A small number of threads implies restricted administrative access to the appliance.

Use: `Not Required`

JSON Schema:

```
Object
type: integer
```

Responses

204

Success

400

Unexpected error

Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/webServer
{
   "netDevice" : "eth1",
   "port" : 8443
}
```

Example Result

```
{
}
```

3.2.5.4 GET /api/lunasa/webServer/actions

GET /api/lunasa/webServer/actions

Gets all actions that an administrator can perform on the web server.

Parameters

None

Responses

200

A list of all actions associated with the web server. The list includes unique identifiers that can be used to perform the specific action with a POST.

JSON Schema: `Web Server Configuration Actions`

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/webServer/actions
```

Example Result

```
{
    "actions": [
        {
            "id": "setDefaultCipherList",
            "url": "/api/lunasa/webServer/actions/setDefaultCipherList"
        }
    ]
}
```

See Also

POST /api/lunasa/webServer/actions/{actionid}

3.2.5.5 POST /api/lunasa/webServer/actions/{actionid}

POST /api/lunasa/webServer/actions/{actionid}

Sends the specified configuration action to the web server.

Parameters

actionid

The identifier of the action to be performed

Use: `Required`

JSON Schema:

```
Object
type: string
```

See Web Server Configuration Actions

Responses

200

Success

location

JSON Schema:

```
id: Object
    type: string
```

"location" is the URL to the task spawned to perform the web server configuration action.

400

Unexpected error

404

Action does not exist.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/webServer/actions/setDefaultCipherList
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Content-Length': '712', 'Access-Cont

{
}
```

3.2.5.6 GET /api/lunasa/webServer/certificate

GET /api/lunasa/webServer/certificate

Gets the attributes of the certificate

Parameters

None

Responses

200

The attributes of the certificate.

JSON Schema: Web Server Configuration Description

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/webServer/certificate
```

Example Result

```
{
   "actions": "/api/lunasa/webServer/certificate/actions"
   "hash" : "SHA1",
   "curveName" : "secp521r1",
   "keyType" : "rsa",
   "keySize" : 2048,
   "fingerprint" : "D9:08:77:4E:EC:8F:29:EF:4B:DA:2C:6E:C9:29:2E:EC:68:7D:AF:95",
   "subjectAltNames" : ["example.com", "www.example.com"]
}
```

3.2.5.7 PUT /api/lunasa/webServer/certificate

PUT /api/lunasa/webServer/certificate

Regenerates the certificate

Parameters

curveName

curveName is the name of the elliptic curve used for an ECDSA-based certificate.

Use: `Required`

JSON Schema:

```
Object
type: string
```

keyType

keyType is the type of key used by the web server to secure access to the REST API service.

Use: `Required`

JSON Schema:

```
Object
type: string
```

keySize

keySize is the number of bits for the key used to secure access to the REST API service.

Use: `Required`

JSON Schema:

```
Object
type: integer
```

subjectAltNames

subjectAltName is an extension to X.509 that allows various values to be associated with a security certificate.

Use: `Required`

JSON Schema:

```
Object
type: array
    subjectAltName: Object
                    type: string
```

Responses

204

Success

Location

JSON Schema:

```
    id: Object
        type: string
```

"Location" is the URL to the task spawned to regenerate the certificate. The task is a waiting task.

400

Bad Request

Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/webServer/certificate
{
"curveName" : "secp521r1",
"keyType" : "rsa",
"keySize" : 2048,
"subjectAltNames" : ["example.com", "www.example.com"]
}
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Leng

{
}
```

3.2.5.8 PUT /api/lunasa/webServer/certificate

PUT /api/lunasa/webServer/certificate

Replaces the current certificate with a given file.

Parameters

The request takes in a file.

See File I/O

Responses

204

Success

Location

JSON Schema:

```
    id: Object
        type: string
```

"Location" is the URL to the task spawned to regenerate the certificate. The task is a waiting task.

400

Bad Request

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Leng

{
}
```

3.2.5.9 PATCH /api/lunasa/webServer/certificate

PATCH /api/lunasa/webServer/certificate

Regenerates the certificate with the given amount of fields.

Parameters

curveName

curveName is the name of the elliptic curve used for an ECDSA-based certificate.

Use: Not Required

JSON Schema:

```
Object
type: string
```

keyType

keyType is the type of key used by the web server to secure access to the REST API service.

Use: Not Required

JSON Schema:

```
Object
type: string
```

keySize

keySize is the number of bits for the key used to secure access to the REST API service.

Use: Not Required

JSON Schema:

```
Object
type: integer
```

subjectAltNames

SubjectAltName is an extension to X.509 that allows various values to be associated with a security certificate.

Use: Not Required

JSON Schema:

```
Object
type: array
    subjectAltName: Object
                    type: string
```

Responses

204

Success

400

Bad Request

Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/webServer/certificate
{
"subjectAltNames" : ["example.com", "www.example.com"]
}
```

Example Result

```
{
}
```

3.2.5.10 GET /api/lunasa/webServer/csr

GET /api/lunasa/webServer/csr

Gets a certificate signing request.

Parameters

None

Responses

200

Data buffer containing the file contents.

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/webServer/csr
```

Example Result

```
{

}
```

Notes

This resource returns the contents of a file in a buffer.

Below is an example of getting the contents in python. We iterate through the contents and save them to a file.

```
r = requests.get("/api/lunasa/webServer/csr",
                 stream=True,
                 cookies=cookies,
                 verify=False,
                 allow_redirects=False)

with open("ssl.csr", 'wb') as csr:
  for chunk in r.iter_content(chunk_size=1024):
      if chunk:
          csr.write(chunk)
  csr.close()
```

3.2.5.11 GET /api/lunasa/webServer/certificate/actions

GET /api/lunasa/webServer/certificate/actions

Gets the actions that can be applied to the certificate of the web server providing the REST API.

Parameters

None

Responses

200

A list of all actions associated with the web server certificate. The list includes unique identifiers that can be used to perform the specific action with a POST.

JSON Schema: Web Server Certificate Actions

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/webServer/certificate/actions
```

Example Result

```
{
    "actions": {
        "id": "regenerate",
        "url": "/api/lunasa/webServer/certificate/actions/regenerate"
    }
}
```

3.2.5.12 POST /api/lunasa/webServer/certificate/actions/{actionid}

POST /api/lunasa/webServer/certificate/actions/{actionid}

Performs an action on the certificate used to secure access to the web server that provides the REST API.

Parameters

actionid

The action to be performed on the certificate

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

Location

"Location" is the URL to the certificate changed by the action and is returned in the server response. You can use "Location" to form a GET resource to query the certificate.

see GET api/lunasa/webServer/certificate

400

Unexpected error

404

Action does not exist.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/webServer/certificate/actions/regenerate
{}
```

Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/webServer/ce

{}
```

3.2.6 Network

Network resources allow you to get and configure network specific parameters.

- GET /api/lunasa/network
- GET /api/lunasa/network/actions
- POST /api/lunasa/network/actions/{actionid}
- PUT /api/lunasa/network
- PATCH /api/lunasa/network
- GET /api/lunasa/network/devices
- POST /api/lunasa/network/devices
- GET /api/lunasa/network/devices/{deviceid}
- DELETE /api/lunasa/network/devices/{deviceid}
- GET /api/lunasa/network/devices/{deviceid}/ip4
- PUT /api/lunasa/network/devices/{deviceid}/ip4
- PATCH /api/lunasa/network/devices/{deviceid}/ip4
- GET /api/lunasa/network/devices/{deviceid}/ip6
- PUT /api/lunasa/network/devices/{deviceid}/ip6
- PATCH /api/lunasa/network/devices/{deviceid}/ip6
- GET /api/lunasa/network/devices/{deviceid}/routes

- POST /api/lunasa/network/devices/{deviceid}/routes
- DELETE /api/lunasa/network/devices/{deviceid}/routes
- GET /api/lunasa/network/devices/{deviceid}/routes/{routeid}
- DELETE /api/lunasa/network/devices/{deviceid}/routes/{routeid}
- GET /api/lunasa/network/dns
- GET /api/lunasa/network/dns/nameServers
- POST /api/lunasa/network/dns/nameServers
- GET /api/lunasa/network/dns/nameServers/{nameServerid}
- DELETE /api/lunasa/network/dns/nameServers/{nameServerid}
- GET /api/lunasa/network/dns/searchDomains
- POST /api/lunasa/network/dns/searchDomains
- GET /api/lunasa/network/dns/searchDomains/{searchDomainid}
- DELETE /api/lunasa/network/dns/searchDomains/{searchDomainid}

3.2.6.1 GET /api/lunasa/network

GET /api/lunasa/network

Gets the network information associated with the appliance.

Parameters

None

Responses

200

Network Info

JSON Schema: `Network`

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network
```

Example Result

```
{
    "hostname" : "MyHostname",
    "domain" : "MyDomain",
    "actions" : "/api/lunasa/network/actions",
    "devices": "/api/lunasa/network/devices"
    "dns": "/api/lunasa/network/dns"
}
```

See Also

GET /api/lunasa/network/actions
GET /api/lunasa/network/devices
GET /api/lunasa/network/dns

3.2.6.2 GET /api/lunasa/network/actions

GET /api/lunasa/network/actions

Gets all network actions.

Parameters

None

Responses

200

A list of all actions that can be performed under the network.

JSON Schema: `Network Actions`

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/actions
```

Example Result

```
{
    "actions": [
        {
            "id": "ping",
            "url": "/api/lunasa/network/actions/ping"
        }
    ]
}
```

3.2.6.3 POST /api/lunasa/network/actions/{actionid}

POST /api/lunasa/network/actions/{actionid}

Performs the specified action.

Parameters

actionid

The identifier of the action to be performed

Use: `Required`

JSON Schema:

```
Object
type: string
```

address

Specifies the address to ping, accepts a valid ip or hostname

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

200

The time it took to ping in seconds.

400

Unexpected error

404

Invalid action.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/network/actions/ping

{
     "address" : "1.2.3.5"
}
```

Example Result

Returns the transfer time of one packet in milliseconds. A time of 0 indicates the ping failed.

```
{'access-control-allow-origin': '*', 'content-type': 'application/json', 'content-length': '712', 'access-cont

{
    "time" : 0.000607
}
```

3.2.6.4 PUT /api/lunasa/network

PUT /api/lunasa/network

Sets all base network configurations associated with the appliance.

Parameters

hostname

The hostname to give the appliance.

Use: `Required`

JSON Schema:

```
Object
type: string
```

domain

The domain name for the appliance.

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

400

Unexpected error

Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/network
{
     "hostname" : "My-Host.name",
     "domain" : "My-Domain.com"
}
```

Example Result

```
{
}
```

3.2.6.5 PATCH /api/lunasa/network

PATCH /api/lunasa/network

Sets the network information associated with the appliance.

Parameters

hostname

The hostname to give the appliance.

Use: `Not Required`

JSON Schema:

```
Object
type: string
```

domain

The domain name to the appliance.

Use: `Not Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

400

Unexpected error

Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/network
{
     "hostname" : "MyHostname"
}
```

Example Result

```
{
}
```

3.2.6.6 GET /api/lunasa/network/devices

GET /api/lunasa/network/devices

Gets all network devices.

Parameters

None

Responses

200

A list of all network devices on the appliance.

JSON Schema: Network Devices

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/devices
```

Example Result

```
{
    "devices": [
        {
            "id": "lo",
            "type" : "ethernet",
            "url": "/api/lunasa/network/devices/lo
        },
        {
            "id": "eth0",
            "type": "ethernet",
            "url": "/api/lunasa/network/devices/eth0"
        },
        {
            "id": "eth1",
            "type" : "ethernet",
            "url": "/api/lunasa/network/devices/eth1"
        },
        {
            "id": "bond0",
            "type" : "ethernet",
            "url": "/api/lunasa/network/devices/bond0"
        }
    ]
}
```

See Also

GET /api/lunasa/network/devices/{deviceid}

3.2.6.7 POST /api/lunasa/network/devices

POST /api/lunasa/network/devices

Creates an unconfigured bond device.

Parameters

devices

A list of network devices used to create a bond device.

Use: `Required`

JSON Schema:

```
Object
type: array
   device: Object
       type: string
```

Responses

204

Success

Location

"Location" is the URL to the newly created bond device.

see GET /api/lunasa/network/devices/{deviceid}

400

Unexpected error

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/network/devices
{
"devices" : ["eth0", "eth1"]
}
```

Example Response

```
{}
```

3.2.6.8 GET /api/lunasa/network/devices/{deviceid}

GET /api/lunasa/network/devices/{deviceid}

Gets information about a network device.

Parameters

deviceid

The identifier of a network device.

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

Basic information about the network device.

JSON Schema: `Network Device`

400

Unexpected error

404

Device does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/devices/eth0
```

Example Result

```
{
    "routes": "/api/lunasa/network/devices/eth0/routes",
    "ip4": "/api/lunasa/network/devices/eth0/ip4",
    "ip6": "/api/lunasa/network/devices/eth0/ip6",
    "mac": "00:15:b2:a1:ac:28",
    "type": "ethernet",
    "name": "eth0"
}
```

See Also

GET /api/lunasa/network/devices/{deviceid}/ip4
GET /api/lunasa/network/devices/{deviceid}/ip6
GET /api/lunasa/network/devices/{deviceid}/routes

3.2.6.9 DELETE /api/lunasa/network/devices/{deviceid}

DELETE /api/lunasa/network/devices/{deviceid}

Removes or disables a device.

Parameters

deviceid

Specifies the id of the device.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

204

Success

400

Unexpected error

404

Device does not exist.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/network/devices/{deviceid}
{}
```

Example Response

```
{}
```

Notes

This resource will disable ethernet devices such as eth0 and eth1, querying a device that has been disabled will display values such as ip, mask and gateway as null. If the device is a bond device the device will be removed.

3.2.6.10 GET /api/lunasa/network/devices/{deviceid}/ip4

GET /api/lunasa/network/devices/{deviceid}/ip4

Gets ip4 information from a network device.

Parameters

deviceid

The identifier of a network device.

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

Ip4 information about the network device.

JSON Schema: `Network Device Ip4`

400

Unexpected error

404

Device does not exist.

Example Request

```
    GET
    https://1.2.3.4:8443/api/lunasa/network/devices/eth0/ip4
{
}
```

Example Result

```
{
    "ip": "172.20.11.98",
    "mask": 24,
    "gateway": "172.20.11.10"
}
```

3.2.6.11 PUT /api/lunasa/network/devices/{deviceid}/ip4

PUT /api/lunasa/network/devices/{deviceid}/ip4

Sets all ip4 configurations for a specific device.

Parameters

deviceid

The identifier of a network device.

Use: `Required`

JSON Schema:

```
   Object
   type: string
```

ip

The ip address to set for the device.

Use: `Required`

JSON Schema:

```
   Object
   type: string
```

mask

The subnet mask to set for the device.

Use: `Required`

JSON Schema:

```
Object
type: integer
```

gateway

The default gateway to set for the device.

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

400

Unexpected error

404

Device does not exist.

Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/ip4
{
     "ip" : "1.2.3.5",
     "mask" : 24,
     "gateway" : "1.2.3.7"
}
```

Example Result

```
{

}
```

Notes

This resource will return a waiting task if you are modifying the device that the web server is currently running on.

3.2.6.12 PATCH /api/lunasa/network/devices/{deviceid}/ip4

PATCH /api/lunasa/network/devices/{deviceid}/ip4

Sets ip4 configurations for a specific device.

Parameters

deviceid

The identifier of a network device.

Use: `Required`

JSON Schema:

```
Object
type: string
```

ip

The ip address to set for the device.

Use: `Not Required`

JSON Schema:

```
Object
type: string
```

mask

The subnet mask to set for the device.

Use: `Not Required`

JSON Schema:

```
Object
type: integer
```

gateway

The default gateway to set for the device.

Use: `Not Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

400

Unexpected error

404

Device does not exist.

Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/ip4
{
     "ip" : "1.2.3.5",
     "mask" : 24
}
```

Example Result

```
{

}
```

Notes

This resource will return a waiting task if you are modifying the device that the web server is currently running on.

3.2.6.13 GET /api/lunasa/network/devices/{deviceid}/ip6

GET /api/lunasa/network/devices/{deviceid}/ip6

Gets ip6 information from a network device.

Parameters

deviceid

The identifier of a network device.

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

Ip6 information about the network device.

JSON Schema: `Network Device Ip6`

400

Unexpected error

404

Device does not exist.

Example Request

```
    GET
    https://1.2.3.4:8443/api/lunasa/network/devices/eth0/ip6
{
}
```

Example Result

```
{
    "ip": "fec0::2",
    "prefix": 64,
    "gateway": "fec0::1"
}
```

3.2.6.14 PUT /api/lunasa/network/devices/{deviceid}/ip6

PUT /api/lunasa/network/devices/{deviceid}/ip6

Sets all ip6 configurations for a specific device.

Parameters

deviceid

The identifier of a network device.

Use: `Required`

JSON Schema:

```
Object
type: string
```

ip

The ip address to set for the device.

Use: `Required`

JSON Schema:

```
Object
type: string
```

prefix

The prefix to set for the device.

Use: `Required`

JSON Schema:

```
Object
type: integer
```

gateway

The default gateway to set for the device.

