RUCKUS
an ARRIS company

Cloudpath Enrollment System API User Guide, 5.5

Supporting Cloudpath Software Release 5.5

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How to Use The Cloudpath API

Overview

Cloudpath provides REST APIs to enable integration with existing processes or third-party applications. The REST APIs allow the system to actively notify external systems (outbound calls) and to be queried and manipulated by external systems (inbound calls).

Outbound: Sending Notifications to External Systems

Yo u can pass data from Cloudpath using notifications through email or URL requests. Variables are populated in the Enrollment Record and may be passed through the URL call.

Fo r example, you might want to include enrollment data in a certificate issuance notification email. In this case, the URL containing the variables is sent to the server using a simple GET request, and the HTTP reply is the result data, included as part of the email notification.

> **NOTE**
> Some API calls support POST requests. If supported, POST is listed in the parameters.

Format for Variables

Variables in Cloudpath are in the following format: ${MAC_ADDRESS}, ${USERNAME},or

${IP_ADDRESS}. See the Enrollment Variables section on the Enrollment Record page to view available variables, variable syntax, and expected values.

The variables are passed through a URL as in this example: http://test.company.net/ registration?user=${USERNAME}&mac=$ {MAC_ADDRESS}. The result from this example would be the username and device MAC address sent within the notification.

Only variables which are populated at the time of the notification event are sent. MAC addresses and other variables may be populated through events other than onboarding, such as data prompts.

> **NOTE**
> We recommend that you use URL requests for large amounts of data. Send the enrollment GUID value in the REST URL and then query the Cloudpath system for the enrollment record.

Inbound: Querying Cloudpath

You can retrieve information from Cloudpath through a REST type API query and perform an action, based on the result data. For example, you might use an API query to block a user or revoke a certificate.

The API query, containing the identifier information and appropriate action, is sent to the server and the objects are returned in either JSON or XML.

The RESTAPI call is structured as follows:

http://test.company.net/adm in/api/zAdBCLcgrwca/enrollment/IdentityCN/bob/get

- **http ://test.company.net/admin** = HTTP authentication
- **api** = API entry point
- **zAdBCLcgrwca** = API key

- **enrollment** = realm
- **IdentityCN** = Identity type
- **bob** = Identity value
- **get** = Action

Each realm allows a different set of identity information. See the appropriate sections in API Examples for the list of valid identity types.

Creating an API Key

For Cloudpath to honor inbound requests from external systems, the external system must authenticate using an API key. The API key is part of the REST API query used to retrieve information from the Cloudpath system. To create an API Key, perform the following steps:

1. Go to **Configuration** > **API Keys** .
2. Click **API Keys**

FIGURE 1 Create API Key

Cloudpath provides a generated **APIKey**, or you can specify a custom key. An API key must be URL-safe.

The **Allowed Path Regex** is a regex specifying the paths allowed to be called with this API key. For example,/admin/api/.*/ certificate/.* can query anything in the 'certificate' realm. If left blank, there is no restriction.

For the **Expiration Date**, the Cloudpath system defaults to a one-year expiration, but this value can be modified.

API Examples

This section provides some common API queries for use with Cloudpath.

Enrollment Queries and Actions

When specifying which enrollment should be queried or manipulated by a request, the enrollments can be specified in various formats, such as *Pk*, *Guid*, *MACAddress*, *Username*, *AssistanceId*, and *Email*.Many of the requests contain a section similar to *Username/bob*, meaning any environment where the *username* is *bob*.

Retrieve Enrollment Data

Returns data for the specified enrollment.

Resource URIs

URI	Description
/admin/api/{API_KEY}/enrollment/{IDENTITY_TYPE}/{IDENTITY_VALUE}/get	Get enrollment data

Example

http://test.company.net/admin/api/zAdBCLcgrwca/enrollment/Username/bob/get

Revoke/Unrevoke Enrollment

Revoke (or unrevoke) the specified enrollment.

Resource URIs

URI	Description
/admin/api/{API_KEY}/enrollment/{IDENTITY_TYPE}/{IDENTITY_VALUE}/revoke	Revoke enrollment
/admin/api/{API_KEY}/enrollment/{IDENTITY_TYPE}/{IDENTITY_VALUE}/unrevoke	Unrevoke enrollment

Examples

http://test.company.net/admin/api/zAdBCLcgrwca/enrollment/Email/bob@company.net/revoke

http://test.company.net/admin/api/zAdBCLcgrwca/enrollment/MACAddress/A1:B2:C3:D4:E5:F6/unrevoke

Certificate Queries

When specifying which certificate should be queried or manipulated by a request, the certificates can be specified in various formats, such as *Pk*, *Cn*, and *Serial*.

Generate Certificate

Generates a certificate based on the CSR provided. This query supports description (optional) and CUSTOM_VARIABLES (any variable used in the certificate template).

Resource URIs

URI	Description
/admin/api/{API_KEY}/certificate/generate	Generate Certificate

GET/POST Parameters

csr
> Required

certificateTemplateName
> Required. Required. Name of certificate template in Cloudpath from which to issue.