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

400

Unexpected error

404

Device does not exist.

Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/ip6
{
     "ip" : "fec0::2",
     "prefix" : 64,
     "gateway" : "fec0::1"
}
```

Example Result

```
{

}
```

Notes

This resource will return a waiting task if you are modifying the device that the web server is currently running on.

3.2.6.15 PATCH /api/lunasa/network/devices/{deviceid}/ip6

PATCH /api/lunasa/network/devices/{deviceid}/ip6

Sets ip6 configurations for a specific device.

Parameters

deviceid

The identifier of a network device.

Use: `Required`

JSON Schema:

```
Object
type: string
```

ip

The ip address to set for the device.

Use: `Not Required`

JSON Schema:

```
Object
type: string
```

prefix

The prefix to set for the device.

Use: `Not Required`

JSON Schema:

```
Object
type: integer
```

gateway

The default gateway to set for the device.

Use: `Not Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

400

Unexpected error

404

Device does not exist.

Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/ip6
{
     "ip" : "fec0::2",
     "prefix" : 64
}
```

Example Result

```
{

}
```

Notes

This resource will return a waiting task if you are modifying the device that the web server is currently running on.

3.2.6.16 GET /api/lunasa/network/devices/{deviceid}/routes

GET /api/lunasa/network/devices/{deviceid}/routes

Gets all routes for a specific network device.

Parameters

deviceid

Specifies the id of the device.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

200

A list of all network routes.

JSON Schema: Network Routes

400

Unexpected error

404

Device does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/routes
```

Example Result

```
{
    "routes": [
        {
            "id": "default",
            "url": "/api/lunasa/network/devices/eth0/default
        },
        {
            "id": "172.20.11.0_24_k_100",
            "url": "/api/lunasa/network/devices/eth0/172.20.11.0_24_k_100"
        }
    ]
}
```

See Also

GET /api/lunasa/network/devices/{deviceid}/routes/{routeid})
DELETE /api/lunasa/network/devices/{deviceid}/routes/{routeid})

3.2.6.17 POST /api/lunasa/network/devices/{deviceid}/routes

POST /api/lunasa/network/devices/{deviceid}/routes

Creates a route.

Parameters

destination

The IP address or the hostname to route to.

Use: `Required`

JSON Schema:

```
Object
type: string
```

mask

The subnet mask to set for the device.

Use: `Required`

JSON Schema:

```
Object
type: integer
```

gateway

The default gateway to set for the device.

Use: `Required`

JSON Schema:

```
Object
type: string
```

metric

Specifies the path the router should take.

Use: `Required`

JSON Schema:

```
Object
type: int
```

Responses

204

Success

Location

"Location" is the URL to the newly created route.

see GET /api/lunasa/network/devices/{deviceid}/routes/{routeid}

400

Unexpected error

404

Device does not exist.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/routes
{
    "destination" : "1.2.3.6",
    "mask" : 24,
    "gateway" : "1.2.3.7",
    "metric" : 1
}
```

Example Response

```
{}
```

Notes

This resource will restart the server.

3.2.6.18 DELETE /api/lunasa/network/devices/{deviceid}/routes

DELETE /api/lunasa/network/devices/{deviceid}/routes

Removes all routes that have been set.

Parameters

deviceid

Specifies the id of the device.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

204

Success

400

Unexpected error

404

Device does not exist.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/routes
{}
```

Example Response

```
{}
```

3.2.6.19 GET /api/lunasa/network/devices/{deviceid}/routes/{routeid}

GET /api/lunasa/network/devices/{deviceid}/routes/{routeid}

Gets information about a network device route.

Parameters

deviceid

The identifier of a network device.

Use: `Required`

JSON Schema:

```
Object
type: string
```

routeid

The identifier of a device route.

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

Basic information about the network device route.

JSON Schema: `Network Route`

400

Unexpected error

404

Device or route does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/routes/1.2.3.6_24_s_50
```

Example Result

```
{
    "destination": "1.2.3.6",
    "mask": 24,
    "gateway": "1.2.3.7"
}
```

3.2.6.20 DELETE /api/lunasa/network/devices/{deviceid}/routes/{routeid}

DELETE /api/lunasa/network/devices/{deviceid}/routes/{routeid}

Removes a specific route.

Parameters

deviceid

Specifies the id of the device.

Use: `Required`

JSON Schema:

```
Object
type:string
```

routeid

Specifies the id of the route.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

204

Success

400

Unexpected error

404

Device or route does not exist.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/routes/1.2.3.6_24_s_50
{}
```

Example Response

```
{}
```

3.2.6.21 GET /api/lunasa/network/dns

GET /api/lunasa/network/dns

Returns the location of the different DNS resources.

Parameters

None

Responses

200

Dns Info

JSON Schema: `Dns`

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/dns
```

Example Response

```
{
    "nameServers" : "/api/lunasa/network/dns/nameServers",
    "searchDomain" : "/api/lunasa/network/dns/searchDomains"
}
```

See Also

GET /api/lunasa/network/dns/nameServers
GET /api/lunasa/network/dns/searchDomains

3.2.6.22 GET /api/lunasa/network/dns/nameServers

GET /api/lunasa/network/dns/nameServers

Returns a list of name servers currently registered.

Parameters

None

Responses

200

A list of all name servers on the appliance.

JSON Schema: Name Servers

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/dns/nameServers
```

Example Response

```
{
    "nameServers": [
        {
            "id": "172.20.10.20",
            "url": "/api/lunasa/network/dns/nameServers/172.20.10.20"
        },
        {
            "id": "172.16.2.14",
            "url": "/api/lunasa/network/dns/nameServers/172.16.2.14"
        }

    ]
}
```

See Also

GET /api/lunasa/network/dns/nameServers/{nameServerid}

3.2.6.23 POST /api/lunasa/network/dns/nameServers

POST /api/lunasa/network/dns/nameServers

Creates a new name server.

Parameters

address

The address of the name server to be added.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

204

Success

Location

"Location" is the URL to the newly created nameServer.

see GET /api/lunasa/network/dns/nameServers/{nameServerid}

400

Unexpected error

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/network/dns/nameServers
{
"address" : "172.20.10.20"
}
```

Example Response

```
{}
```

3.2.6.24 GET /api/lunasa/network/dns/nameServers/{nameServerid}

GET /api/lunasa/network/dns/nameServers/{nameServerid}

This resource returns information about a particular name server.

Parameters

nameServerid

Specifies the id of the name server

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

200

Basic information about the name server.

JSON Schema: `Name Server`

400

Unexpected error

404

Name server does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/dns/nameServers/172.20.10.22
```

Example Response

```
{
    "address" : "172.20.10.20"
}
```

3.2.6.25 DELETE /api/lunasa/network/dns/nameServers/{nameServerid}

DELETE /api/lunasa/network/dns/nameServers/{nameServerid}

Deletes a name server entry.

Parameters

nameServerid

Specifies the id of the name server

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

204

Success

400

Unexpected error

404

Name server does not exist.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/network/dns/nameServers/{nameServerid}
{}
```

Example Response

```
{}
```

3.2.6.26 GET /api/lunasa/network/dns/searchDomains

GET /api/lunasa/network/dns/searchDomains

Returns a list of search domains currently registered.

Parameters

None

Responses

200

A list of all search domains on the appliance.

JSON Schema: Search Domains

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/dns/searchDomain
```

Example Response

```
{
    "searchDomain": [
        {
            "id": "example.com",
            "url": "/api/lunasa/network/dns/searchDomains/example.com"
        },
        {
            "id": "com",
            "url": "/api/lunasa/network/dns/searchDomains/example.com"
        }

    ]
}
```

See Also

GET /api/lunasa/network/dns/searchDomains/{searchDomainid}

3.2.6.27 POST /api/lunasa/network/dns/searchDomains

POST /api/lunasa/network/dns/searchDomains

Creates a new search domain.

Parameters

domain

The address of the search domain to be added.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

204

Success

Location

"Location" is the URL to the newly created searchDomain.

see GET /api/lunasa/network/dns/searchDomains/{searchDomainid}

400

Unexpected error

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/network/dns/searchDomains
{
"domain" : "172.20.10.20"
}
```

Example Response

```
{}
```

3.2.6.28 GET /api/lunasa/network/dns/searchDomains/{searchDomainid}

GET /api/lunasa/network/dns/searchDomains/{searchDomainid}

Returns information about a particular search domain.

Parameters

searchDomainid

Specifies the id of the search domain.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

200

Basic information about the search domain.

JSON Schema: `Name Server`

400

Unexpected error

404

Search domain does not exist.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/dns/searchDomains/172.20.10.22
```

Example Response

```
{
    "domain" : "172.20.10.20"
}
```

3.2.6.29 DELETE /api/lunasa/network/dns/searchDomains/{searchDomainid}

DELETE /api/lunasa/network/dns/searchDomains/{searchDomainid}

Deletes a search domain entry.

Parameters

searchDomainid

Specifies the id of the search domain.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

204

Success

400

Unexpected error

404

Search domain does not exist.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/network/dns/searchDomains/{searchDomainid}
{}
```

Example Response

```
{}
```

3.2.7 Syslog

Syslog resources allow the user to download, manage and configure logs.

- GET /api/lunasa/syslog
- PUT /api/lunasa/syslog
- PATCH /api/lunasa/syslog
- GET /api/lunasa/syslog/actions
- POST /api/lunasa/syslog/actions/{actionid}
- GET /api/lunasa/syslog/logs
- GET /api/lunasa/syslog/logs/{logid}
- PUT /api/lunasa/syslog/logs/{logid}
- PATCH /api/lunasa/syslog/logs/{logid}
- GET /api/lunasa/syslog/backups
- POST /api/lunasa/syslog/backups
- GET /api/lunasa/syslog/backups/{backupid}
- DELETE /api/lunasa/syslog/backups/{backupid}
- GET /api/lunasa/syslog/remoteHosts
- POST /api/lunasa/syslog/remoteHosts
- DELETE /api/lunasa/syslog/remoteHosts
- GET /api/lunasa/syslog/remoteHosts/{remoteHostid}
- DELETE /api/lunasa/syslog/remoteHosts/{remoteHostid}

3.2.7.1 GET /api/lunasa/syslog

GET /api/lunasa/syslog

This resource contains config and link urls for the syslog resources.

Parameters

None

Responses

200

Syslog properties

JSON Schema: `Syslog`

Example Request

```
    GET
    https://1.2.3.4:8443/api/lunasa/syslog
{
}
```

Example Response

```
{
   "backups": "/api/lunasa/syslog/backups",
   "maxRotations": 12,
   "logs": "/api/lunasa/syslog/logs",
   "actions": "/api/lunasa/syslog/actions",
   "remoteHosts": "/api/lunasa/syslog/remoteHosts",
   "period": "weekly"
}
```

See Also

GET /api/lunasa/syslog/backups
GET /api/lunasa/syslog/actions
GET /api/lunasa/syslog/logs
GET /api/lunasa/syslog/remoteHosts

3.2.7.2 PUT /api/lunasa/syslog

PUT /api/lunasa/syslog

This resource contains config and link urls for the syslog resources.

Parameters

period

This parameter specifies the log rotation period: daily, weekly, monthly.

Use: `Required`

JSON Schema:

```
    Object
    type:string
```

maxRotations

This parameter specifies how many log backups to keep.

Use: `Required`

JSON Schema:

```
    Object
    type: integer
```

Responses

204

Accepted

400

Unexpected failure

Example Request

```
    PUT
    https://1.2.3.4:8443/api/lunasa/syslog
{
    "maxRotations": 12,
    "period": "daily"
}
```

Example Response

```
{
}
```

3.2.7.3 PATCH /api/lunasa/syslog

PATCH /api/lunasa/syslog

This resource contains config and link urls for the syslog resources.

Parameters

period

This parameter specifies the log rotation period: daily, weekly, monthly.

Use: `Not Required`

JSON Schema:

```
    Object
    type:string
```

maxRotations

This parameter specifies how many log backups to keep.

Use: `Not Required`

JSON Schema:

```
    Object
    type: integer
```

Responses

204

Success

400

Unexpected failure

Example Request

```
    PATCH
    https://1.2.3.4:8443/api/lunasa/syslog
{
  "maxRotations": 12
}
```

Example Response

```
{
}
```

3.2.7.4 GET /api/lunasa/syslog/actions

GET /api/lunasa/syslog/actions

Gets all syslog actions.

Parameters

None

Responses

200

A list of all actions that can be performed under syslog.

JSON Schema: `Syslog Actions`

location

"location" is the URL to the newly created log backup.

see GET /api/lunasa/syslog/backups/{backupid}}

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/syslog/actions
```

Example Result

```
{
    "actions": [
        {
            "id": "rotate",
            "url": "/api/lunasa/syslog/actions/rotate"
        },
        {
            "id": "cleanup",
            "url": "/api/lunasa/syslog/actions/cleanup"
        }
    ]
}
```

See Also

POST /api/lunasa/syslog/actions/{actionid}

3.2.7.5 POST /api/lunasa/syslog/actions/{actionid}

POST /api/lunasa/syslog/actions/{actionid}

Performs the specified action.

Parameters

actionid

The identifier of the action to be performed

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

Location

"Location" is the URL to the newly created log backup.

see GET /api/lunasa/syslog/backups/{backupid}}

400

Unexpected error

404

Invalid action.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/syslog/actions/cleanup
{}
```

Example Result

```
{}
```

Notes

cleanup action will create a waiting task.

3.2.7.6 GET /api/lunasa/syslog/logs

GET /api/lunasa/syslog/logs

Gets the list of syslog logs.

Parameters

None

Responses

200

Success

JSON Schema: Syslog Logs

400

Unexpected Error

Example Request

```
    GET
    https://1.2.3.4:8443/api/lunasa/syslog/logs
{
}
```

Example Response

```
{
    "logs": [
        {"url": "/api/lunasa/syslog/logs/boot", "id": "boot"},
        {"url": "/api/lunasa/syslog/logs/cron", "id": "cron"},
        {"url": "/api/lunasa/syslog/logs/hsm", "id": "hsm"},
        {"url": "/api/lunasa/syslog/logs/lunalogs", "id": "lunalogs"},
        {"url": "/api/lunasa/syslog/logs/messages", "id": "messages"},
        {"url": "/api/lunasa/syslog/logs/ntp", "id": "ntp"},
        {"url": "/api/lunasa/syslog/logs/secure", "id": "secure"},
        {"url": "/api/lunasa/syslog/logs/snmp", "id": "snmp"}
    ]
}
```

See Also

GET /api/lunasa/syslog/logs

3.2.7.7 GET /api/lunasa/syslog/logs/{logid}

GET /api/lunasa/syslog/logs/{logid}

Gets information about the log.

Parameters

logid

The identifier of the log.

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

200

Success

JSON Schema: `Syslog Log`

400

Unexpected Error

404

Log does not exist.

Example Request

```
    GET
    https://1.2.3.4:8443/api/lunasa/syslog/logs/lunalogs
{
}
```

Example Response

```
{
    "tail": "Last 10 lines of the log.",
    "severity": "debug"
}
```

Notes

Severity will be null for SNMP and NTP logs.

3.2.7.8 PUT /api/lunasa/syslog/logs/{logid}

PUT /api/lunasa/syslog/logs/{logid}

Sets all log configurations.

Parameters

logid

The identifier of the log.

Use: `Required`

JSON Schema:

```
Object
type: string
```

severity

The severity of the log (emergency, alert, critical, error, warning, notice, info, debug, all).

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

400

Unexpected Error

404

Log does not exist.

Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/syslog/logs/lunalogs
{
    "severity" : "all"
}
```

Example Response

```
{}
```

Notes

Currently only the severity of lunalogs can be set.

3.2.7.9 PATCH /api/lunasa/syslog/logs/{logid}

PATCH /api/lunasa/syslog/logs/{logid}

Sets given log configurations.

Parameters

logid

The identifier of the log.

Use: `Required`

JSON Schema:

```
Object
type: string
```

severity

The severity of the log (emergency, alert, critical, error, warning, notice, info, debug, all).

Use: `Not Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

400

Unexpected Error

404

Log does not exist.

Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/syslog/logs/lunalogs
{
    "severity" : "all"
}
```

Example Response

```
{}
```

Notes

Currently only the severity of lunalogs can be set.

3.2.7.10 GET /api/lunasa/syslog/backups

GET /api/lunasa/syslog/backups

This resource returns the list of stored syslog backups.

Parameters

None

Responses

200

Success.

Example Request

```
    GET
    https://1.2.3.4:8443/api/lunasa/syslog/backups
{
}
```

Example Response

```
{
    "backups": [
        {"url": "/api/lunasa/syslog/backups/JEF3h8", "id": "JEF3h8"},
        {"url": "/api/lunasa/syslog/backups/Y66Pvs", "id": "Y66Pvs"}
    ]
}
```

3.2.7.11 POST /api/lunasa/syslog/backups

POST /api/lunasa/syslog/backups

This resource creates a syslog backup.

Parameters

None

Responses

204

Success

Location

"Location" represents the resource representing the newly created backup.

see GET /api/lunasa/syslog/backups/{backupid}

400

Unexpected failure.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/syslog/backups
{
}
```

Example Response

```
{
}
```

3.2.7.12 GET /api/lunasa/syslog/backups/{backupid}

GET /api/lunasa/syslog/backups/{backupid}

This resource retrieves a syslog backup and deletes it afterwards.

Parameters

backupid

Specifies the syslog backup to retrieve.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

200

A binary stream that represents the syslog backup. This archive is in compressed tar format (tgz).

JSON Schema:

```
<binary stream>
```

400

Failure.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/syslog/backups/{backupid}
{
}
```

Example Response

None

3.2.7.13 DELETE /api/lunasa/syslog/backups/{backupid}

DELETE /api/lunasa/syslog/backups/{backupid}

This resource deletes a specific syslog backup.

Parameters

backupid

Specifies the syslog backup to delete.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

204

Success

400

Failure.

Example Request

```
    DELETE
    https://1.2.3.4:8443/api/lunasa/syslog/backups/{backupid}
{
}
```

Example Response

None

3.2.7.14 GET /api/lunasa/syslog/remoteHosts

GET /api/lunasa/syslog/remoteHosts

This resources returns a list of configured remote hosts.

Parameters

None

Responses

200

Success

JSON Schema: `Syslog Remote Hosts`

400

Unexpected Failure

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/syslog/remoteHosts
None
```

Example Response

```
{"remoteHosts":
        [
            {"url": "/api/lunasa/syslog/remoteHosts/1.2.3.6", "id": "1.2.3.6"}
        ]
}
```

3.2.7.15 POST /api/lunasa/syslog/remoteHosts

POST /api/lunasa/syslog/remoteHosts

Creates a remote host entry.

Parameters

address

Specifies the address of the remote host. Valid ip address and hostname may be specified.

Use: `Required`

JSON Schema:

```
Object
type:string
```

port

Specifies the port of the remote host. Valid ports range from 0 to 65535.

Use: `Required`

JSON Schema:

```
Object
type:integer
```

protocol

Specifies the protocol of the remote host. Valid protocols include tcp and udp.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

200

Success

Location

"Location" is the URL to the location to the newly created remote host.

see GET /api/lunasa/remoteHosts/{remoteHostid}

400

Bad Request

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/syslog/remoteHosts
{
    "protocol": "udp",
    "port": 1503,
    "address": "1.2.3.4"
}
```

Example Response

```
{}
```

3.2.7.16 DELETE /api/lunasa/syslog/remoteHosts

DELETE /api/lunasa/syslog/remoteHosts

Deletes all remote hosts entries.

Parameters

None

Responses

204

Success

400

Unexpected failure

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/syslog/remoteHosts
{}
```

Example Response

{}

3.2.7.17 GET /api/lunasa/syslog/remoteHosts/{remoteHostid}

GET /api/lunasa/syslog/remoteHosts/{remoteHostid}

Gets the information about a specific remote host.

Parameters

remoteHostid

Specifies the remote host to access.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

200

Success

JSON Schema: `Syslog Remote Host`

400

Unexpected failure

404

Remote host not found

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/syslog/remoteHosts/4.5.6.7
{}
```

Example Response

```
{
    "protocol": "udp",
    "port": 1503,
    "address": "4.5.6.7"
}
```

3.2.7.18 DELETE /api/lunasa/syslog/remoteHosts/{remoteHostid}

DELETE /api/lunasa/syslog/remoteHosts/{remoteHostid}

Deletes a specific remote host.

Parameters

remoteHostid

Specifies the remote host to delete.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

200

Success

400

Unexpected failure

404

Remote host not found

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/syslog/remoteHosts/4.5.6.7
{}
```

Example Response

```
{}
```

3.2.8 NTP

NTP resources allow the user to manage NTP server list and settings.

- GET /api/lunasa/ntp
- GET /api/lunasa/ntp/servers
- POST /api/lunasa/ntp/servers
- DELETE /api/lunasa/ntp/servers
- GET /api/lunasa/ntp/servers/{serverid}
- PUT /api/lunasa/ntp/servers/{serverid}
- PATCH /api/lunasa/ntp/servers/{serverid}
- DELETE /api/lunasa/ntp/servers/{serverid}
- GET /api/lunasa/ntp/actions
- GET /api/lunasa/ntp/status
- POST /api/lunasa/ntp/actions/{actionid}

3.2.8.1 GET /api/lunasa/ntp

GET /api/lunasa/ntp

This resource contains NTP configuration information.

Parameters

None

Responses

200

NTP properties

JSON Schema: NTP

400

Unexpected failure

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ntp
{
}
```

Example Response

```
{
        "servers": "/api/lunasa/ntp/servers",
        "status": "/api/lunasa/ntp/status",
        "actions": "/api/lunasa/ntp/actions",
        "version": "4.2.8"
}
```

See Also

GET /api/lunasa/ntp/servers
GET /api/lunasa/ntp/status
GET /api/lunasa/ntp/actions

3.2.8.2 GET /api/lunasa/ntp/servers

GET /api/lunasa/ntp/servers

This resource contains the list of server resources.

Parameters

None

Responses

200

NTP servers

JSON Schema: NTP Servers

Example Request

```
    GET
    https://1.2.3.4:8443/api/lunasa/ntp/servers
{
}
```

Example Response

```
{
    "servers": [
        {"url": "/api/lunasa/ntp/servers/127.127.1.0", "id": "127.127.1.0"},
        {"url": "/api/lunasa/ntp/servers/example.com", "id": "example.com"}
    ]
}
```

See Also

GET /api/lunasa/ntp
GET /api/lunasa/ntp/servers/{serverid}

3.2.8.3 POST /api/lunasa/ntp/servers

POST /api/lunasa/ntp/servers

This resource adds an NTP server.

Parameters

address

Specifies the address of the NTP server. Valid ip address and hostname may be specified.

Use: Required

JSON Schema:

```
    Object
    type:string
```

keyId

Specifies the key id used in communication with the NTP server (1-65535).

Use: `Optional`

JSON Schema:

```
Object
type:integer
```

protocolVersion

Specifies the protocol version used in communication with the NTP server (1-4).

Use: `Required`

JSON Schema:

```
Object
type:integer
```

isAutokeyEnabled

Specifies flag controlling enabling autokey authentication.

Use: `Required`

JSON Schema:

```
Object
type:boolean
```

isBurstEnabled

Specifies flag controlling sending a burst of packets instead of usual single packet.

Use: `Required`

JSON Schema:

```
Object
type:boolean
```

isInitialBurstEnabled

Specifies flag controlling sending a burst of packets when an initial connection cannot be established.

Use: `Required`

JSON Schema:

```
Object
type:boolean
```

isPreferredServer

Specifies flag designating this server as the preferred one.

Use: `Required`

JSON Schema:

```
Object
type:boolean
```

Responses

204

Success

Location

"Location" is the URL to the newly created NTP server.

see GET /api/lunasa/ntp/servers/{serverid}

400

Unexpected failure

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/ntp/servers
{
   "isAutokeyEnabled": false,
   "isInitialBurstEnabled": true,
   "isBurstEnabled": false,
   "isPreferredServer": true,
   "protocolVersion": 3,
   "address": "example.com"
}
```

Example Response

```
{
}
```

Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See GET /api/lunasa)

3.2.8.4 DELETE /api/lunasa/ntp/servers

DELETE /api/lunasa/ntp/servers

Deletes all ntp server entries.

Parameters

None

Responses

200

Success

400

Unexpected failure

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/ntp/servers
{}
```

Example Response

{}

3.2.8.5 GET /api/lunasa/ntp/servers/{serverid}

GET /api/lunasa/ntp/servers/{serverid}

This resource contains information about a specific server.

Parameters

serverid

Specifies the id of the NTP server.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

200

NTP server information

JSON Schema: NTP Server

400

Failure.

404

Specified server does not exist.

Example Request

```
    GET
    https://1.2.3.4:8443/api/lunasa/ntp/servers/example.com
{
}
```

Example Response

```
{
    "address": "example.com",
    "isAutokeyEnabled": false,
    "keyId": null,
    "isInitialBurstEnabled": true,
    "isBurstEnabled": false,
    "isPreferredServer": true,
    "protocolVersion": 3
}
```

See Also

GET /api/lunasa/ntp/servers

3.2.8.6 PUT /api/lunasa/ntp/servers/{serverid}

PUT /api/lunasa/ntp/servers/{serverid}

This resource allows changing settings for a specific server.

Parameters

serverid

Specifies the id of the NTP server.

Use: `Required`

JSON Schema:

```
Object
type:string
```

keyId

Specifies the key id used in communication with the NTP server (1-65535).

Use: `Required`

JSON Schema:

```
Object
type:integer
```

protocolVersion

Specifies the protocol version used in communication with the NTP server (1-4).

Use: `Required`

JSON Schema:

```
Object
type:integer
```

isAutokeyEnabled

Specifies flag controlling enabling autokey authentication.

Use: `Required`

JSON Schema:

```
Object
type:boolean
```

isBurstEnabled

Specifies flag controlling sending a burst of packets instead of usual single packet.

Use: `Required`

JSON Schema:

```
Object
type:boolean
```

isInitialBurstEnabled

Specifies flag controlling sending a burst of packets when an initial connection cannot be established.

Use: `Required`

JSON Schema:

```
Object
type:boolean
```

isPreferredServer

Specifies flag designating this server as the preferred one.

Use: `Required`

JSON Schema:

```
Object
type:boolean
```

Responses

204

Success.

400

Unexpected failure.

404

Specified server does not exist.

Example Request

```
    PUT
    https://1.2.3.4:8443/api/lunasa/ntp/servers/example.com
{
    "isAutokeyEnabled": false,
    "isInitialBurstEnabled": true,
    "isBurstEnabled": false,
    "isPreferredServer": true,
    "protocolVersion": 3,
    "keyId": 1

}
```

Example Response

```
{
}
```

Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See GET /api/lunasa)

See Also

GET /api/lunasa/ntp/servers

3.2.8.7 PATCH /api/lunasa/ntp/servers/{serverid}

PATCH /api/lunasa/ntp/servers/{serverid}

This resource allows changing settings for a specific server.

Parameters

serverid

Specifies the id of the NTP server.

Use: `Required`

JSON Schema:

```
    Object
    type:string
```

keyId

Specifies the key id used in communication with the NTP server (1-65535).

Use: `Optional`

JSON Schema:

```
Object
type:integer
```

protocolVersion

Specifies the protocol version used in communication with the NTP server (1-4).

Use: `Optional`

JSON Schema:

```
Object
type:integer
```

isAutokeyEnabled

Specifies flag controlling enabling autokey authentication.

Use: `Optional`

JSON Schema:

```
Object
type:boolean
```

isBurstEnabled

Specifies flag controlling sending a burst of packets instead of usual single packet.

Use: `Optional`

JSON Schema:

```
Object
type:boolean
```

isInitialBurstEnabled

Specifies flag controlling sending a burst of packets when an initial connection cannot be established.

Use: `Optional`

JSON Schema:

```
Object
type:boolean
```

isPreferredServer

Specifies flag designating this server as the preferred one.

Use: `Optional`

JSON Schema:

```
Object
type:boolean
```

Responses

204

Success

400

Unexpected failure.

404

Specified server does not exist.

Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/ntp/servers/example.com
{
    "isPreferredServer": false
}
```

Example Response

```
{
}
```

Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See GET /api/lunasa)

See Also

GET /api/lunasa/ntp/servers

3.2.8.8 DELETE /api/lunasa/ntp/servers/{serverid}

DELETE /api/lunasa/ntp/servers/{serverid}

This resource deletes an NTP server.

Parameters

serverid

Specifies the id of the NTP server.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

204

Success

400

Failure.

404

Specified server does not exist.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/ntp/servers/example.com
{
}
```

Example Response

```
{
}
```

Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See GET /api/lunasa)

See Also

GET /api/lunasa/ntp/servers

3.2.8.9 GET /api/lunasa/ntp/actions

GET /api/lunasa/ntp/actions

This resource returns a list of actions of NTP

Parameters

None

Responses

200

Success

JSON Schema: NTP Actions

400

Unexpected failure

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ntp/actions
{
}
```

Example Response

```
{
  "actions": [
              {
                "url": "/api/lunasa/ntp/actions/synchronize",
                "id": "synchronize"
              }
  ]
}
```

3.2.8.10 GET /api/lunasa/ntp/status

GET /api/lunasa/ntp/status

This resource returns information of NTP time, max error, estimated error and offset.

Parameters

None

Responses

200

Success

JSON Schema: NTP Status

400

Unexpected failure

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ntp/status
{
}
```

Example Response

```
{
 "estimatedError": 0.016063,
 "offset": 0.002655,
 "maxError": 3.037109,
 "ntpTime": "2016-05-05T10:37:28.252"
}
```

Notes

NTP service needs to be started to get the status.

3.2.8.11 POST /api/lunasa/ntp/actions/{actionid}

POST /api/lunasa/ntp/actions/{actionid}

Performs the specified action.

Parameters

actionid

This parameter specifies the id of the action to be performed

Use: `Required`

JSON Schema:

```
Object
type:string
```

server

This parameter specifies the address of server that is used for NTP synchronization

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

200

Success

400

Unexpected error

404

No action matched

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/ntp/actions/synchronize
{
    "server": "172.20.10.20"
}
```

Example Response

```
{
    "offset": 0.002569
}
```

Notes

Synchronization requires the NTP service to be stopped.

3.2.9 SNMP

SNMP resources allow the user to manage SNMP users, notifications and configure traps.

- GET /api/lunasa/snmp
- GET /api/lunasa/snmp/trap
- PUT /api/lunasa/snmp/trap
- PATCH /api/lunasa/snmp/trap
- DELETE /api/lunasa/snmp/trap
- GET /api/lunasa/snmp/users
- POST /api/lunasa/snmp/users
- DELETE /api/lunasa/snmp/users
- GET /api/lunasa/snmp/users/{userid}
- DELETE /api/lunasa/snmp/users/{userid}
- GET /api/lunasa/snmp/users/{userid}/notifications
- POST /api/lunasa/snmp/users/{userid}/notifications
- DELETE /api/lunasa/snmp/users/{userid}/notifications
- GET /api/lunasa/snmp/users/{userid}/notifications/{notificationid}
- DELETE /api/lunasa/snmp/users/{userid}/notifications/{notificationid}

3.2.9.1 GET /api/lunasa/snmp

GET /api/lunasa/snmp

This resource contains SNMP configuration information.

Parameters

None

Responses

200

SNMP properties

JSON Schema: SNMP

400

Unexpected failure

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/snmp
{
}
```

Example Response

```
{
   "version": 3,
   "users": "/api/lunasa/snmp/users",
   "trap": "/api/lunasa/snmp/trap"
}
```

See Also

GET /api/lunasa/snmp/users
GET /api/lunasa/snmp/trap

3.2.9.2 GET /api/lunasa/snmp/trap

GET /api/lunasa/snmp/trap

This resource contains SNMP trap configuration information.

Parameters

None

Responses

200

SNMP trap properties

JSON Schema: SNMP Trap

400

Unexpected failure.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/snmp/trap
{
}
```

Example Response

```
{
    "securityLevel": "authPriv",
    "privacyProtocol": "AES",
    "authenticationProtocol": "SHA",
    "securityName": "myUser",
    "address": "1.2.3.5",
    "engineId": "000000000F"
}
```

3.2.9.3 PUT /api/lunasa/snmp/trap

PUT /api/lunasa/snmp/trap

This resource configures all SNMP trap parameters.

Parameters

address

This parameter specifies the ip address or hostname that receives traps.

Use: Required

JSON Schema:

```
Object
type:string
```

securityName

This parameter specifies the SNMP user to associate traps with. Note: This is user that is created with POST /api/lunasa/snmp/users

Use: `Required`

JSON Schema:

```
Object
type:string
```

engineId

Specifies the engine that receives traps and that has the authority to control the flow of information. Note: This value represents a hexadecimal value with a length of 10, 12, 14 or 16 (excluding the prepended 0x value).

Use: `Required`

JSON Schema:

```
Object
type:string
```

authenticationPassword

Specifies and confirms the password used to authenticate SNMPv3 trap messages. Note: This password must contain between 8 and 128 characters and is case-sensitive.

Use: `Required`

JSON Schema:

```
Object
type:string
```

authenticationProtocol

Specifies the HMAC (hash-based message authentication code) algorithm used to authenticate SNMPv3 trap messages. Note: Restricted to SHA.

Use: `Required`

JSON Schema:

```
Object
type:string
```

privacyPassword

Specifies and confirms the password used to encrypt SNMPv3 trap messages. Note: This password must contain between 8 and 128 characters and is case-sensitive.

Use: `Required`

JSON Schema:

```
Object
type:string
```

privacyProtocol

Specifies the algorithm used to encrypt SNMPv3 trap messages. Note: Restricted to AES.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

204

No content

400

Unexpected failure.

404

Security name does not exist.

Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/snmp/trap
{
    "address" : "1.2.3.5",
    "securityName" : "myUser",
    "engineId" : "000000000F",
    "authenticationProtocol" : "SHA",
    "privacyProtocol" : "AES",
    "authenticationPassword" : "password1",
    "privacyPassword" : "password2"
}
```

Example Response

```
{
}
```

3.2.9.4 PATCH /api/lunasa/snmp/trap

PATCH /api/lunasa/snmp/trap

This resource configures specified SNMP trap parameters.

Parameters

address

This parameter specifies the ip address or hostname that receives traps.