Examples

http://test.company.net/admin/api/zAdBCLcgrwca/certificate/ generate?
csr={CSR}&certificateTemplateName=TestCompanyTemplate

Generate a P12 Certificate

Generates a certificate in P12 format, without a CSR. This query supports description (optional) and CUSTOM_VARIABLES (any variable used in the certificate template).

Resource URIs

URI	Description
/admin/api/{API_KEY}/certificate/generateP12	Generate P12 certificate

GET/POST Parameters

certificateTemplateName
> Required. Required. Name of certificate template in Cloudpath from which to issue.

password
> Required. Password to use to encrypt the P12. May be left blank if not encrypted.

validForDaysOverride
> Optional. If provided, this overrides the certificate template's validity period.

Examples

http://test.company.net/admin/api/zAdBCLcgrwca/certificate/ generateP12?
certificateTempateName=ServerTemplate&password=test

Revoke/Unrevoke Certificate

Revoke the specified certificate.

Resource URIs

URI	Description
/admin/api/{API_KEY}/certificate/{IDENTITY_TYPE}/ {IDENTITY_VALUE}/revoke	Revoke certificate
/admin/api/{API_KEY}/certificate/{IDENTITY_TYPE}/ {IDENTITY_VALUE}/unrevoke	Unrevoke certificate

Usage Guidelines

NOTE

For external CAs, the CA must support unrevoke.

Examples

http://test.company.net/admin/api/zAdBCLcgrwca/certificate/Pk/235/revoke

Unrevoke the specified certificate

http://test.company.net/admin/api/zAdBCLcgrwca/certificate/Cn/bob@company.net/unrevoke

Return Certificate Data

Returns data about the specified certificate.

Resource URIs

URI	Description
/admin/api/{API_KEY}/certificate/{IDENTITY_TYPE}/ {IDENTITY_VALUE}/get	Get certificate data

Examples

http://test.company.net/admin/api/zAdBCLcgrwca/certificate/Serial/ d8a76ccc42e6f3c5048fee0aa7d6e411841db54b/get

Revoke Certificate by Certificate Serial Number

Revokes a certificate with a specified serial number.

Resource URIs

URI	Description
/admin/api/{apiKey}/certificate/Serial/{serialNumber}/revoke	Revoke certificate by serial number

GET/POST Parameters

>*seriallNumber*
>>Required. Serial number of the certificate.

>*reason*
>>Optional. Description of why the certificate was revoked

Examples

>http://test.company.net/admin/api/zAdBCLcgrwca/certificate/Serial/ 00fde721f1bb5e45e3feb7b49e1e8728b561936b/ revoke

User Queries

When specifying which user should be queried or manipulated by a request, the user can be specified in various formats, such as IdentityCN, IdentityDN, CertificateCN, CertificateSerial, and Email. Many of the requests contain a section similar to Email/ bob@company.net, meaning any environment where the Email is bob@company.net.

Blocking/Unblocking User

>Blocks the specified user account, which includes revoking all associated certificates and MAC registrations, and prevents the user from enrolling again.

Resource URIs

URI	Description
/admin/api/{API_KEY}/user/{IDENTITY_TYPE}/{IDENTITY_VALUE}/ block	Block user
/admin/api/{API_KEY}/user/{IDENTITY_TYPE}/{IDENTITY_VALUE}/ unblock	Unblock user

Examples

>http://test.company.net/admin/api/zAdBCLcgrwca/user/IdentityCN/bob/block

>**Unblocks the specified user account**:

>http://test.company.net/admin/api/zAdBCLcgrwca/user/CertificateCN/bob/unblock

Revoke Enrollments

>Revokes all enrollments for the user account, which includes revoking all associated certificates and MAC registrations. This does not block the user account, and allows the user to enroll again.

Resource URIs

URI	Description
/admin/api/{API_KEY}/user/{IDENTITY_TYPE}/{IDENTITY_VALUE}/ revokeAll	Revoke all enrollments

Examples

http://test.company.net/admin/api/zAdBCLcgrwca/user/Email/bob@company.net/revokeAll

Device Queries

When specifying which device should be queried or manipulated by a request, the devices can be specified by *MACAddress*. Many of the requests contain a section similar to *MACAddress*/A1:B2:C3:D4:E5:F6, meaning any environment where the device *MACAddress* is A1:B2:C3:D4:E5:F6.

Block/Unblock Device

Blocks the specified device.

Resource URIs

URI	Description
/admin/api/{API_KEY}/device/{IDENTITY_TYPE}/{IDENTITY_VALUE}/block	Block the specified device
/admin/api/{API_KEY}/device/{IDENTITY_TYPE}/{IDENTITY_VALUE}/unblock	Unblock the specified device

Examples

http://test.company.net/admin/api/zAdBCLcgrwca/device/MACAddress/A1:B2:C3:D4:E5:F6/block

Ublocks the specified device:

http://test.company.net/admin/api/zAdBCLcgrwca/device/MACAddress/A1:B2:C3:D4:E5:F6/unblock

Revoke Certificates

Revokes all certificate for the specified device.

Resource URIs

URI	Description
/admin/api/{API_KEY}/device/{IDENTITY_TYPE}/{IDENTITY_VALUE}/revokeAll	Revoke all certificate fora device

Examples

http://test.company.net/admin/api/zAdBCLcgrwca/device/MACAddress/A1:B2:C3:D4:E5:F6/revokeAll

Register MAC address

Registers the MAC address for the specified device to a specified MAC Registration list.

Resource URIs

URI	Description
/admin/api/{API_KEY}/device/registerMac	Register MAC Address

GET/POST Parameters

macRegistrationName

Required. The name of the MAC registration list.

macAddress

Required. The MAC address to register.

username

Optional. If specified, this value is saved as the associated username.

email

Optional. If specified, this value is saved as the associated email.

deviceName

Optional. If specified, this value is saved as the device name.

location

Optional. If specified, this value is saved as the location.

expirationDate

Optional. If specified, this value overrides the default expiration date.

Usage Guidelines

NOTE

The expiration Date must be entered using the UNIX time format (yyyymmdd), regardless of the date format of the system.

Examples

http://test.company.net/admin/api/zAdBCLcgrwca/device/registerMac?
macRegistrationName=MacRegList1&macAddress=A1:B2:C3:D4:E5:F6

Device Configuration Queries and Actions

Generate Mobileconfig File

Generates a signed mobileconfig file containing a certificate and device configuration. This query supports the optional parameters for validForDaysOverride and description, and CUSTOM_VARIABLES (any variable used in the certificate template must also be provided as a parameter).

Resource URIs

URI	Description
/admin/api/{API_KEY}/deviceConfig/generateMobileconfig	Generate Mobileconfig file

GET/POST Parameters

deviceConfigName
> Required. Name of the device configuration in Cloudpath from which to use.

certificateTemplateName
> Required. Name of certificate template in Cloudpath from which to issue.

validForDaysOverride
> Optional. If not zero, this overrides the expiration date specified in the certificate template.

Examples

http://test.company.net/admin/api/zAdBCLcgrwca/deviceConfig/generateMobileconfig?
deviceConfigName=SecureNetwork1&certificateTemplateName=CertTemplat e1

External Queries

Certain external queries (**checkCapability** and **authorizeDevice**) require the location URL name, which is specified in the URL Name field on the **Configuration** > **Workflows** Properties tab.

FIGURE 2 Location URL Name

The examples in this section use Production for the locationUrlName.

Device Capabilities Query

Queries the capabilities of a device based on the user agent and device configuration. An HS2R1 or HS2R2 response value is returned only if the HS2R1/HS2R2 SSID Type has been set for the device configuration.

Resource URIs

URI	Description
/admin/api/{apiKey}/external/{locationUrlName}/checkCapability	Queries device capability

GET/POST Parameters

userAgent

   Required. A string representing the user agent of a device.

screenHeight

   Optional. Necessary to exclude iPhone 4s and iPad 2 and earlier devices from hotspot 2 support.

screenWidth

   Optional. Necessary to exclude iPhone 4s and iPad 2 and earlier devices from hotspot 2 support.

Examples

http://test.company.net/admin/api/zAdBCLcgrwca/external/Production/checkCapability?userAgent=Mozilla%2F5.0%20(iPad%3B%20CPU%20OS%208_3%20like%20Mac%20OS%20X)%20AppleWebKit%2F537.51.1%20(KHTML%2C%20like%20Gecko)%20CriOS%2F30.0.1599.12%20Mobile%2F11A465%20Safari%2F8536.25%20

Device Authorization

Authorizes a device using the customer account number and optional parameters

Resource URIs

URI	Description
/admin/api/{apiKey}/external/{locationUrlName}/authorizeDevice	Authorize a device

GET/POST Parameters

externalId

   Requirred. A string representing the customer account number. This can be up to 14 characters.

macAddress

   Optional. The device MAC address, formatted as aa:bb:cc:dd:ee:ff.

userAgent

   Optional. A string representing the user agent of a device.

username

   Optional. Username of the device.

screenHeight

   Optional. Necessary to exclude iPhone 4s and iPad 2 and earlier devices from hotspot 2 support.

screenWidth

>Optional. Necessary to exclude iPhone 4s and iPad 2 and earlier devices fromhotspot 2 support.

Usage Guidelines

>**NOTE**
>The *userAgent* parameter is optional. However, if the user agent is not part of the enrollment record, other API calls may not return the correct OS family.

Optional parameters, if specified, are set in the device record.

Examples

http://test.company.net/admin/api/zAdBCLcgrwca/external/Production/authorizeDevice?
externalId=123456789012&macAddress=aa:bb:cc:dd:ee:ff&username=bob&userAgent=Mozilla%2F5.0%20(iPad%3B
%20CPU%20OS%208_3%20like%20Mac%20OS%20X)%20AppleWeb Kit%2F537.51.1%20(KHTML%2C%20like%20Gecko)
%20CriOS%2F30.0.1599.12%20Mobile%2F11A46 5%20Safari%2F8536.25%20

Change MAC Address

Changes the MAC address for an enrollment record.