Use: `Not Required`

JSON Schema:

```
Object
type:string
```

securityName

This parameter specifies the SNMP user to associate traps with. Note: This is user that is created with POST /api/lunasa/snmp/users

Use: `Not Required`

JSON Schema:

```
Object
type:string
```

engineId

Specifies the engine that receives traps and that has the authority to control the flow of information. Note: This value represents a hexadecimal value with a length of 10, 12, 14 or 16 (excluding the prepended 0x value).

Use: `Not Required`

JSON Schema:

```
Object
type:string
```

authenticationPassword

Specifies and confirms the password used to authenticate SNMPv3 trap messages. Note: This password must contain between 8 and 128 characters and is case-sensitive.

Use: `Not Required`

JSON Schema:

```
Object
type:string
```

authenticationProtocol

Specifies the HMAC (hash-based message authentication code) algorithm used to authenticate SNMPv3 trap messages. Note: Restricted to SHA.

Use: `Not Required`

JSON Schema:

```
Object
type:string
```

privacyPassword

Specifies and confirms the password used to encrypt SNMPv3 trap messages. Note: This password must contain between 8 and 128 characters and is case-sensitive.

Use: `Not Required`

JSON Schema:

```
Object
type:string
```

privacyProtocol

Specifies the algorithm used to encrypt SNMPv3 trap messages. Note: Restricted to AES.

Use: `Not Required`

JSON Schema:

```
Object
type:string
```

Responses

204

Success.

400

Unexpected failure.

404

Security name does not exist.

Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/snmp/trap
{
    "address": "1.2.3.5",
    "securityName" : "myUser"
}
```

Example Response

```
{
}
```

Notes

This resource is only to modify the current configuration of the trap. In order to do the initial trap configuration see PUT /api/lunasa/snmp/trap

3.2.9.5 DELETE /api/lunasa/snmp/trap

DELETE /api/lunasa/snmp/trap

This resource clears the SNMP configuration.

Parameters

None

Responses

204

Success.

400

Unexpected failure.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/snmp/trap
{
}
```

Example Response

```
{
}
```

3.2.9.6 GET /api/lunasa/snmp/users

GET /api/lunasa/snmp/users

This resource contains a list of snmp users.

Parameters

None

Responses

200

SNMP users.

JSON Schema: `SNMP Users`

400

Unexpected failure

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/snmp/users
{
}
```

Example Response

```
{
    "users": [
        {"url": "/api/lunasa/snmp/users/myUser", "id": "myUser"},
        {"url": "/api/lunasa/snmp/users/myUser2", "id": "myUser2"}
    ]
}
```

See Also

GET /api/lunasa/snmp/users/{userid}

3.2.9.7 POST /api/lunasa/snmp/users

POST /api/lunasa/snmp/users

This resource creates an SNMP user.

Parameters

securityName

Specifies the name of the user. Note: The security name must contain between 4 and 32 characters.

Use: `Required`

JSON Schema:

```
Object
type:string
```

authenticationPassword

Specifies and confirms the password used to authenticate SNMPv3 notification messages. Note: This password must contain between 8 and 128 characters and is case-sensitive.

Use: `Required`

JSON Schema:

```
Object
type:string
```

authenticationProtocol

Specifies the HMAC (hash-based message authentication code) algorithm used to authenticate SNMPv3 notification messages. Note: Restricted to SHA.

Use: `Not Required`

JSON Schema:

```
Object
type:string
```

privacyPassword

Specifies and confirms the password used to encrypt SNMPv3 notification messages. Note: This password must contain between 8 and 128 characters and is case-sensitive.

Use: `Required`

JSON Schema:

```
Object
type:string
```

privacyProtocol

Specifies the algorithm used to encrypt SNMPv3 notification messages. Note: Restricted to AES.

Use: `Not Required`

JSON Schema:

```
Object
type:string
```

Responses

204

SNMP user created.

Location

"Location" is the URL to the newly created snmp user.

see GET /api/lunasa/snmp/users/{userid}

400

Invalid parameters.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/snmp/users
{
    "securityName": "myUser",
    "authenticationPassword" : "password",
    "authenticationProtocol" : "SHA",
    "privacyPassword" : "password2",
    "privacyProtocol" : "AES"
}
```

Example Response

```
{
}
```

3.2.9.8 DELETE /api/lunasa/snmp/users

DELETE /api/lunasa/snmp/users

This resource deletes all SNMP users.

Parameters

None

Responses

204

Success.

400

Unexpected failure.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/snmp/users
{
}
```

Example Response

```
{
}
```

3.2.9.9 GET /api/lunasa/snmp/users/{userid}

GET /api/lunasa/snmp/users/{userid}

This resource gets configuration information for a user.

Parameters

userid

Specifies the user to access.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

200

SNMP user.

JSON Schema: `SNMP User`

400

Unexpected failure

404

Invalid user.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/snmp/users/myUser
{
}
```

Example Response

```
{
    "notifications" : "/api/lunasa/snmp/users/myUser/notifications"
}
```

3.2.9.10 DELETE /api/lunasa/snmp/users/{userid}

DELETE /api/lunasa/snmp/users/{userid}

This resource deletes a user.

Parameters

userid

Specifies the user to access.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

204

Success.

400

Unexpected failure

404

Invalid user.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/snmp/users/myUser
{
}
```

Example Response

```
{
}
```

3.2.9.11 GET /api/lunasa/snmp/users/{userid}/notifications

GET /api/lunasa/snmp/users/{userid}/notifications

This resource contains a list of snmp notifications for a specific user.

Parameters

userid

Specifies the user to access.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

200

SNMP notifications

JSON Schema: `SNMP Notifications`

400

Unexpected failure

404

Invalid user.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/snmp/users/myUser/notifications
{
}
```

Example Response

```
{
    "notifications": [
        {"url": "/api/lunasa/snmp/users/myUser/notifications/172.20.11.123_1504", "id": "172.20.11.123_1504"},
        {"url": "/api/lunasa/snmp/users/myUser/notifications/172.20.11.93_1504", "id": "172.20.11.93_1504"}
    ]
}
```

See Also

GET /api/lunasa/snmp/users/{userid}/notifications/{notificationid}

3.2.9.12 POST /api/lunasa/snmp/users/{userid}/notifications

POST /api/lunasa/snmp/users/{userid}/notifications

This resource creates an SNMP user notification.

Parameters

userid

Specifies the user to create the notification for.

Use: `Required`

JSON Schema:

```
Object
type:string
```

address

Specifies the ip address that receives notifications.

Use: `Required`

JSON Schema:

```
Object
type:string
```

port

Specifies the UDP port (0-65535).

Use: `Required`

JSON Schema:

```
Object
type:integer
```

authenticationPassword

Specifies and confirms the password used to authenticate SNMPv3 notification messages. Note: This password must contain between 8 and 128 characters and is case-sensitive.

Use: `Required`

JSON Schema:

```
Object
type:string
```

authenticationProtocol

Specifies the HMAC (hash-based message authentication code) algorithm used to authenticate SNMPv3 notification messages. Note: Restricted to SHA.

Use: `Not Required`

JSON Schema:

```
Object
type:string
```

privacyPassword

Specifies and confirms the password used to encrypt SNMPv3 notification messages. Note: This password must contain between 8 and 128 characters and is case-sensitive.

Use: `Required`

JSON Schema:

```
Object
type:string
```

privacyProtocol

Specifies the algorithm used to encrypt SNMPv3 notification messages. Note: Restricted to AES.

Use: `Not Required`

JSON Schema:

```
Object
type:string
```

type

Specifies the type of notification (trap, inform).

Use: `Required`

JSON Schema:

```
Object
type:string
```

engineId

Specifies the engine that receives notifications and that has the authority to control the flow of information. Note: This value represents a hexadecimal value with a length of 10, 12, 14 or 16 (excluding the prepended 0x value), if the notification type specified is of type inform this parameter will not be required.

Use: `Not Required (conditional)`

JSON Schema:

```
Object
type:string
```

Responses

204

SNMP notification created.

Location

"Location" is the URL to the newly created SNMP notification.

see GET /api/lunasa/snmp/users/{userid}/notifications/{notificationid}

400

Invalid parameters.

404

Invalid user.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/snmp/users/myUser/notifications
{
    "address": "172.20.11.123",
    "port" : 1504,
    "authenticationPassword" : "password",
    "authenticationProtocol" : "SHA",
    "privacyPassword" : "password2",
    "privacyProtocol" : "AES",
    "type" : "trap",
    "engineId" : "000FFFFFFFA9"
}
```

Example Response

```
{
}
```

3.2.9.13 DELETE /api/lunasa/snmp/users/{userid}/notifications

DELETE /api/lunasa/snmp/users/{userid}/notifications

This resource deletes all user notifications.

Parameters

userid

Specifies the user to access.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

204

Success.

400

Unexpected failure.

404

Invalid user.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/snmp/users/myUser/notifications
{
}
```

Example Response

```
{
}
```

See Also

GET /api/lunasa/snmp/users/{userid}/notifications/{notificationid}

3.2.9.14 GET /api/lunasa/snmp/users/{userid}/notifications/{notificationid}

GET /api/lunasa/snmp/users/{userid}/notifications/{notificationid}

This resource gets configuration information for a snmp notification.

Parameters

userid

Specifies the user.

Use: `Required`

JSON Schema:

```
Object
type:string
```

notificationid

Specifies the notification.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

200

SNMP notification.

JSON Schema: `SNMP Notification`

400

Unexpected failure

404

Invalid user or invalid notification.

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/snmp/users/myUser/notifications/172.20.11.123_1234
{
}
```

Example Response

```
{
    "address": "172.20.11.123",
    "port": 1504,
    "type": "trap",
    "engineId": "0000FFFFFFFA9",
    "authenticationProtocol" : "SHA".
    "privacyProtocol" : "AES"
}
```

3.2.9.15 DELETE /api/lunasa/snmp/users/{userid}/notifications/{notificationid}

DELETE /api/lunasa/snmp/users/{userid}/notifications/{notificationid}

This resource deletes a SNMP notification.

Parameters

userid

Specifies the user to delete the notification under.

Use: `Required`

JSON Schema:

```
Object
type:string
```

notificationid

Specifies the notification to delete.

Use: `Required`

JSON Schema:

```
Object
type:string
```

Responses

204

Success.

400

Unexpected failure

404

Invalid user or invalid notification.

Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/snmp/users/myUser/notifications/172.20.11.123_1234
{
}
```

Example Response

```
{
}
```

3.2.10 SSH

SSH resources allow the user to configure and manage the SSH service.

- GET /api/lunasa/ssh
- PUT /api/lunasa/ssh
- PATCH /api/lunasa/ssh
- GET /api/lunasa/ssh/actions
- POST /api/lunasa/ssh/actions/{actionid}

3.2.10.1 GET /api/lunasa/ssh

GET /api/lunasa/ssh

This resource contains configuration and link urls for the SSH resources.

Parameters

None

Responses

200

SSH properties

JSON Schema: SSH

Example Request

```
    GET
    https://1.2.3.4:8443/api/lunasa/ssh
{
}
```

Example Response

```
{
    "port": 22,
    "isKeyAuthenticationEnabled": true,
    "isPasswordAuthenticationEnabled": true,
    "actions": "/api/lunasa/ssh/actions",
    "networkDevices": ["all"]
}
```

See Also

GET /api/lunasa/ssh/actions

3.2.10.2 PUT /api/lunasa/ssh

PUT /api/lunasa/ssh

This resource updates SSH server configuration.

Parameters

isPasswordAuthenticationEnabled

This parameter enables password authentication.

Use: `Required`

JSON Schema:

```
Object
type:boolean
```

isKeyAuthenticationEnabled

This parameter enables public key authentication.

Use: `Required`

JSON Schema:

```
Object
type:boolean
```

port

This parameter specifies the SSH server port.

Use: `Required`

JSON Schema:

```
Object
type:integer
```

networkDevices

This parameter specifies the list of network devices to use for the SSH server.

Use: `Required`

JSON Schema:

```
Object
type: array
    networkDevice: Object
        type: string
```

Responses

204

Success

400

Unexpected failure

Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/ssh
{
    "port": 22,
    "isKeyAuthenticationEnabled": true,
    "isPasswordAuthenticationEnabled": true,
    "networkDevices": ["all"]
}
```

Example Response

```
{
}
```

3.2.10.3 PATCH /api/lunasa/ssh

PATCH /api/lunasa/ssh

This resource updates SSH server configuration.

Parameters

isPasswordAuthenticationEnabled

This parameter enables password authentication.

Use: `Not Required`

JSON Schema:

```
Object
type:boolean
```

isKeyAuthenticationEnabled

This parameter enables public key authentication.

Use: `Not Required`

JSON Schema:

```
Object
type:boolean
```

port

This parameter specifies the SSH server port.

Use: `Not Required`

JSON Schema:

```
Object
type:integer
```

networkDevices

This parameter specifies the list of network devices to use for the SSH server.

Use: `Not Required`

JSON Schema:

```
Object
type: array
    networkDevice: Object
        type: string
```

Responses

204

Success

400

Unexpected failure

Example Request

```
    PATCH
    https://1.2.3.4:8443/api/lunasa/ssh
{
    "port": 22
}
```

Example Response

```
{
}
```

3.2.10.4 GET /api/lunasa/ssh/actions

GET /api/lunasa/ssh/actions

Gets all SSH actions.

Parameters

None

Responses

200

A list of all actions that can be performed under SSH.

JSON Schema: SSH Actions

location

400

Unexpected error

Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ssh/actions
```

Example Result

```
{
    "actions": [
        {
            "id": "keyRegenerate",
            "url": "/api/lunasa/ssh/actions/keyRegenerate"
        }
    ]
}
```

See Also

POST /api/lunasa/ssh/actions/{actionid}

3.2.10.5 POST /api/lunasa/ssh/actions/{actionid}

POST /api/lunasa/ssh/actions/{actionid}

Performs the specified action.

Parameters

actionid

The identifier of the action to be performed

Use: `Required`

JSON Schema:

```
Object
type: string
```

Responses

204

Success

400

Unexpected error

404

Invalid action.

Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/ssh/actions/keyRegenerate
{}
```

Example Result

```
{}
```

3.2.11 Sensor

Sensor resources allow the user to view sensor data.

- GET /api/lunasa/sensors
- GET /api/lunasa/sensors/{sensorid}

3.2.11.1 GET /api/lunasa/sensors

GET /api/lunasa/sensors

This resource contains the list of sensor resources.

Parameters

None

Responses

200

sensors

JSON Schema: Sensors

Example Request

```
    GET
    https://1.2.3.4:8443/api/lunasa/sensors
{
}
```

Example Response

```
{
    "sensors": [
        {"url": "/api/lunasa/sensors/FAN1A", "id": "FAN1A"},
        {"url": "/api/lunasa/sensors/FAN1B", "id": "FAN1B"},
        {"url": "/api/lunasa/sensors/Inlet", "id": "Inlet"},
        {"url": "/api/lunasa/sensors/CHA%20DIMM%200", "id": "CHA DIMM 0"}
    ]
}
```

See Also

GET /api/lunasa/sensors/{sensorid}

3.2.11.2 GET /api/lunasa/sensors/{sensorid}

GET /api/lunasa/sensors/{sensorid}

This resource contains information about a specific sensor.

Parameters

sensorid

Specifies the id of the Sensor.

Use: `Required`

JSON Schema:

```
    Object
    type:string
```

Responses

200

Sensor information

JSON Schema: `Sensor`

400

Failure.

404

Specified sensor does not exist.

Example Request

```
    GET
    https://1.2.3.4:8443/api/lunasa/sensors/FAN1A
{
}
```

Example Response

```
{
    "lowerNonRecoverable": 1000,
    "upperNonCritical": null,
    "value": 4600,
    "upperCritical": null,
    "upperNonRecoverable": null,
    "lowerCritical": 2000,
    "variance": 0,
    "type": null,
    "id": "FAN1A",
    "unit": "RPM",
    "lowerNonCritical": null
}
```

See Also

GET /api/lunasa/sensors

Chapter 4

Resources

This section describes the resources of the REST API.

- Tamper Resources
- Updates
- Update Description
- Web Server Certificate Description
- Web Server Configuration Description
- Network
- Syslog
- NTP
- SNMP
- Lunasa
- SSH
- Sensor
- NTLS

4.1 Actions

This section describes actions supported on selected resources of the REST API.

- Firmware Actions
- HSM Actions
- HSM HSMId Counter Actions
- HSM Role Actions
- Partition Objects Actions
- Partition Role Actions
- PED Actions
- Service Actions
- Task Actions
- Web Server Configuration Actions
- Web Server Certificate Actions

4.1.1 Firmware Actions

Firmware Actions

```
Object
    actions: Object
    type:  array
        items: Object
            id: Object
                type:  string
                description:  id is an internal reference for the action.
                              Use this identifier to perform the action in a POST to the resource.
                              Valid actions are:
                                 upgrade  - update the HSM firmware to a newer release
                                 rollback - revert the HSM firmware to a version previously installed
                                            and resident on the HSM

            url: Object
                type:  string
                description:  url is the fully-formed resource for a POST to complete the action.
```

(see POST /api/lunasa/hsms/{hsmid}/firmware/actions/{actionid

4.1.2 HSM Actions

HSM Actions

```
Object
    actions: Object
    type:  array
        items: Object

            id: Object
                type:  string
                description:  id is an internal reference for the action.
                              Use this identifier to complete the action with a POST.
                              Valid actions are:
                                 factoryReset - delete all cryptographic material and users
                                                and return the HSM to a factory default state
                                 selfTest - check the HSM for expected operation
                                 zeroize - delete all cryptographic material and users
                                 stmTransport - put the hsm into secure transport mode
                                 stmRecover - recover the hsm from secure transport mode
```

url: string (see POST /api/lunasa/hsms/{hsmid}/actions/{actionid})

4.1.3 HSM HSMId Counter Actions

HSM HSMId Counter Actions

```
Object
    actions: Object
    type:  array
        items: Object
            id: Object
```

```
            type:  string
            description:  id is an internal reference for the action.
                          Use this identifier to perform the action in a POST to the resource.
                          A valid action is:
                             monitor - Sets interval and samples configuration parameters for the counter

        url: Object
            type:  string
            description:  url is the fully-formed resource for a POST to complete the action.
```

(see POST /api/lunasa/hsms/{hsmid}/counter/actions/{actionid}

4.1.4 HSM Role Actions

HSM Role Actions

```
Object
    roles: Object
    type:  array
        items: Object
            id: Object
            type:  string
            description:  id is an internal reference for the role action.
                                                    Use this identifier to complete the action with a
                                                    Valid actions are:
                                                        createChallenge - initialize the role challeng
                                                        reset - return the password for the role to th
                                                        deactivate - decache the PED key data
                                  NOTE: These actions do not apply for the Security Officer role.
```

url: string (see POST /api/lunasa/hsms/{hsmid}/roles/{roleid}/actions/{actionid})

4.1.5 Partition Objects Actions

Partition Objects Actions

```
Object
    actions: Object
    type:  array
        items: Object

            id: Object
            type:  string
            description:  id is an internal reference for the action.
                          Use this identifier to complete the action with a POST.
                          Valid actions are:
                             backup - backup a specific object to another partition
                             restore - restore a specific object to another partition
```

url: string (see POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/actions

4.1.6 Partition Role Actions

Partition Role Actions

```
Object
    roles: Object
    type:  array
        items: Object
            id: Object
                type:  string
                description:  id is an internal reference for the role action.
                              Use this identifier to complete the action with a POST.
                              Valid actions are:
                                 reset - return the password for the role to the factory default or
                                         to a specified value or resets the contents of the black
                                         PED token.  Note that the reset action applies
                                         to both password- and PED-based partitions. In the case of
                                         a PED-based partition, if it has a challenge, an administrator
                                         can reset the challenge by providing the PIN.  Otherwise, for
                                         a PED-based partition, an administrator can reset the secret
                                         on the black PED token by providing no password.
                                         See "Applied Example" below for a password-based partition.
                                 createChallenge - create a challenge for the partition role.
                                 deactivate - decache the partition PED key data.
```

`url:  string` (see POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}/

Applied Example

CO role is locked out.

```
GET /api/lunasa/hsms/150607/partitions/350659181751/roles/co

{}

==> OK. SERVER RESPONSE (200):

{"loginAttemptsLeft": 0, "name": "Crypto Officer", "lockedOut": true, "activated": false,
 "challengeToBeChanged": false, "initialized": true, "pinToBeChanged": false, "id": "co"}
```

Login as Security Officer and perform the reset password action.

```
POST /api/lunasa/hsms/150607/partitions/350659181751/roles/co/actions/reset

{"password": "password"}

==> OK. SERVER RESPONSE (204):

{}
```

Get information on the CO role to verify that the role is no longer locked out.

```
GET /api/lunasa/hsms/150607/partitions/350659181751/roles/co

{}

==> OK. SERVER RESPONSE (200):

{"loginAttemptsLeft": 10, "name": "Crypto Officer", "lockedOut": false, "activated": false,
"challengeToBeChanged": false, "initialized": true, "pinToBeChanged": false, "id": "co"}
```

4.1.7 PED Actions

PED Actions

```
Object
    actions: Object
    type:  array
        items: Object

            id: Object
                type:  string
                description:  id is an internal reference for the action.
                              Use this identifier to complete the action with a POST.
                              Valid actions are:
                                 connect          - establish a communication path between the HSM and a PED
                                                    on a remote workstation
                                                    parameters:
                                                        Object
                                                            ipAddress: Object
                                                                type:  string
                                                                description:  ipAddress is the IP address of r
                                                                              PED workstation.

                                                            ipPort: Object
                                                                type:  integer
                                                                description:  ipPort is the network port liste
                                                                              on the remote PED workstation fo
                                                                              incoming connection requests.

                                 disconnect       - tear down a previously-established communication path betw
                                                    the HSM and a PED on a remote workstation
                                                    parameters: none
                                 vectorErase      - remove the PED vector on the HSM
                                                    Parameters:  none
                                 vectorInitialize - create a PED authentication value to be used to establish
                                                    communication between the HSM and a remote PED
                                                    Parameters:  none
```

url: string (see POST /api/lunasa/hsms/{hsmid}/peds/{pedid}/actions/{actionid})

4.1.8 Service Actions

Service Actions

```
    actions: Object
    type:  array
        items: Object
            id: Object
                type:  string
                description:  id is an internal reference for the action.
                              Use this identifier to complete the action with a POST.
                              Valid actions are:
                                 start   - bring the service on-line; assumed not running
                                 stop    - terminate the service assumed to be running
                                 restart - stop and start the service; assumed to be running
```

url: string (see POST /api/lunasa/services/{serviceid}/actions/{actionid})

4.1.9 Task Actions

Task Actions

```
Object
    actions: Object
    type:  array
        items: Object
            id: Object
                type:  string
                description:  id is an internal reference for the action.
                              Use this identifier to perform the action in a POST to the resource.
                              Valid actions are:
                                 start  - begin a task that is in a WAITING state

            url: Object
                type:  string
                description:  url is the fully-formed resource for a POST to complete the action.

                                  (see POST /tasks/{taskid}/actions/{actionid})
```

4.1.10 Web Server Configuration Actions

Web Server Configuration Actions

```
Object
    actions: Object
    type:  array
        items: Object

            id: Object
                type:  string
                description:  id is an internal reference for the action.
                              Use this identifier to complete the action with a POST.
                              Valid actions are:
                                 setDefaultCipherList - set the cipher suite available
                                    for the web server certificate to a pre-defined list.
                                    Use this action if a client changed the cipher
                                    list with PUT or PATCH to the
                                    /api/lunasa/webServer resource.


url:  string (see POST /api/lunasa/webServer/actions/{actionid})
```

4.1.11 Web Server Certificate Actions

Web Server Certificate Actions

```
Object
    actions: Object
    type:  array
        items: Object

            id: Object
                type:  string
                description:  id is an internal reference for the action.
                              Use this identifier to complete the action with a POST.
                              Valid actions are:
                                 regenerate - create a new certificate for the web server
                                              This action has no parameters: the REST API
                                              service uses the configuration set by preceding
                                              PUT/PATCH resources.
```

```
url:  string (see POST /api/lunasa/webServer/Certificate/actions/{actionid})
```

4.2 Authentication Method

Authentication Method

`authenticationMethod` represents the way a user presents credentials to the HSM. The following table shows defined values for `authenticationMethod`.

Value	Description
PASSWORD	Alpha-numeric string of characters secret to the user
CERTIFICATE	Alpha-numeric string of characters secret to the user
PED	PIN entry device, a Gemalto-proprietary instrument that uses small tokens to store data used to form a secret

4.3 Counter

Counter

```
Object
    counter: Object
    type:  Object

        operationRequests: Object
            type:  integer
            description:  operationRequests is a count of all operations directed to the HSM
                          since the last reset (e.g., power on) of the HSM.

        operationErrors: Object
            type:  integer
            description:  operationErrors is a count of all unsuccessful operations directed
                          to the HSM since the last reset of the HSM.

        cryptoOperationRequests: Object
            type:  integer
            description:  cryptoOperationRequests is the total number of cryptographic operations
                          (e.g., sign, decrypt, generate key, digest) directed to the HSM
                          since the last reset of the HSM.

        cryptoOperationErrors: Object
            type:  integer
            description:  cryptoOperationErrors is a count of all unsuccessful cryptographic
                          operations directed to the HSM since the last reset of the HSM.

        criticalEvents: Object
            type:  integer
            description:  criticalEvents is a count of all extraordinary occurrences detected by
                          the HSM since the last reset of the HSM.  The nature and number of
                          extraordinary events is complex: many events never occur but the HSM
                          monitors for them (e.g., cryptographic algorithm self tests).
                          Any log record in the hsm.log file with the text "CRIT:" in the
                          body represents an event that results in an increment of the
                          criticalEvents counter.

        nonCriticalEvents: Object
            type:  integer
```

```
            description:  nonCriticalEvents is a count of all non-extraordinary activity noted
                          by the HSM since the last reset of the HSM.  Any log record in the
                          hsm.log file with the text "ERR:" or "INFO:" in the
                          body represents an event that results in an increment of the
                          nonCriticalEvents counter.

        actions: Object
            type: string
            description: actions specifies the url to the list of actions which are supported by the counter.
```

monitor: Object (see Monitor)

4.4 Errors

Errors

```
Object
    errors: Object
    type:  array
        items: Object
            id: Object
                type:  string
                description:  id is an internal reference for the error.
            url: Object
                type:  string
                description:  url is a link to the error object.
```

url: string (see GET /errors/{languageid}/{errorid})

4.5 Error Description

Error Description

```
Object
    details: Object
        type:  string
        description:  details is a human-friendly description of the error.

    id: Object
        type:  string
        description:  id is the unique reference for the error.

    message: Object
        type:  string
        description:  message is a human-friendly summary or title for the error.

    returnCode: Object
        type:  integer
        description:  returnCode is the RFC 2616 value returned for the error.
```

see (Status Codes)

```
    status: Object
        type:  string
        description:  status is an indication of how the application using the
                      REST API should interpret the error.  For this release,
                      "ERROR" is the only value for status.
    type: Object
        type:  string
        description:  type is a designator for the component responsible for
                      the error: the origin of the error.  Values for type are:
                          API - the error originates in the interface
                          DOCS - the error originates in the Lexicon component
                          FRAMEWORK - the error originates in the infrastructure
                                      of the REST API
                          PLUGIN - the error originates in a plug-in providing a service
                                   via the REST API
                          SERVER - the error originates in the REST API web server
```

4.6 Firmware

Firmware

```
Object
    firmware: Object
    type:  Object

        current: Object
            type:  string
            description:  current is the version of the firmware loaded onto and active
                          on the HSM.

        rollback: Object
            type:  string
            description:  rollback is the former version of the firmware loaded onto the
                          HSM but inactive.

        upgrade: Object
            type:  integer
            description:  upgrade is the version of the firmware installed on the SafeNet Network HSM
                          appliance and available for download to the HSM.
```

4.7 HSM Resources

This section describes HSM-related resources of the REST API.

- HSMs
- HSM
- HSM Capabilities
- HSM Capability Description
- HSM Policies
- HSM Policy Description
- HSM Roles
- HSM Role Description
- HSM Storage Space

4.7.1 HSMs

HSMs

```
Array
    id: Object
        type: string
        description:  id is the unique serial number of the HSM.

    label: Object
        type: string
        description:  label is reserved for future use.
```

url: string (see GET /api/lunasa/hsms/{hsmid})

4.7.2 HSM

HSM

```
Object
```

actionsMethod: string (see Actions)

authenticationMethod: string (see Authentication Method)

countersUrl: string (see Counter)

```
    debugInfo: Object
        type: string
        description:  debugInfo is base 64-encoded text returned by the HSM.  The information
                      is useful to Gemalto engineers but otherwise is of little value to
                      end users.

    driverTimeout: Object
        type: integer
        description:  driverTimeout specifies the number of seconds the device driver waits
                      for a reply to an HSM request after which the driver fails the operation.

    fipsModeEnabled: Object
        type: boolean
        description:  fipsModeEnabled indicates whether the HSM is configured and operating
                      in a mode compliant with FIPS 140-2 requirements.  TRUE means the
                      HSM is in a compliant mode; FALSE, is not in a compliant mode.
```

firmwareUrl: string (see Firmware)

```
    firmwareVersion: Object
        type: string
        description:  firmwareVersion is a three-component identifier to represent the
                      variant of the firmware on the HSM.  Periods separate the three
                      components:  a major number, a minor number and a patch number.
                      Example:  "6.22.2"

    label: Object
        type: string
        description:  label is a human-friendly name for the HSM.
                      Example: "SQL-crypto"
```

licensesUrl: string (see Licenses)

loggedIn: Object
type: boolean
description: loggedIn indicates whether the Security Officer is authenticated to the HSM. TRUE means that the Security Officer is authenticated and is authorized to administer the HSM; FALSE, is not authorized.

model: string (see Model)

partitionsUrl: string (see Partitions)

partNumber: Object
type: string
description: partNumber indicates the version of the PCI-E card that is installed On SA6, the partNumber is null

pedsUrl: string (see PEDs)

pkiEnabled: Object
type: boolean
description: pkiEnabled indicates whether the HSM is configured to be accessed via public key-based certificates. TRUE means that the HSM is configured for PKI access; FALSE, in not configured for PKI access.

policiesUrl: string (see HSM Policies)

rolesUrl: string (see HSM Roles)

storageSpace: RestObjectStorageSpace (see HSM StorageSpace)

supportInfo: Object
type: string
description: supportInfo is reserved for future use.

tamperUrl: string (see HSM Tampers)

updatesUrl: string (see HSM Updates)

zeroized: Object
type: boolean
description: zeroized indicates whether the HSM is in a state where all cryptographic material is inaccessible. A zeroized HSM requires re-initialization before it becomes capable of generating cryptographic keys and performing cryptographic operation. TRUE means that the HSM is zeroized; FALSE, is not zeroized.

See Also

licenses

4.7.3 HSM Capabilities

HSM Capabilities

```
Object
    capabilities: Object
    type:  array
        items: Object
            id: Object
                type:  string
                description:  id is an internal reference for the capability.
                              The format of the identifier may vary and may change in future.
                              Use this identifier to query for more details of the HSM capability.

            name: Object
                type:  string
                description:  name is a short, textual description of the capability.
                              Refer to the "HSM Capabilities and Policies" section of the
                              SafeNet Network HSM Product Documentation for details of each capability.
                              Example: "Enable non-FIPS algorithms"


url:  string (see GET /api/lunasa/hsms/{hsmid}/capability/{capabilityid})
```

4.7.4 HSM Capability Description

HSM Capability Description

```
Object
    value: Object
        type:  string
        description:  value is the accessibility of the capability.

    name: Object
        type:  string
        description:  name is a textual description of the capability.

    id: Object
        type: string
        description:  id is an internal reference for the capability.
```

4.7.5 HSM Policies

HSM Policies

```
Object
    policies: Object
    type:  array
        items: Object
            id: Object
                type:  string
```

```
                description:  id is an internal reference for the HSM policy.
                              Use this identifier to query for more details of the HSM policy.

            name: Object
                type:  string
                description:  name is a short, textual description of the HSM policy.
                              Refer to the "HSM Capabilities and Policies" section of the
                              SafeNet Network HSM Product Documentation for details of each policy.
                              Example: "Performance level"


url:  string (see GET /api/lunasa/hsms/{hsmid}/policies/{policyid})
```

4.7.6 HSM Policy Description

HSM Policy Description

```
Object
    destructive: Object
        type:  boolean
        description:  destructive indicates if changing the policy
                      is destructive.

    changeable: Object
        type:  boolean
        description:  changeable indicates whether an administrator is able
                      to set the value for the HSM policy.  TRUE means
                      an administrator has the ability to set the policy.
                      FALSE means the policy is read-only.

    description: Object
        type:  string
        description:  description provides short, textual information about
                      the policy.

    enabled: Object
        type:  boolean
        description:  enabled indicates whether the policy is in effect.
                      TRUE means that it is.  FALSE means it is not.

    id: Object
        type: string
        description:  id is an internal reference for the partition policy.

    value: Object
        type:  integer
        description:  value is the partition policy.  See "HSM Capabilities
                      and Policies" in the SafeNet Network HSM Product Documentation for
                      details about the policy.
```

4.7.7 HSM Roles

HSM Roles

```
Object
    roles: Object
    type:  array
        items: Object
            id: Object
                type:  string
                description:  id is an internal reference for the role.
```

```
                            Use this identifier to query for more details of the HSM role.

            name: Object
                type:  string
                description:  name is a short, textual description of the role.
                              Refer to the "Roles and Users" section of the
                              SafeNet Network HSM Product Documentation for details of each role.
                              Example: "HSM SO"


url:  string (see GET /api/lunasa/hsms/{hsmid}/roles/{roleid})
```

4.7.8 HSM Role Description

HSM Role Description

```
Object
    activated: Object
        type:  boolean
        description:  activated indicates whether the role is authenticated.
                      True means the role is authenticated with access to sensitive
                      cryptographic material; False means authentication must
                      occur before access is possible.