Resource URIs

URI	Description
/admin/api/{apiKey}/external/changeMac	Change MAC address for enrolment record

GET/POST Parameters

externalId

>Required. A string representing the customer account number. This can be up to 14characters

oldMacAddress

>Required. The MAC address currently populated in the enrollment record, formatted as aa:bb:cc:dd:ee:ff.

newMacAddress

>Required. The new MAC address to be set in the enrollment record, formatted as aa:bb:cc:dd:ff.

Examples

http://test.company.net/admin/api/zAdBCLcgrwca/external/ changeMac?
externalId=123456789012&oldMacAddress=aa:bb:cc:dd:ee:ff&newMacAddress=11:22:3 3:44:55:66

Get Device Information by Certificate Serial Number

Queries the customer account number and MAC address associated with a certificate serial number. The associated information is returned regardless of revocation status.

Resource URIs

URI	Description
/admin/api/{apiKey}/external/getDeviceBySerialNumber	Get device information by serial number

GET/POST Parameters

certificateSerialNumber
> Required. The serial number of the client certificate to query, formatted 00fde721f1bb5e45e3feb7b49e1e8728b561936b. The serial number must be exactly 40 characters. If less than 40 characters, the value must be left-padded with zeros.

Examples

http://test.company.net/admin/api/zAdBCLcgrwca/external/getDeviceBySerialNumber?certificateSerialNumber=00fde721f1bb5e45e3feb7b49e1e8728b561936b

Get Devices Associated with a Customer Account Number

Returns all devices associated with a customer account number.

Resource URIs

URI	Description
/admin/api/{apiKey}/external/getDevices	Get devices with customer account number

GET/POST Parameters

externalId
> Required. A string representing the customer account number. This can be up to 14 characters.

includeRevoked
> Optional. If '1', the response includes revoked enrollments and certificates. If not specified or '0', revoked enrollments and certificates are excluded from the response.

Usage Guidelines

> **NOTE**
> This call places a heavy load on the system.

Examples

http://test.company.net/admin/api/zAdBCLcgrwca/external/getDevices?externalId=123456789012

Get Device Information by MAC Address and Customer Account Number

Returns the data associated with a customer account number and specified MAC address.

Resource URIs

URI	Description
/admin/api/{apiKey}/external/getDeviceByMacAddress	Get device information bye MAC Address and customer account

GET/POST Parameters

externalId

> Required. A string representing the customer account number. This can be up to 14 characters.

macAddress

> Required. The device MAC address, formatted as aa:bb:cc:dd:ee:ff.

Examples

http://test.company.net/admin/api/zAdBCLcgrwca/external/
getDeviceexternalId=CustomerA&macAddress=00:bb:cc:dd:ee:ff

Revoke Certificate by MAC Address and Customer Account Number

Revokes one or more certificates associated with a customer account number and specified MAC address.

Resource URIs

URI	Description
/admin/api/{apiKey}/external/revokeByMacAndExternalId	Revoke certificate for customer account

GET/POST Parameters

externalId

> Required. A string representing the customer account number. This can be up to 14 characters.

macAddress

> Required. The device MAC address, formatted as aa:bb:cc:dd:ee:ff.

destroy

> Optional. If specified and set to '1', the enrollment record(s) are permanently deleted rather than revoked. This causes the enrollment record and all associated data (including certificates) to be permanently deleted. After deletion, the log will be the only record of the existence of the certificate. OCSP responses will be "not found".

Examples

http://test.company.net/admin/api/zAdBCLcgrwca/external/revokeByMacAndExternalId?
externalId=CustomerA&macAddress=00:bb:cc:dd:ee:ff

Clear Device Capability Cache (For Testing Only)

This method allows the cache to be flushed without restarting the server.

Resource URIs

URI	Description
/admin/api/{apiKey}/external/clearCache	Clear the cache

Usage Guidelines

NOTE

Caching occurs by a combination of the user agent and location. The only time the cache should need to be cleared is if the location's device configuration is changed.

Examples

http://test.company.net/admin/api/zAdBCLcgrwca/external/clearCache

Destroy Enrollment Records by Customer Account Number (For Testing Only)

Allows a call to destroy all elements for a specified customer account number.

Resource URIs

URI	Description
/admin/api/{apiKey}/external/destroyByExternalIdForTestingOnly	Clear customer record

GET/POST Parameters

externalId

Required. The customer account number for which all enrollments will be destroyed. If the externalId is blank, this call is ignored by the system.

Examples

http://test.company.net/admin/api/zAdBCLcgrwca/external/destroyByExternalIdForTestingOnly?externalId=CustomerA

Destroy Enrollment Records by GUID

This method allows a caller to destroy all data related to an enrollment based on the enrollment's GUID. This causes the enrollment record and all associated data (including certificates) to be permanently deleted.

Resource URIs

URI	Description
/admin/api/{apiKey}/external/destroyByEnrollmentGuid	Destroy enrollment data

GET/POST Parameters

> *guid*
>> Required. The GUID for the enrollment to be destroyed.

Usage Guidelines

>> **NOTE**
>> After deletion, the log will contain the only record of the existence of the certificate in the system. OCSP responses will be "not found".

> The system logs a message (at INFO level) containing the enrollment GUID, MAC address, external ID, certificate PK, certificate serial number, certificate thumbprint, certificate expiration date, MAC registration PK, and the MAC registration expiration date. If permanent storage is desired, use the syslog.

Examples

> http://test.company.net/admin/api/zAdBCLcgrwca/external/destroyByEnrollmentGuid?guid=xyz

External DPSK (eDPSK) Actions and Queries

There are a number of APIs you can use to create eDPSK pools, create pre-shared keys within those pools, lookup pair-master keys in pools, and other actions.

Create eDPSK Pool

Creates an eDPSK pool from which DSPKs can be generated for devices connecting to external DSPK WLANs. These pools can also be used in an eDPSK enrollment workflow.

Resource URIs

URI	Description
/admin/api/$EDPSK_API_KEY/dpsk/create?	Creates an eDPSK pool.

GET/POST Parameters

>> **NOTE**
>> For any parameters that are not specified in the API call, the default values for these parameters will be used.

name
> Required. This value will be set as the name of the eDPSK pool.

description
> Optional. If specified, this value will be set as the description of the eDPSK pool.

enabled
> Optional. The value is true, by default, which means that the eDPSK pool is available for use.

defaultLength
> Optional. If specified, this is the default number of characters of a new passphrase in the eDPSK pool. If not specified, this value will be the default of 12.

randomCharactersType

Characters to allow in the DPSK can be one of the following (if not specified, the default value of alphabetic (lowercase)is used).

- ALPHANUMERIC_UPPER
- ALPHANUMERIC_LOWER
- ALPHANUMERIC_MIXED
- ALPHABETIC_UPPER
- ALPHABETIC_LOWER
- ALPHABETIC_MIXED
- NUMERIC
- ASCII

ssids

A required semi-colon separated list of SSID(s) that this pool will be utilized on. These are literal SSID names; no wildcards or regexes are allowed.

enforceExpirationDate

Boolean value. If *true*, newly generated DPSKs are assigned an expiration date that is based on the creation date and the defined offset. The default value is *false*.

expirationDateType

If you set the value of **enforceExpirationDate** to *true*, you can specify the **expirationDateType**to be any of the following:

- SPECIFIED_DATE (in the format of: yyyymmdd)
- MINUTES_AFTER_TIME
- HOURS_AFTER_TIME
- DAYS_AFTER_TIME
- WEEKS_AFTER_TIME
- MONTHS_AFTER_TIME
- QUARTERS_AFTER_TIME
- YEARS_AFTER_TIME
- END_OF_HOUR
- END_OF_DAY
- END_OF_WEEK
- END_OF_MONTH
- END_OF_QUARTER
- END_OF_HALF
- END_OF_YEAR

The default is END_OF_MONTH. The time periods are all relative to the time the DPSK gets issued (regardless of when it is first used).

expirationDateValue

If you are using one of the "...AFTER_TIME" parameters for **expirationDateType**, you can specify a corresponding value. The default is 1.

enforceDeviceCountLimit

> Boolean value. If *true* (default is *false*), each DPSK is assigned a maximum device count as specified in the deviceCountLimit parameter. If *false*, an unlimited number of devices can utilize the DPSK.

deviceCountLimit

> If you set the **enforceDeviceCountLimit** parameter to *true*, you can specify the number of devices that are allowed to utilize the DPSK you are creating. The default is 1.

vlanid

> This is optional. If not specified, the device receives the default vlan configured on the controller.

classid

> This is optional. If not specified, the device is not assigned a class id.

filterid

> This is optional. If not specified, the device is not assigned a filter id..

sessionTimeout

> The reauthentication period, in seconds, included in the RADIUS reply for successful authentications. If the device stays connected for longer than this period, the WLAN or switch will require that the device (invisibly to the user) be reauthenticated. If not specified, sessionTimeout is not applied, which means that the device is not required to reauthenticate as long as it remains associated.

Examples

The following example shows an HTTPS GET request to create an eDPSK pool in the Cloudpath system ray198.cloudpath.net:

```
https://ray198.cloudpath.net/admin/api/EDPSKAPI/dpsk/create?
name=Ray10&description=Ray14&enabled=true&defaultLength=48&randomCharactersType=ALPHANUMERIC_MIXED&ssids=ssi
d1;ssid2&enforceExpirationDate=true&expirationDateType=END_OF_HALF&expirationDateValue=7&enforceDeviceCountL
imit=true&deviceCountLimit=9&vlanId=100&classId=myClassid&filterId=myFilterId&sessionTimeout=88
```

Response Body

```
{
    "successful": true,
    "dpskPoolPk": 78,
    "dpskPoolName": "Ray10",
    "dpskPoolGuid": "AccountDpskPool-B4270DFC-D029-420B-93BD-7826F626A973",
    "millis": 59
}
```

Create PSK Within an eDPSK Pool

Creates pre-shared keys within an existing eDPSK pool for devices connecting to external DSPK WLANs.