    challengeToBeChanged: Object
        type:  boolean
        description:  challengeToBeChanged indicates whether the challenge for the
                      role must be initialized or updated.  True means the challenge
                      must be updated; False means the challenge is okay as-is.

    id: Object
        type:  string
        description:  id is a unique internal reference for the role.

    initialized: Object
        type:  boolean
        description:  initialized indicates whether the role is set up for use.
                      True means the role is ready; False means additional
                      administration is necessary.

    lockedOut: Object
        type:  boolean
        description:  lockedOut indicates whether a user is able to successfully
                      authenticate to the HSM with the role.  False means
                      that the HSM permits a user to login to the HSM.
                      True means that the HSM prevents a user to login even when
                      the user presents the correct credentials.  True means that
                      a user attempted unsuccessfully too many times to login on a
                      previous occasion.

    loginAttemptsLeft: Object
        type:  integer
        description:  loginAttemptsLeft indicates how many consecutive tries a user
                      has left to successfully login to the HSM.  If this
                      number of consecutive login attempts fail, the HSM locks
                      out the HSM.  See "Failed Logins" in the SafeNet Network HSM
                      Product Documentation for details of what happens in
                      this circumstance.

    name: Object
        type:  string
        description:  name is a short-form, human-friendly tag for the role.

    pinToBeChanged: Object
        type:  boolean
        description:  pinToBeChanged indicates whether a user is forced to choose
                      a new password on login.  False means that the user can
                      keep the existing password.  True means that the user must
                      change the password after successfully logging in.
```

4.7.9 HSM Storage Space

HSM Storage Space

```
Object
    RestObjectStorageSpace: Object
        free: Object
            type:  integer
            description:  free is the number of bytes of memory available for use on the HSM.

        total: Object
            type:  integer
            description:  total is the memory capacity of the HSM in bytes.
                          On a standard SafeNet Network HSM, total should be approximately two megabytes.

        used: Object
            type:  integer
            description:  used is number of bytes of memory allocated to cryptographic
                          objects residing on the HSM.
```

4.8 Indirect Key

Key

```
Object
    key: Object
        exponent: Object
            type:  string
            description:  exponent is the exponent component of the public
                          key used for indirect login.

        modulus: Object
            type:  string
            description:  modulus is the modulus component of the public
                          key used for indirect login.
```

4.9 Languages

Languages

```
Object
    languages: Object
    type:  array
        items: Object
            id: Object
                type:  string
                description:  language is an internal reference for the language.
                              With this release, the only language supported is English (en).
                              Use this identifier to query for more details of the language.
            url: Object
                type:  string
                description:  url is a link to a list of errors supported for this language.
```

`url:  string` (see GET /errors/{languageid})

4.10 Licenses

Licenses

```
Object
    licenses: Object
    type:  array
        items: Object
            id: Object
                type:  string
                description:  id is an internal reference for the capability.
                              The format of the identifier may vary and may change in future.
                              Use this identifier to query for more details of the license capability.

            name: Object
                type:  string
                description:  name is a textual description of the capability.
                              The text may include numbers with the text:  the numbers are
                              internal to Gemalto.
                              Example: "K6 Base 621-000002-000", "Cloning"
```

`url:  string` (see GET /api/lunasa/hsms/{hsmid}/licenses/{licenseid})

4.11 License Description

License Description

```
Object
    name: Object
        type:  string
        description:  name is a textual description of the capability.

    id: Object
        type: string
        description:  id is an internal reference for the capability.
```

4.12 Models

Models

`model` represents the form-factor of the HSM. The following table shows defined values for `model`.

Value	Description
K6 Base	PCI Express card
G5 Base	USB-attached, portable, text book-sized device

4.13 Monitor

Monitor

```
Object
    monitor: Object
    type: Object

        hsmUpTime: Object
            type:  integer
            description:  hsmUpTime is the number of seconds since the last reset of the HSM.

        commandsSinceReset: Object
            type:  integer
            description:  commandsSinceReset is the number of low-level protocol commands
                          received since the last reset of the HSM.

        commandsLastInterval: Object
            type:  integer
            description:  commandsLastInterval is the number of low-level protocol commands
                          received over the period specified in seconds by the monitoring
                          interval.  The monitoring interval is the polling period to
                          collect the counters of this resource.

        utilizationSinceReset: Object
            type:  integer
            description:  utilizationSinceReset is an approximation (percentage) of how busy
                          the HSM has been since the last reset.  The counter approximates
                          average CPU use.

        UtilizationLastInterval: Object
            type:  integer
            description:  utilizationLastInterval is an approximation (percentage) of how busy
                          the HSM has been over the period specified in seconds by the monitoring
                          interval.
```

4.14 Objects

Objects

```
Object
    objects: Object
    type:  array
        items: Object
            Id: Object
                type:  string
                description:  <xxx>
            Description: Object
                type:  string
                description:  <xxx>
```

4.15 Partition Resources

This section describes partition-related resources of the REST API.

- Partitions
- Partition Description
- Partition Capabilities
- Partition Capability Description

- Partition Policies
- Partition Policy Description
- Partition Objects
- Partition Object Description
- Partition Roles
- Partition Role Description
- Partition Storage Space

4.15.1 Partitions

Partitions

```
Object
    partitions: Object
    type:  array
        items: Object
            id: Object
                type:  string
                description:  id is a unique internal reference for the partition.
                              Use this identifier to query for more details of the partition.

            label: Object
                type:  string
                description:  name is a short, textual way to reference the partition.
                              Generally, it has an application-specific context.
                              Example: "HSM1:sigver"
```

`url:  string` (see GET /api/lunasa/hsms/{hsmid}/partition/{partitionid})

4.15.2 Partition Description

Partition Description

```
Object
    activated: Object
    type: boolean
    description:  activated indicates if the partition is authenticated and in a state
                  where it can be used without the need to re-present login credentials.
                  A value of TRUE means that an application can use the partition without
                  additional authentication.  A value of FALSE means that an application
                  must present login credentials to use the partition.
```

`capabilitiesUrl:  string` (see Partition Capabilities)

```
    label: Object
    type: string
    description:  label is an identifier for the partition that may or may not be unique.
                  It can consist of alpha-numeric characters; see "Partition Create" in
                  the SafeNet Network HSM Product Documentation for more details.  If label is
                  unspecified when the partition is created, it has the same value as the
                  name attribute.
    name: Object
    type: string
    description:  name is an HSM-unique identifier for the partition.  It can consist of
                  alpha-numeric characters; see "Partition Create" in the SafeNet Network HSM Product
                  Documentation for more details.
                  example:  "AcmePartition"

    objectCount: Object
    type: integer
    description:  objectCount indicates how many cryptographic objects exists within the
                  partition.
```

objectsUrl: string (see Partition Objects)

policiesUrl: string (see Partition Policies)

rolesUrl: string (see Partition Roles)

state: string (see State)

stc: string (see STC)

storageSpace: RestObjectStorageSpace (see Partition StorageSpace)

4.15.3 Partition Capabilities

Partition Capabilities

```
Object
    capabilities: Object
    type:  array
        items: Object
            id: Object
                type:  string
                description:  id is an internal reference for the partition capability.
                              Use this identifier to query for more details of the partition capability.

            name: Object
                type:  string
                description:  name is a short, textual description of the partition capability.
                              Refer to the "Partition Capabilities and Policies" section of the
                              SafeNet Network HSM Product Documentation for details of each capability.
                              Example: "Enable Activation"
```

url: string (see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/capabilities/{ca

4.15.4 Partition Capability Description

Partition Capability Description

```
Object
    name: Object
        type:  string
        description:  name is a textual description of the partition capability.

    id: Object
        type: string
        description:  id is an internal reference for the partition capability.
```

4.15.5 Partition Policies

Partition Policies

```
Object
    policies: Object
    type:  array
        items: Object
            id: Object
                type:  string
                description:  id is an internal reference for the partition policy.
                              Use this identifier to query for more details of the partition policy.

            name: Object
                type:  string
                description:  name is a short, textual description of the partition policy.
                              Refer to the "Partition Capabilities and Policies" section of the
                              SafeNet Network HSM Product Documentation for details of each policy.
                              Example: "Allow RSA PKCS mechanism"


url:  string (see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policy
```

4.15.6 Partition Policy Description

Partition Policy Description

```
Object
    destructive: Object
        type:  boolean
        description:  destructive indicates if changing the policy
                      is destructive.

    changeable: Object
        type:  boolean
        description:  changeable indicates whether an administrator is able
                      to set the value for the partition policy.  TRUE means
                      an administrator has the ability to set the policy.
                      FALSE means the policy is read-only.

    description: Object
        type:  string
        description:  description provides short, textual information about
                      the policy.

    enabled: Object
```

```
        type:  boolean
        description:  enabled indicates whether the policy is in effect.
                      TRUE means that it is.  FALSE means it is not.

    id: Object
        type: string
        description:  id is an internal reference for the partition policy.

    value: Object
        type:  integer
        description:  value is the partition policy.  See "Partition Capabilities
                      and Policies" in the SafeNet Network HSM Product Documentation for
                      details about the policy.
```

4.15.7 Partition Objects

Partition Objects

```
Object
    objects: Object
    type:  array
        items: Object
            id: Object
                type:  string
                description:  id is an internal reference for the partition object.
                              Use this identifier to query for more details of the partition object.

            name: Object
                type:  string
                description:  name is a short, textual description of the partition object.
    actions: Object
        type:  string
        description:  the url to the list of actions in the partition.
```

```
url:  string (see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/{objecti
url:  string (see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/actions)
```

4.15.8 Partition Object Description

Partition Object Description

```
Object
    label: Object
        type:  string
        description:  label is a textual description of the partition object.

    id: Object
        type: string
        description:  id is an internal reference for the partition object.

    type: Object
        type: string
        description:  the type of the partition object.

    uid: Object
        type: string
        description:  the unique identifier of the partition object.
```

4.15.9 Partition Roles

Partition Roles

```
Object
    roles: Object
    type:  array
        items: Object
            id: Object
                type:  string
                description:  id is an internal reference for the partition role.
                              Use this identifier to query for more details of the partition role.

            name: Object
                type:  string
                description:  name is a short, textual description of the role.
                              Refer to the "Roles and Users" section of the
                              SafeNet Network HSM Product Documentation for details of each partition role.
                              Example: "Application Partition SO"


url:  string (see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/role/{roleid})
```

4.15.10 Partition Role Description

Partition Role Description

```
Object
    activated: Object
        type:  boolean
        description:  activated indicates whether the role is authenticated.
                      True means the role is authenticated with access to sensitive
                      cryptographic material; False means authentication must
                      occur before access is possible.

    challengeToBeChanged: Object
        type:  boolean
        description:  challengeToBeChanged indicates whether the challenge for the
                      role must be initialized or updated.  True means the challenge
                      must be updated; False means the challenge is okay as-is.

    id: Object
        type:  string
        description:  id is a unique internal reference for the role.

    initialized: Object
        type:  boolean
        description:  initialized indicates whether the role is set up for use.
                      True means the role is ready; False means additional
                      administration is necessary.

    lockedOut: Object
        type:  boolean
        description:  lockedOut indicates whether a user is able to successfully
                      authenticate to the partition with the role.  False means
                      that the HSM permits a user to login to the partition.
                      True means that the HSM prevents a user to login even when
                      the user presents the correct credentials.  True means that
                      a user attempted unsuccessfully too many times to login on a
                      previous occasion.

    loginAttemptsLeft: Object
        type:  integer
```

```
        description:  loginAttemptsLeft indicates how many consecutive tries a user
                      has left to successfully login to the partition.  If this
                      number of consecutive login attempts fail, the HSM locks
                      out the partition.  See "Failed Logins" in the SafeNet Network HSM
                      Product Documentation for details of what happens in
                      this circumstance.

    name: Object
        type:  string
        description:  name is a short, textual description of the role.
                      Refer to the "Roles and Users" section of the
                      SafeNet Network HSM Product Documentation for details of each partition role.

    pinToBeChanged: Object
        type:  boolean
        description:  pinToBeChanged indicates whether a user is forced to choose
                      a new password on login.  False means that the user can
                      keep the existing password.  True means that the user must
                      change the password after successfully logging in.

    primaryAuthentication: Object
        type:  string
        description:  primaryAuthentication is the means by which the role must
                      authenticate to the partition.  Values are:
                      None - not applicable for this means of authentication
                      PED - use the PIN entry device
                      PIN - provide a password

    secondaryAuthentication: Object
        type:  string
        description:  secondaryAuthentication is the means by which, in additional
                      to authenticating to the partition via the method defined
                      by the primary authentication attribute, the role must also
                      authenticate to the partition.  Values are:
                      None - no other authentication is necessary
                      PED - not applicable for this means of authentication
                      PIN - a challenge must be provided
```

4.15.11 Partition Storage Space

Partition Storage Space

```
Object
    RestObjectStorageSpace: Object
        free: Object
            type:  integer
            description:  free is the number of bytes of memory available for use within the partition.

        total: Object
            type:  integer
            description:  total is the memory capacity of the partition in bytes.

        used: Object
            type:  integer
            description:  used is number of bytes of memory allocated to cryptographic
                          objects residing in the partition.
```

4.16 PEDs

PEDs

```
Object
    peds: Object
```

```
    type:  array
        items: Object
            id: Object
                type:  string
                description:  id is a unique internal reference for the PED.
                              Use this identifier to query for more details of the PED.
```

```
url:  string (see GET /api/lunasa/hsms/{hsmid}/ped/{pedid})
```

4.17 PED Description

PED Description

```
Object

    ipAddress: Object
        type:  string
        description:  ipAddress is the location of the PED server
                      from which an administrator authenticates to
                      the HSM.

    isConnected: Object
        type:  boolean
        description:  isConnected indicates whether a PED is
                      attached to or accessible by the HSM.
                      FALSE means that the HSM is not able to
                      access the PED; TRUE means that communication
                      between the PED and HSM is established.

    pedId: Object
        type:  string
        description:  pedId is a unique internal reference for the PED.

    port: Object
        type:  integer
        description:  port is the logical end-point number reserved for
                      the PED server.  The port must be within the range:
                      80 to 65535.
```

4.18 State

States

`state` represents the readiness of the partition for activity. The following table shows defined values for `state`.

Value	Description
initialized	the partition is ready for use
zeroized	the partition has no authenticated users and no cryptographic material

4.19 Services

Services

```
Array
    id: Object
        type: string
        description:  id is the unique identifier for the service.
```

url: string (see GET /api/lunasa/services/{serviceid})

4.20 Service

Service

```
Object
    status: Object
        type:  string
        description:  status provides state information about the service.
                      For many services, status indicates whether a service
                      is running.
    onBoot: Object
        type:  boolean
        description:  onBoot is a flag indicating if a service is enabled or not.
```

4.21 SFF Resources

This section describes resources related to the small form-factor backup device of the REST API.

- SFF Description
- SFF Objects
- SFF Object Description

4.21.1 SFF Description

SFF Description

```
Object
    name: Object
        type:  string
        description:  name is a textual description of the small form factor backup device.

    objectCount: Object
        type: integer
        description:  objectCount is the number of items stored on the SFF backup device.

    uid: Object
        type: string
        description:  uid is a unique identifier for the SFF backup device.
```

4.21.2 SFF Objects

SFF Objects

```
Object
    objects: Object
    type:  array
        items: Object
            id: Object
                type:  string
                description:  id is an internal reference for the object.
                              Use this identifier to query for more details of the object.

            label: Object
                type:  string
                description:  label is a textual description to identify the object.


url:  string (see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects/{obj
```

4.21.3 SFF Object Description

SFF Object Description

```
Object
    fingerprint: Object
        type:  string
        description:  fingerprint is an SHA-256 hash of the object.
                      Use the fingerprint to quickly determine whether an object
                      attribute has changed since the last time you obtained
                      the fingerprint.

    id: Object
        type:  string
        description:  id is an internal reference for the object.

    label: Object
        type:  string
        description:  label is a textual description to identify the object.

    type: Object
        type:  string
        description:  type is the category of the object.  Values for type are:
                           Certificate
                           Data
                           Private Key
                           Public Key
                           Symmetric Key

    uid: Object
        type: string
        description:  uid is a unique identifier for the object.
```

4.22 STC Resources

This section describes resources related to the secure trusted channel of the REST API.

- STC Ciphers
- STC HMACs
- STC Client Identities
- STC Client Identity Description
- STC Configuration and Partition Identify Description

4.22.1 STC Ciphers

STC Ciphers

```
Object
    ciphers: Object
    type:  array
        items: Object
            id: Object
                type:  string
                description:  id is a unique reference for a symmetric algorithm
                              that can be used for the secure trusted channel.
```

4.22.2 STC HMACs

STC HMACs

```
Object
    hmacs: Object
    type:  array
        items: Object
            id: Object
                type:  string
                description:  id is a unique reference for a message digest algorithm
                              that can be used for the secure trusted channel.
```

4.22.3 STC Client Identities

STC Client Identities

```
Object
    stcClientIdentities: Object
    type:  array
        items: Object
            clientID: Object
                type:  string
                description:  clientID is a unique internal reference for the client identity.
                              Use this instance to query for more details of the client identity.


url:  string (see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid/stc/clients/{clie
```

4.22.4 STC Client Identity Description

STC Client Identity Description