Resource URIs

URI	Description
/admin/api/$EDPSK_API_KEY/dpsk/$dpskPoolGuid/create?	Creates a PSK within the specified pool. The $dpskPoolGuid value comes from the response of a Create eDPSK Pool request.

Parameters

dpsk

Optional. If specified, this is the dpsk/passphrase that will be utilized for this new DPSK record. If not specified, the dpsk/passphrase is automatically generated using the parameters specified in the pool (default length, character types).

externalName

The reference name of the item. This is only visible to administrators.

externalId

External name of the DPSK.

ssids

If specified, this further restricts the SSIDs on which the DPSK can be used. This value must be a subset of the eDPSK Pool's SSIDs. If not specified, the DPSK can be used on any SSID contained in the eDPSK pool's "ssids" field.

expirationDate

The DPSK (and the devices registered to it) will no longer be usable after the date specified. Use the following format to specify date: yyyyMMdd

expirationDateTime

The DPSK (and the devices registered to it) will no longer be usable after the date and time specified. Use the following format to specify date and time: yyyyMMdd HHmmss

NOTE

Both *expirationDate* and *expirationDateTime* are optional, though it is recommended to use one of these two parameters. If both are specified, only the value of expirationDateTime is used.

deviceCountLimit

If specified, this DPSK will have its own device count limit enforced independent of the eDPSK pool.

vlanId

If specified, this VLAN ID will override the VLAN ID specified within the DPSK pool.

Examples

The following example creates a PSK within the eDPSK pool whose GUID is AccountDpskPool-B00FD092-6D64-41A9-B1E4-10B88E4A3E14, and uses all available parameters:

URI

https://ray198.cloudpath.net/admin/api/EDPSKAPI/dpsk/AccountDpskPool-B00FD092-6D64-41A9-B1E4-10B88E4A3E14/create?dpsk=01234567890abcdef0123456789abcd04&externalName=ray10dpsk4&externalId=ray104&ssids=MySsid;MyOtherSsid&expirationDate=01/01/2019&deviceCountLimit=10&vlanId=20

Response Body

```
{
    "successful": true,
    "dpsk": "01234567890abcdef0123456789abcd03",
    "dpskPoolGuid": "AccountDpskPool-B00FD092-6D64-41A9-B1E4-10B88E4A3E14",
    "dpskPk": 125163,
    "dpskName": "ray10dpsk3",
    "dpskGuid": "AccountDpsk-8A838791-1E51-4102-8542-7234461417FE",
    "expirationDateEpoch": 1546326000000,
    "expirationDate": "20190101 0000 MST",
    "millis": 14
}
```

History

Release version	History
Release 5.4	This API call was introduced.

Get all available eDPSK pools

Gets all available eDPSK pools and their associated GUIDs in the Cloudpath enrollment system.

Resource URIs

URI	Description
/admin/api/$EDPSK_API_KEY/dpsk/getAll?	Gets the GUIDs of all the eDPSK pools.

Examples

The following example gets all the configured eDPSK pools and their GUIDs in the Cloudpath system ray198.cloudpath.net.

URI

https://ray198.cloudpath.net/admin/api/EDPSKAPI/dpsk/getAll?

Response Body

```
{
    "millis": 12,
    "pools": [
        {
            "pk": 65,
            "guid": "AccountDpskPool-02A25203-3D89-4ACD-937A-E333B4C1BD4F",
            "name": "Ray2"
        },
        {
            "pk": 64,
            "guid": "AccountDpskPool-077552EE-22A5-4157-AB8B-7C12A53A706E",
            "name": "Ray1"
        },
        {
            "pk": 61,
            "guid": "AccountDpskPool-37BF3DD3-2C33-4376-B1D3-8DC4FFCDE631",
            "name": "ApiDpskPool - 1545162242332"
        }
    ]
}
```

History

Release version	History
5.4	This API call was introduced.

Lookup a PMK Without Specifying the eDPSK Pool

Looks up the pairwise master key.

Resource URIs

URI	Description
/admin/api/$EDPSK_API_KEY/dpsk/lookup?	Performs a PMK lookup without a specific pool to search.

Parameters

ssid

Name of the SSID

anonce

ANonce value in the four-way Handshake process.

bssid

MAC Address of the access point

clientMacAddress

MAC address of the client

eapolKeyFrame

EAPOL Key Frame value

timeoutMillis

The lookup timeout value in milliseconds

includeTraceLog

This optional parameter can have a value of either 0 or 1. If the value is 1, the trace log for that request will be included in the response.

NOTE

This has significant impact on the performance of the system, and should only be used for troubleshooting.

Examples

The following example performs a PMK lookup, using many of the available parameters:

URI

https://ray198.cloudpath.net/admin/api/EDPSKAPI/dpsk/lookup?
ssid=mySsid&anonce=EE71DC737D5C89BFC861EEBDB9C30071B0EDFD20D2269A473719ACAAFB928622&bssid=248762
F700A8&clientMacAddress=3B04958BE31C&eapolKeyFrame=A4CB50236C02EA8FD0E89D4D2C1AA9F23853846F1DDB06
29AB72F404FBD8B2E3855EF75B4D780D262733B0B6393EDB281C5675AD5231F8E8059346462474E22FC98EB301475F7
B0BC80BE5498677C9367CD413726498F23AAC7654328743ABCF59C8408896CCBA6B9D5A93FE783A6767FBC4AFD15053
D987A0&timeoutMillis=180000&

Response Body

```
{
    "millis": 37,
    "accountName": "RayTest",
    "accountGuid": "Account-32E21B85-5D6F-4BEA-846C-F423C3980B76",
    "lookupInCache3Millis": 1,
    "lookupInDatabaseMillis": 15,
    "linearSearchForPmkMillis": 0,
    "countOfAllPotentialPmksForLinearSearch": 0,
    "countOfSleepsForMissingPmks": 0,
    "countOfIncorrectPmkForLinearSearch": 0,
    "millisInQueue": 0,
    "lookupInCache1Millis": 0,
    "lookupInCache2Millis": 2,
    "pmk": "0xB421CAF6741A898AACDECA27D72CFC0B751982F109BB36E973FA8AF46AF427B0",
    "successful": true,
    "completionPoint": "FOUND_BOUND_ENTRY_IN_DATABASE",
    "countOfPmksCheckedDuringLinearSearch": 0,
    "countOfMissingPmkForLinearSearch": 0,
    "dpskPoolName": "ApiDpskPool - 1545259174052",
    "dpskPoolGuid": "AccountDpskPool-CDCE1FB8-81F2-495D-9523-33E90BECF734",
    "dpskName": "My External Name",
    "dpskGuid": "AccountDpsk-4EFF1B67-595F-4D61-BC9A-B195F22D2C13",
    "dpskExternalId": "My External Id",
    "attributeAssignments": {}
}
```

History

Release version	History
5.4	This API call was introduced.

Lookup a PMK in a specific eDPSK pool

Looks up the pairwise master key in a specific eDPSK pool.

Resource URIs

URI	Description
/admin/api/$EDPSK_API_KEY/dpsk/$dpskPoolGuid/lookup?	Performs a PMK lookup in the pool specified by its GUID in $dpskPoolGuid. This GUID can be obtained in the response from the Create eDPSK Pool call.

Parameters

ssid

Name of the SSID

anonce

ANonce value in the four-way Handshake process.

bssid

MAC Address of the access point

clientMacAddress

MAC address of the client

eapolKeyFrame

EAPOL Key Frame value

timeoutMillis

The lookup timeout value in milliseconds

Examples

The following example looks up the PMK in the eDPSK pool whose GUID is AccountDpskPool-CDCE1FB8-81F2-495D-9523-33E90BECF734, and uses all possible parameters in the call:

URI

https://ray198.cloudpath.net/admin/api/EDPSKAPI/dpsk/AccountDpskPool-CDCE1FB8-81F2-495D-9523-33E90BECF734/lookup?
ssid=mySsid&anonce=EE71DC737D5C89BFC861EEBDB9C30071B0EDFD20D2269A473719ACAAFB928622&bssid=248762
F700A8&clientMacAddress=3B04958BE31C&eapolKeyFrame=A4CB50236C02EA8FD0E89D4D2C1AA9F23853846F1DDB06
29AB72F404FBD8B2E3855EF75B4D780D262733B0B6393EDB281C5675AD5231F8E8059346462474E22FC98EB301475F7
B0BC80BE5498677C9367CD413726498F23AAC7654328743ABCF59C8408896CCBA6B9D5A93FE783A6767FBC4AFD15053
D987A0&timeoutMillis=180000&

Response Body

```
{
    "millis": 0,
    "accountName": "RayTest",
    "accountGuid": "Account-32E21B85-5D6F-4BEA-846C-F423C3980B76",
    "lookupInCache3Millis": 0,
    "lookupInDatabaseMillis": 0,
    "linearSearchForPmkMillis": 0,
    "countOfAllPotentialPmksForLinearSearch": 0,
    "countOfSleepsForMissingPmks": 0,
    "countOfIncorrectPmkForLinearSearch": 0,
    "millisInQueue": 0,
    "lookupInCache1Millis": 0,
    "lookupInCache2Millis": 0,
    "pmk": "0xB421CAF6741A898AACDECA27D72CFC0B751982F109BB36E973FA8AF46AF427B0",
    "successful": true,
    "completionPoint": "FOUND_PMK_IN_CACHE",
    "countOfPmksCheckedDuringLinearSearch": 0,
    "countOfMissingPmkForLinearSearch": 0,
    "dpskPoolName": "ApiDpskPool - 1545259174052",
    "dpskPoolGuid": "AccountDpskPool-CDCE1FB8-81F2-495D-9523-33E90BECF734",
    "dpskName": "My External Name",
    "dpskGuid": "AccountDpsk-4EFF1B67-595F-4D61-BC9A-B195F22D2C13",
    "dpskExternalId": "My External Id",
    "attributeAssignments": {}
}
```

History

Release version	History
5.4	This API call was introduced.