```
Object
    type:  array
        items: Object
            fingerprint: Object
                type:  string
                description:  fingerprint is the SHA1 hash of the public key
                              used to secure the trusted channel between the
                              registered client and the HSM.

            label: Object
                type:  string
                description:  label is a user-friendly name to reference the
                              client identity.
```

4.22.5 STC Configuration and Partition Identify Description

STC Configuration and Partition Identity Description

```
Object
    activationTimeout: Object
        type:  integer
        description:  activationTimeout is the maximum time in seconds allowed to establish
                      the STC link before the channel request is dropped.  The range is
                      1 to 240 seconds.


ciphers:  string (see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid/stc/ciphers

clients:  string (see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid/stc/clients



    fingerprint: Object
        type:  string
        description:  fingerprint is the cryptographic hash of the certificate
                      used to establish the secure trusted channel between a
                      client application and a partition.


hmacs:  string (see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid/stc/hmacs



    publicKey: Object
        type:  string
        description:  publicKey is the public key component used to secure the
                      trusted channel between the partition and the client.
                      publicKey is BASE64-encoded.

    rekeyThreshold: Object
        type:  integer
        description:  rekeyThreshold is the number of times to use the symmetric key
                      to encrypt data on an STC link.  When this threshold is
                      reached, the HSM regenerates the symmetric key.  The range is
                      0 to 4000 million uses.

    replayThreshold: Object
        type:  integer
        description:  replayThreshold is the number of packets tracked to provide
                      anti-replay protection.  The range is 100 to 1000 packets.
```

4.23 Tasks

Tasks

```
Object
    tasks: Object
    type:  array
        items: Object
            finishTime: Object
                type:  string
                description:  finishTime records when the tasked resource completed.

            instance: Object
                type:  string
```

```
            description:  instance is a unique internal reference for the task.
                          Use this instance to query for more details of the task.

        responseUrl: Object
            type:  string
            description:  responseUrl is the resource for the results of the task
                          when it is Finished.

        sourceUrl: Object
            type:  string
            description:  sourceUrl is the resource that resulted in the task.

        startTime: Object
            type:  string
            description:  startTime records when the tasked resource began.

        state: Object
            type:  string
            description:  state is the progress of the tasked resource.

        details: Object
            type:  string
            description:  details is the descriptions of the task.
```

See Tasks for the different states and their meaning.

4.24 Tamper Resources

This section describes Tamper-related resources of the REST API.

- Tamper
- Tamper Actions

4.24.1 Tamper

Tamper

```
Object
```

```
actionsUrl:  string (see GET /api/lunasa/hsms/{hsmid}/tamper/actions)
```

```
    tamperTime: Object
        type: string
        description: tamperTime is the timestamp of when the tamper was detected.

    tampers: Object
        type: array
            items: Object
                index: Object
                    type: string
                    description: index is an internal reference to the tamper.

                tamper: Object
                    type: string
```

```
                    description: tamper is the type of tamper that has been detected.
                                 It will specify if that particular tamper is destructive.

    Temperature: Object
        type: integer
        description: Temperature is the temperature related to the detected environmental tamper.

    VBATVoltage: Object
        type: integer
        description: The VBAT Voltage. Will be null if no environmental (voltage or temperature) tamper has be

    VCCIVoltage: Object
        type: integer
        description: The VCCI Voltage. Will be null if no environmental (voltage or temperature) tamper has be

    VREFVoltage: Object
        type: integer
        description: The VREF Voltage. Will be null if no environmental (voltage or temperature) tamper has be
```

4.24.2 Tamper Actions

Tamper Actions

```
Object
  actions: Object
  type:  array
    items: Object

      id: Object
        type:  string
        description:  id is an internal reference for the action.
                Use this identifier to complete the action with a POST.
                Valid actions are:
                 clear - Clears detected tamper information
```

`url: string` (see POST /api/lunasa/hsms/{hsmid}/tamper/actions/{actionid})

4.25 Updates

Updates

```
Object
    updates: Object
    type:  array
        items: Object
            id: Object
                type:  string
                description:  id is a unique internal reference for the update.
                              Use this identifier to query for more details of the update.

            name: Object
                type:  string
                description:  name is a short moniker for the update.
```

4.26 Update Description

Update Description

NOTE: This version of the REST API does not support this object. It is for a future release.

```
Object
    description: Object
        type:  string
        description:  description is a short, textual explanation of the update.
                      This attribute is subject to change with a future release
                      of the REST API.
```

4.27 Web Server Certificate Description

Web Server Certificate Description

```
Object
    curveName: Object
        type:  string
        description:  curveName is the name of the elliptic curve used for an
                      ECDSA-based certificate.  This parameter does not apply for
                      RSA key types.

    fingerprint: Object
        type:  string
        description:  fingerprint is the message digest of the web server certificate.

    hash: Object
        type:  string
        description:  hash is the cryptographic algorithm used to generate the fingerprint
                      object.
    keyType: Object
        type:  string
        description:  keyType is the type of key used by the web server to secure access
                      to the REST API service.

    keySize: Object
        type:  integer
        description:  keySize is the number of bits for the key used to secure access
                      to the REST API service.

    subjectAltNames: Object
        type:  array
            items:  Object
                subjectAltName: Object
                            type: string
                            description:  subjectAltName is an extension to X.509 that allows various values
                            be associated with a security certificate.
```

4.28 Web Server Configuration Description

Web Server Configuration Description

```
Object
    apiVersion: Object
        type:  integer
```

```
        description:  apiVersion is the revision of the REST API service.

    cipherList: Object
        type:  string
        description:  cipherList is the cipher suite the REST API service is to
                      accept for applications requesting connection to the web server.
                      cipherList is a sub-set of the ciphers known to the REST
                      API service.

    curveName: Object
        type:  string
        description:  curveName is the name of the elliptic curve to use for an
                      ECDSA-based certificate.  This parameter does not apply and should
                      be disregarded for RSA key types.  If no curveName is
                      provided for ECDSA-based certificates, the REST API uses
                      "secp384r1" as the default curve.

    ipAddress: Object
        type:  string
        description:  ipAddress is the network address to the REST API service.

    keyType: Object
        type:  string
        description:  keyType is the type of key to use for the certificate used to secure
                      the REST API service.  The choices are:  rsa and ecc.

    keySize: Object
        type:  integer
        description:  keySize is the number of bits used in the key associated with the
                      certificate.  Valid RSA key sizes are: 2048, 3072 and 4096.
                      This attribute does not apply on PUT and PATCH operations for ECC
                      key types but does show the key size on GET operations.

    netDevice: Object
        type:  string
        description:  netDevice is the interface to which the REST API service is bound.
                      Valid interfaces are:  eth0, eth1, eth2, eth3, all, all_ipv6, bond0
                      and bond1.

    port: Object
        type:  integer
        description:  port is the logical end-point number reserved for the REST API service.
                      The port must be within the range:  80 to 65535.

    threads: Object
        type:  integer
        description:  threads is the number of simultaneous connections the REST API service
                      supports.  A small number of threads implies restricted administrative
                      access to the appliance.
```

4.29 Network

This section describes the response objects for the network resources.

- Network
- Network Actions
- Network Devices
- Network Device
- Network Device Ip4
- Network Device Ip6
- Network Routes

- Network Route
- Network Dns
- Network Name Servers
- Network Name Server
- Network Search Domains
- Network Search Domain

4.29.1 Network

Network

```
Object
    hostname: Object
        type: string
        description:  hostname specifies the network name to associate the appliance with.

    domain: Object
        type: string
        description:  domain specifies an alternative

    actions: Object
        type: string
        description:  actions is the location of the list of actions that can be performed
                      on the network resource.

    devices: Object
        type: string
        description:  devices is the location of the list of network devices.
```

See Also

GET /api/lunasa/network/actions
GET /api/lunasa/network/devices

4.29.2 Network Actions

Network Actions

```
Object
    actions: Object
    type:  array
        items: Object

            id: Object
                type:  string
                description:  id is an internal reference for the action.
                              Use this identifier to complete the action with a POST.
                              Valid actions are:
                                 ping - ping a specific ip.
            url: Object
                type:  string
                description:  url is the location of the action.
```

See Also

POST /api/lunasa/network/actions/{actionid})

4.29.3 Network Devices

Network Devices

```
Array
    id: Object
        type: string
        description:  id is the name identified by the network device.

    type: Object
        type: string
        description:  type is the type of network device.

    url: Object
        type: string
        description:  url is the location of the list of network devices.
```

See Also

GET /api/lunasa/network/devices/{deviceid}

4.29.4 Network Device

Devices

```
Object
    name: Object
        type: string
        description:  name is the network device identifier (eg. eth0, eth1, eth2, eth3, bond0, bond1).

    mac: Object
        type: string
        description:  mac is the hardware address of the device.

    type: Object
        type: string
        description:  type is the type of network device.

    ip4: Object
        type: string
        description:  ip4 is the location of the ip4 configuration for the device.

    ip6: Object
        type: string
        description:  ip6 is the location of the ip6 configuration for the device.

    routes: Object
        type: string
        description:  routes is the location of the routes.
```

See Also

GET /api/lunasa/network/devices/{deviceid}/routes
GET /api/lunasa/network/devices/{deviceid}/ip4
GET /api/lunasa/network/devices/{deviceid}/ip6

4.29.5 Network Device Ip4

Network Device Ip4

```
Object
    ip: Object
        type: string
        description:  ip is a string representing a version 4 ip address (eg. 172.11.92.90)

    mask: Object
        type: integer
        description:  mask is a integer representation of the mask from 1-32 a mask value
                      of 0 indiciates that the device is not configured or the mask does
                      not pertain to the specific device.

    gateway: Object
        type: string
        description:  gateway is the default route of the interface, a gateway value
                      of "null" indiciates that the device is not configured or the gateway does not pertain t
```

4.29.6 Network Device Ip6

Network Device Ip6

```
Object
    ip: Object
        type: string
        description:  ip is a string representing a version 6 ip address (eg. fec0::1)

    prefix: Object
        type: integer
        description:  prefix is a integer representation of the prefix from 1-128 a prefix value
                      of 0 indiciates that the device is not configured or the prefix does
                      not pertain to the specific device.

    gateway: Object
        type: string
        description:  gateway is the default route of the interface, a gateway value
                      of "null" indiciates that the device is not configured or the gateway does not pertain t
```

4.29.7 Network Routes

Network Routes

```
Object
    actions: Object
    type:  array
        items: Object

            id: Object
                type:  string
                description:  id is the route identifier. This id can either be "default"
                              refering to the gateway, or another route where the ip, mask,
                              type ("k" is a kernel route while "s" is a static route) and metric are separate
            url: Object
                type:  string
                description:  url is the location of the route.
```

See Also

GET /api/lunasa/network/devices/{deviceid}/routes/{routeid})
DELETE /api/lunasa/network/devices/{deviceid}/routes/{routeid})

4.29.8 Network Route

Devices

```
Object
    destination: Object
        type: string
        description:  destination is the route destination ip.

    mask: Object
        type: integer
        description:  mask is a integer representation of the mask from 1-32 a mask value
                      of 0 indiciates that the device is not configured or the mask does
                      not pertain to the specific device.

    gateway: Object
        type: string
        description:  gateway is the default route, a gateway value
                      of "null" indiciates that it does not pertain to that route.
```

See Also

GET /api/lunasa/network/devices/{deviceid}/routes/{routeid}

4.29.9 Network Dns

Network Dns

```
Object
    nameServers: Object
        type: string
        description:  Url to nameServers resource.

        searchDomains: Object
        type: string
        description:  Url to searchDomain resource.
```

See Also

GET /api/lunasa/network/dns/nameServers
GET /api/lunasa/network/dns/searchDomains

4.29.10 Network Name Servers

Network Name Servers

```
Object
    actions: Object
    type:  array
        items: Object

            id: Object
                type:  string
                description:  id of the name server.
            url: Object
                type:  string
                description:  url is the location of the name server.
```

See Also

GET /api/lunasa/network/dns/nameServers/{nameServerid})
DELETE /api/lunasa/network/dns/nameServers/{nameServerid})

4.29.11 Network Name Server

Network Name Server

```
Object
    address: Object
        type: string
        description:  Address of the name server.
```

4.29.12 Network Search Domains

Network Search Domains

```
Object
    actions: Object
    type:  array
        items: Object

            id: Object
                type:  string
                description:  id of the search domain.
            url: Object
                type:  string
                description:  url is the location of the search domain.
```

See Also

GET /api/lunasa/network/dns/searchDomains/{searchDomainid}
DELETE /api/lunasa/network/dns/searchDomains/{searchDomainid}

4.29.13 Network Search Domain

Network Search Domain

```
Object
    domain: Object
        type: string
        description:  Address of the search domain.
```

4.30 Syslog

This section describes the response objects for the syslog resources.

- Syslog Actions
- Syslog Logs
- Syslog Log
- Syslog
- Syslog Remote Hosts
- Syslog Remote Host

4.30.1 Syslog Actions

Syslog Actions

```
Object
    actions: Object
    type:  array
        items: Object

            id: Object
                type:  string
                description:  id is an internal reference for the action.
                              Use this identifier to complete the action with a POST.
                              Valid actions are:
                                 rotate - rotates all logs, creates a new log backup entry.
                                 cleanup - removes all logs, preserving the hsm log and created a new log back
                                           in the 'location' header.
            url: Object
                type:  string
                description:  url is the location of the action.
```

See Also

POST /api/lunasa/syslog/actions/{actionid}

4.30.2 Syslog Logs

Syslog Logs

```
Array
    id: Object
        type: string
        description:  id is the name of the log.

    url: Object
        type: string
        description:  url is the location of the log.
```

See Also

GET /api/lunasa/syslog/logs/{logid}

4.30.3 Syslog Log

Syslog Log

```
Object
    tail: Object
        type: string
        description:  tail is the last 10 lines of the log.

    severity: Object
        type: string
        description:  severity is the level for which the log will log.
```

4.30.4 Syslog

Syslog

```
Object
  period:Object
    Type:String
    Description:This member indicates the frequency of log rotation.
        Allowed values: daily, weekly, monthly

  maxRotations:Object
    Type:Integer
    Description:This member specifies the maximum number of log backups to use in the log rotation.

  backups:Object
    Type:String
    Description:Url link to backups

  logs:Object
    Type:String
    Description:Url link to logs

  actions:Object
    Type:String
    Description:Url link to actions

  remoteHosts:Object
    Type: String
    Description: Url link to the remote hosts.
```

See Also

GET /api/lunasa/syslog/backups GET /api/lunasa/syslog/logs GET /api/lunasa/syslog/actions GET /api/lunasa/syslog/remote↩
Hosts

4.30.5 Syslog Remote Hosts

Syslog Remote Hosts

```
Object
    remoteHosts: Object
    type:  array
        items: Object

            id: Object
                type:  string
                description:  id is the unique identifier for a remote host.
            url: Object
                type:  string
                description:  url is the location of a specific remote host.
```

See Also

GET /api/lunasa/syslog/remoteHosts/{remoteHostid}

4.30.6 Syslog Remote Host

Syslog Remote Host

```
Object
    address: Object
        Type: string
        Description: address is the ip address or hostname of the remote host.

    port: Object
        Type: integer
        Description: port is the network port that the remote host is configured on.

    protocol: Object
        Type: string
        Description: protocol is the protocol of the remote host (udp or tcp).
```

4.31 NTP

This section describes the response objects for the NTP resources.

- NTP
- NTP Servers
- NTP Server
- NTP Actions
- NTP Status

4.31.1 NTP

NTP

```
Object
    servers: Object
        Type: String
        Description: Url link to list of servers
        status: Object
                Type: string
                Description: Url link to NTP status
        version: Object
                 Type: string
                 Description: The version number of NTP
        actions: Object
                 Type: string
                 Description: Url link to NTP actions
```

See Also

GET /api/lunasa/ntp/servers

4.31.2 NTP Servers

NTP Servers

```
Object
        servers: Object
        type:  array
                items: Object

                        id: Object
                                type:  string
                                description: This member represents the id of the NTP server.
                        url: Object
                                type:  string
                                description: This member represents the corresponding url.
```

See Also

GET /api/lunasa/ntp/servers

4.31.3 NTP Server

NTP Server

```
Object
    address: Object
        type: string
        description: This member represents the host or ip address of the NTP server.
    keyId: Object
        type: integer
        description: This member represents the key id used in communication with the NTP server (1-65535).
    protocolVersion: Object
        type: integer
```

```
        description: This member represents the protocol version used in communication with the NTP server (1-
    isAutokeyEnabled: Object
        type: boolean
        description: This member represents flag controlling enabling autokey authentication.
    isBurstEnabled: Object
        type: boolean
        description: This member represents flag controlling sending a burst of packets instead of usual singl
    isInitialBurstEnabled: Object
        type: boolean
        description: This member represents flag controlling sending a burst of packets when an initial connec
    isPreferredServer: Object
        type: boolean
        description: This member represents flag designating this server as the preferred one.
```

See Also

GET /api/lunasa/ntp/servers/{serverid}

4.31.4 NTP Actions

NTP Actions

```
Object
    actions: Object
    type: array
        items: Object
               url: Object
                    type: string
                    description: Url which links to the action
               id: Object
                   type: string
                   description: Id of the action.
```

See Also

POST /api/lunasa/ntp/actions/{actionid}

4.31.5 NTP Status

NTP Status