Delete a Specific DPSK Pool

Deletes an eDPSK pool specified by its GUID.

Resource URIs

URI	Description
/admin/api/$EDPSK_API_KEY/dpsk/$dpskPoolGuid/destroy	Deletes the pool whose value is provided in $dpskPoolGuid. The GUID can be obtained from the response in the Create eDPSK Pool call.

Examples

The following example deletes the eDPSK pool whose GUID is AccountDpskPool-02A25203-3D89-4ACD-937A-E333B4C1BD4F. The DSPKs belonging to the pool are also deleted from the system.

URI

https://ray198.cloudpath.net/admin/api/EDPSKAPI/dpsk/AccountDpskPool-02A25203-3D89-4ACD-937A-E333B4C1BD4F/destroy

Response Body

```
{
    "millis": 29,
    "successful": true
}
```

History

Release version	History
5.4	This API call was introduced.

Flush eDSPK Lookups from Cache

Flushes all of the previously successful DPSK lookups from the cache table.

Resource URIs

URI	Description
/admin/api/$EDPSK_API_KEY/dpsk/flushcache	Flushes all of the previously successful DPSK lookups from the cache table of the Cloudpath system.

Examples

The following example flushes all of the previously successful DPSK lookups from the cache table of the Cloudpath system ray198.cloudpath.net.

URI

https://ray198.cloudpath.net/admin/api/EDPSKAPI/dpsk/flushcache

Response Body

```
{
    "millis": 14619,
    "successful": true
}
```

History

Release version	History
5.4	This API call was introduced.

Modifying Settings in Cloudpath

Settings can be manipulated using REST APIs. When specifying which setting should be manipulated by a request, specify the OBJECT_GUID for passphrase information, and the desired parameter for voucher information. See the appropriate Parameters section for details.

Return Passphrase Information

Returns information about the specified shared passphrase.

Resource URIs

URI	Description
/admin/api/{API_KEY}/object/ss/{OBJECT_GUID}/get	Get passphrase information

Examples

> http://test.company.net/admin/api/zAdBCLcgrwca/object/ss/SharedSecretPrompt-FC1C020C-6A62-4581-B661-18ED883831C2/get

Return Passphrase String

Returns only the shared passphrase string for a shared passphrase.

Resource URIs

URI	Description
/admin/api/{API_KEY}/object/ss/{OBJECT_GUID}/get/ss	Get shared passphrase string

Examples

> http://test.company.net/admin/api/zAdBCLcgrwca/object/ss/SharedSecretPrompt-FC1C020C-6A62-4581-B661-18ED883831C2/get/ss

Change Passphrase

Changes the shared passphrase.

Resource URIs

URI	Description
/admin/api/{API_KEY}/object/ss/{OBJECT_GUID}/change	Change passphrase

GET/POST Parameters

newSs

> Optional. If specified, this value is used as the new shared passphrase. If not specified, a random shared passphrase is generated

length

> Optional. If a random shared passphrase is generated, this will be the length of it.

Examples

> http://test.company.net/admin/api/zAdBCLcgrwca/object/ss/SharedSecretPrompt-FC1C020C-6A62-4581-B661-18ED883831C2/change?newSs=brandnewpassphrase

Create Voucher Object

Sets a value in the voucher.

Resource URIs

URI	Description
/admin/api/{API_KEY}/object/otp/{OBJECT_GUID}/create	Create a voucher

GET/POST Parameters

name

Optional. If specified, this value will be set as the name in the voucher.

company

Optional. If specified, this value will be set as the company in the voucher.

email

Optional. If specified, this value will be set as the email in the voucher.

sponsor

Optional. If specified, this value will be set as the sponsor in the voucher.

accessDays

Optional. If specified, this value will be set as the number of days of access in the voucher.

sms

Optional. If specified, this value will be set as the SMS in the voucher.

otp

Optional. If specified, this value will be set as the voucher in the voucher. If not specified, a random voucher will be generated.

sendEmail

Optional. Defaults to 1. If 1, the user will be emailed the voucher code (if an email is populated).

sendSms

Optional. Defaults to 1. If 1, the user will be sent the voucher code (if an SMS is populated) via SMS.

daysToRedeem

Optional. Defaults to 3. If specified, this is the number of days within which the voucher must be redeemed.

Examples

http://test.company.net/admin/api/zAdBCLcgrwca/object/otp/xyz/ create?
name=bob&email=bob@test.com&sendEmail=1

Troubleshooting

To assist with troubleshooting, append the following to the API query.

- Append ?debug=true for diagnostics.
- Append ?format=xml for XML formatted response on GETs.

TABLE 1 Common API Error Messages

Error Code	Error Message
204	No records found matching parameters.
400	Invalid parameter or value.
401	Unauthorized.
500	Internal Server Error.