```
Object
        estimatedError: Object
            Type: float
            Description: Estimated Error of NTP time. The error is measured in seconds.

        maxError: Object
            Type: float
            Description: Maximum error of NTP. The error is measured in seconds.

        offset: Object
            Type: float
            Description: The offset between NTP time and time of server. The unit of time is in seconds.

        ntpTime: Object
            Type: string
            Description: The current NTP time.
```

See Also

GET /api/lunasa/ntp/status

4.32 SNMP

This section describes the response objects for the SNMP resources.

- SNMP
- SNMP Trap
- SNMP Users
- SNMP User
- SNMP Notifications
- SNMP Notification

4.32.1 SNMP

SNMP

```
Object
    users: Object
        Type: String
        Description: Url link to list of SNMP users.

    trap: Object
        Type: String
        Description: Url link to the SNMP trap configuration.
```

See Also

GET /api/lunasa/snmp/users

4.32.2 SNMP Trap

SNMP Trap

```
Object
    address: Object
        Type: String
        Description: This member is the ip address or hostname that receives traps.

    securityName: Object
        Type: String
        Description: This member is the SNMP user to associate traps with.

    securityLevel: Object
        Type: String
        Description: This member is the SNMP trap security level.
```

```
    engineId: Object
        Type: String
        Description: This member is the engine that receives traps and that has the authority to control the f

    authenticationProtocol: Object
        Type: String
        Description: This member is the authentication protocol used for the authentication password.

    privacyProtocol: Object
        Type: String
        Description: This member is the privacy protocol used for the privacy password.
```

4.32.3 SNMP Users

SNMP Users

```
Object
        servers: Object
        type:  array
                items: Object

                        id: Object
                                type:  string
                                description: This member represents the id of the SNMP user.
                        url: Object
                                type:  string
                                description: This member represents the corresponding url.
```

See Also

GET /api/lunasa/snmp/users/{userid}

4.32.4 SNMP User

SNMP User

```
Object
    notifications: Object
        type: string
        description: This member represents the location of the list of user notifications.
```

See Also

GET /api/lunasa/snmp/users/{userid}/notifications

4.32.5 SNMP Notifications

SNMP Notifications

```
Object
        servers: Object
        type:  array
                items: Object

                        id: Object
                                type:  string
                                description: This member represents the id of the SNMP notification.
                        url: Object
                                type:  string
                                description: This member represents the corresponding url.
```

See Also

GET /api/lunasa/snmp/users/{userid}/notifications/{notificationid}

4.32.6 SNMP Notification

SNMP Notification

```
Object
    address: Object
        type: string
        description: This member represents the ip address that receives notifications.
    port: Object
        type: integer
        description: This member represents the port number the SNMP manager monitors for notifications.
    type: Object
        type: string
        description: This member represents the type of notification (trap, inform).
    engineId: Object
        type: string
        description: This member represents the engine that receives notifications and that has the authority

    authenticationProtocol: Object
        Type: String
        Description: This member is the authentication protocol used for the authentication password.

    privacyProtocol: Object
        Type: String
        Description: This member is the privacy protocol used for the privacy password.
```

See Also

GET /api/lunasa/snmp/users/{userid}/notifications/{notificationid}

4.33 Lunasa

This section describes the response objects for the lunasa resources.

- Lunasa
- Lunasa Actions
- Time

4.33.1 Lunasa

Lunasa

```
Object

    version: Object
        type: string
        description:  The current version of the appliance.

    forceSoLogin: Object
        type: boolean
        description:  Specifies whether the forceSoLogin flag is enabled, the flag is
                      used to force security officer credentials on actions that would
                      otherwise not be needed.

    hsms: Object
        type: string
        description:  The location for hsm info.

    syslog: Object
        type: string
        description:  The location for syslog info.

    ssh: Object
        type: string
        description:  The location for SSH info.

    network: Object
        type: string
        description:  The location for network info.

    services: Object
        type: string
        description:  The location for service info.

    ntp: Object
        type: string
        description:  The location for ntp info.

    actions: Object
        type: string
        description:  The location for appliance actions.

    time: Object
        type: string
        description:  The location for appliance time.

    ssh: Object
        type: string
        description:  The location for appliance ssh.

    sensors: Object
        type: string
        description:  The location for appliance sensors.
```

See Also

GET /api/lunasa/hsms
GET /api/lunasa/syslog
GET /api/lunasa/network
GET /api/lunasa/services
GET /api/lunasa/ntp
GET /api/lunasa/time
GET /api/lunasa/ssh
GET /api/lunasa/sensors
POST /api/lunasa/actions

4.33.2 Lunasa Actions

Lunasa Actions

```
Object
    actions: Object
    type:  array
        items: Object

            id: Object
                type:  string
                description:  id is an internal reference for the action.
                              Use this identifier to complete the action with a POST.
                              Valid actions are:
                                 reboot - reboots the appliance.
                                 regenerateCertificate - regenerates the appliance certificate
            url: Object
                type:  string
                description:  url is the location of the action.
```

See Also

POST /api/lunasa/actions/{actionid}

4.33.3 Time

Time

```
Object
    time: Object
        type: string
        description: Time represented in HH:MM:SS.
    date: Object
        type: string
        description: Date represented in YYYY-MM-DD.
    timeZone: Object
        type: string
        description: time zone information. Please refer to SafeNet Network HSM documentation for details.
```

See Also

GET /api/lunasa/time
PUT /api/lunasa/time
PATCH /api/lunasa/time

4.34 SSH

This section describes the response objects for the SSH resources.

- SSH
- SSH Actions

4.34.1 SSH

SSH

```
Object
    actions: Object
            type:  string
            description:  url containing the resource for listing SSH actions.

    isPasswordAuthenticationEnabled: Object
        type: boolean
        description:  flag to enable password authentication.

    isKeyAuthenticationEnabled: Object
        type: boolean
        description:  flag to enable public key authentication.

    port: Object
        type: integer
        description:  specifies the SSH server port

    networkDevices: Object
            type:  array
                items: Object
                        NetworkDevice: Object
                                type:  string
                      description:  list of network devices to use for the SSH server.
```

See Also

GET /api/lunasa/ssh

4.34.2 SSH Actions

SSH Actions

```
Object
    actions: Object
    type:  array
        items: Object

            id: Object
                type:  string
                description:  id is an internal reference for the action.
                              Use this identifier to complete the action with a POST.
                              Valid actions are:
                                 keyRegenerate - Regenerate SSH server keys.
            url: Object
                type:  string
                description:  url is the location of the action.
```

See Also

POST /api/lunasa/ssh/actions/{actionid}

4.35 Sensor

This section describes the response objects for the Sensor resources.

- Sensor
- Sensors

4.35.1 Sensor

Sensor

```
Object
    id: Object
        type: string
        description: This member represents the id of the sensor.
    type: Object
        type: string
        description: This member represents the type of the sensor. i.e. "Power Supply", "Voltage", "Temperatu
    unit: Object
        type: string
        description: This member represents the unit the sensor is read in. i.e. "Present", "Volts", "degree C
    variance: Object
        type: number
        description: This member represents the accuracy of the sensor (+/-).
    value: Object
        type: number
        description: This member represents the value of the sensor reading.
    lowerNonRecoverable: Object
        type: number
        description: This member represents the lower limit of non recoverable values. (traps/warnings/errors)
    lowerNonCritical: Object
        type: number
        description: This member represents the lower limit of non critical values. (traps/warnings/errors)
    lowerCritical: Object
        type: number
        description: This member represents the lower limit of critical values. (traps/warnings/errors)
    upperNonRecoverable: Object
        type: number
        description: This member represents the upper limit of non recoverable values. (traps/warnings/errors)
    upperNonCritical: Object
        type: number
        description: This member represents the upper limit of non critical values. (traps/warnings/errors)
    upperCritical: Object
        type: number
        description: This member represents the upper limit of critical values. (traps/warnings/errors)
```

See Also

GET /api/lunasa/sensor/{sensorid}

4.35.2 Sensors

Sensors

```
Object
        sensors: Object
        type:  array
                items: Object

                        id: Object
                                type:  string
                                description: This member represents the id of the sensor.
                        url: Object
                                type:  string
                                description: This member represents the corresponding url.
```

See Also

GET /api/lunasa/sensors

4.36 NTLS

This section describes the NTLS resources of the REST API.

- NTLS
- Clients
- Client
- Link
- Links

4.36.1 NTLS

NTLS

```
Object
    clients: Object
        type:  string
        description:  clients is a path to a list of NTLS clients.
    certificate: Object
        type:  string
        description:  certificate is a path to a NTLS certificate object.
```

4.36.2 Clients

List of Clients Registered with Appliance

```
Array
    clientID: Object
        type: string
        description:  clientID is a unique identifier to reference the clientID
                      on the appliance.
```

`url:  string (see GET /api/lunasa/ntls/clients/{clientid})`

4.36.3 Client

Client

```
Object
    htlRequired: Object
        type:  boolean
        description:  htlRequired indicates whether a client is configured to
                      use the host trust link service.  FALSE means that the
                      client is not configured for HTL.  TRUE means that the
                      client must authenticate with the HTL service.

    clientID: Object
        type:  string
        description:  clientID is a unique internal reference for the client.

    links: Object
        type:  string
        description:  links is the URL to the list of partitions assigned
                      to the client.

                         see GET /api/lunasa/ntls/clients/{clientid}/partitions


    hostname: Object
        type:  string
        description:  hostname is the client computer or IP address registered
                      with the appliance.
```

4.36.4 Link

Link

```
Object
    type: Object
        type:  string
        description:  type is a object type linked in the url attribute.
    url: Object
        type:  string
        description:  url is a path to a linked object.


url:  string (see GET /api/lunasa/ntls/clients/{clientid}/links)
```

4.36.5 Links

Links

```
Object
    links: Object
    type:  array
        items: Object
            id: Object
                type:  string
                description:  id is a unique internal reference for the link.
                              Use this identifier to query for more details of the link.

            url: Object
                type:  string
                description:  url a path to the link object.


url:  string (see GET /api/lunasa/ntls/clients/{clientid}/links)
```

Chapter 5

LunaSH Cross Reference

The REST API is a new method to administer the SafeNet Network HSM appliance. For years, the only way to administer SafeNet Network HSM was through a shell interface (SSH). The shell is Luna Shell – LunaSH for short. SafeNet Network HSM continues to support LunaSH along with the REST API. Long-standing customers familiar with LunaSH may want to migrate to the REST API. A set of cross reference tables summarize the mapping between LunaSH commands and REST API resources.

NOTE: What LunaSH presents in "show" and other status commands may not match the information obtained via the REST API. The principal reason for the variance is the use of different utilities on the appliance. Therefore, as a general rule, rely on one of either LunaSH or the REST API to administer the appliance. If you use both, the information reported may not be consistent between the two facilities. For example, you will see the following flags show up in LunaSH output after initializing a PSO partition via the REST API.

```
  Partition SO PIN to be Changed
  Partition SO Challenged to be Changed

Before partition initialization:
[myLuna] lunash:>partition show
Partition Name: John2
Partition SN: 894069516
Partition Label:
Partition SO is not initialized.
Crypto Officer is not initialized.
Crypto User is not initialized.
Legacy Domain Has Been Set: no
Partition Storage Information (Bytes): Total=20480, Used=0, Free=20480
Partition Object Count: 0

After partition initialization via the REST API:
[myLuna] lunash:>partition show
Partition Name: John2
Partition SN: 894069516
Partition Label: Johnny2
Partition SO PIN To Be Changed: no
Partition SO Challenge To Be Changed: no
Partition SO Zeroized: no
Partition SO Login Attempts Left: 10
Crypto Officer is not initialized.
Crypto User is not initialized.
Legacy Domain Has Been Set: no
Partition Storage Information (Bytes): Total=20480, Used=0, Free=20480
Partition Object Count: 0
```

They have no meaning for the PSO role. Because the utility that manages roles for the REST API changes flags that LunaSH does not manage, these new flags appear in the LunaSH output.

Refer to the following cross reference tables for the mapping between LunaSH and REST API resources.

- "client" LunaSH Commands Cross Reference

5.1 "client" LunaSH Commands Cross Reference

"client" LunaSH Commands Cross Reference to REST API

Lush Command	REST API	Notes
client assignPartition	POST /api/lunasa/services/ntls/clients/{clientid}/partitions	
client delete	DELETE /api/lunasa/services/ntls/clients/{clientid}	
client list	GET /api/lunasa/services/ntls/clients	
client register	POST /api/lunasa/services/ntls/clients	
client revokePartition	POST DELETE /api/lunasa/services/ntls/clients/{clientid}/partitions/{partitionid}	
client show	GET /api/lunasa/services/ntls/clients/{clientid}	

5.2 "hsm" LunaSH Commands Cross Reference

"hsm" LunaSH Commands Cross Reference to REST API

Lush Command	REST API	Notes
hsm backup	POST /api/lunasa/hsms/{hsmid}/backup	
hsm changePolicy	PUT /api/lunasa/hsms/{hsmid}/policies/{policyid}	
hsm displayLicenses	GET /api/lunasa/hsms/{hsmid}/licenses	
hsm factoryReset, hsm selfTest, hsm zeroize	GET /api/lunasa/hsms/{hsmid}/actions/{actionid}	actionid = “factoryReset”, “selfTest”, "zeroize"
hsm initialize	PUT /api/lunasa/hsms/{hsmid}	
hsm firmware show	GET /api/lunasa/hsms/{hsmid}/updates/firmware	
hsm firmware rollback, hsm firmware upgrade	POST /api/lunasa/hsms/{hsmid}/firmware/actions/{actionid}	actionid = “upgrade”, “rollback”
hsm information reset	POST /api/lunasa/hsms/{hsmid}/counters/reset	
hsm information show	GET /api/lunasa/hsms/{hsmid}/counters	
hsm login	POST /api/lunasa/hsms/{hsmid}/login	
hsm logout	DELETE /api/lunasa/hsms/{hsmid}/logout	
hsm ped connect, hsm ped disconnect, hsm ped vector init, hsm ped vector erase	POST /api/lunasa/hsms/{hsmid}/peds/{pedid}/actions/{actionid}	actionid = “connect”, “disconnect”, “vectorInit”, “vectorErase”

Lush Command	REST API	Notes
hsm ped show	GET /api/lunasa/hsms/{hsmid}/peds/{pedid}	
hsm remote login	POST /api/lunasa/hsms/{hsmid}/remote↩ HSMLogin/login	
hsm restore	POST /api/lunasa/hsms/{hsmid}/restore	
hsm setLegacyDomain	POST /api/lunasa/hsms/{hsmid}/set↩ LegacyDomain	
hsm show	GET /api/lunasa/hsms/{hsmid}	
hsm showPolicies	GET /api/lunasa/hsms/{hsmid}/policies	
hsm update show	GET /api/lunasa/hsms/{hsmid}/updates/capabilities	

5.3 "ntls" LunaSH Commands Cross Reference

"ntls" LunaSH Commands Cross Reference to REST API

Lush Command	REST API	Notes
ntls show	GET /api/lunasa/ntls	

5.4 "partition" LunaSH Commands Cross Reference

"partition" LunaSH Commands Cross Reference to REST API

Lush Command	REST API	Notes
partition create	POST /api/lunasa/hsms/{hsmid}/partitions	
partition resize	PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/storageSpace	
partition createuser	PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}	
partition list	GET /api/lunasa/hsms/{hsmid}/partitions	
partition show	GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}	
partition showContents	GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects	
partition showPolicies	GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies	
partition changePolicy	PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}	
partition changePw	PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/[roleid]	
partition resetPw	POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/[roleid]/actions/reset	
partition delete	DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}	
partition clear	DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects	

5.5 "partition sff" LunaSH Commands Cross Reference

"partition sff" LunaSH Commands Cross Reference to REST API

Lush Command	REST API	Notes
partition sff backup, partition sff restore	POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/actions/{actionid}	action = "backup", "restore"
partition sff list	GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff	
partition sff showContents	GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects	

5.6 "service" LunaSH Commands Cross Reference

"service" LunaSH Commands Cross Reference to REST API

Lush Command	REST API	Notes
service start <serviceid>	POST /api/lunasa/service/start/{serviceid}/actions/start	"serviceid" = "cbs", "htl", ... "webserver"
service stop <serviceid>	POST /api/lunasa/service/stop/{serviceid}/actions/stop	see above
service restart <serviceid>	POST /api/lunasa/service/restart/{serviceid}/actions/restart	see above
service status <serviceid>	GET /api/lunasa/service/{serviceid}	see above

5.7 "stc" LunaSH Commands Cross Reference

"stc" LunaSH Commands Cross Reference to REST API

Lush Command	REST API	Notes
stc client deregister	DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/{clientid}	
stc client list	GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients	
stc client register	POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/{clientid}	
stc partition show, stc partition export	GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc	
stc activationTimeOut show, stc rekeyThreshold show, stc replayWindow show	GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc	
stc activationTimeOut set, stc rekeyThreshold set, stc replayWindow set	PUT/PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc	
stc cipher show	GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers	
stc cipher set	PUT/PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers	
stc hmac show	GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs	
stc hmac set	PUT/PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs	