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## About HTTPS Networking

In Cisco Unity Connection 10.0(1) and later, the administrator can use the CUPI APIs for listing, viewing, creating, and deleting HTTPS Link. Administrator can use these API for performing operations on Cisco Unity Connection locations joined in the HTTPS network.

## Listing of HTTPS Links

Administrator can use this API to fetch the information related to the Cisco Unity Connection locations joined in the HTTPS network. The following is an example of the GET request that fetches the information related to the locations joined in an HTTPS network.

```
GET https://<connection-server>/vmrest/httpslinks/
```

The following is an example of response from the above \*GET\* request and the actual result will depend upon the information that has been provided by you:

```
200
ok
<?xml version="1.0" encoding="UTF-8" standalone="yes" ?>
<HttpsLinks total="1">
  <HttpsLink>
    <URI>/vmrest/httpslinks/25164390-ec93-4dac-804a-c4567618b008</URI>
    <AcceptCertificateErrors>>false</AcceptCertificateErrors>
    <AcceptSelfSignedCertificates>>true</AcceptSelfSignedCertificates>
    <BaseFeedURL>https:// qa-ks-vm-454.cisco.com/feeder</BaseFeedURL>
    <DisplayName> qa-ks-vm-454</DisplayName>
    <LastUsn>399</LastUsn>
    <MaxUsn>399</MaxUsn>
    <ObjectCount>6</ObjectCount>
    <ObjectId>25164390-ec93-4dac-804a-c4567618b008</ObjectId>
    <Status>0</Status>
    <TimeOfLastFailure>2013-01-31T21:54:21Z</TimeOfLastFailure>
    <TimeOfLastSync>2013-02-11T16:28:04Z</TimeOfLastSync>
    <UseSSL>>true</UseSSL>
    <VoiceNameSyncStatus>0</VoiceNameSyncStatus>
    <SyncDistributionLists>>false</SyncDistributionLists>
```

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```
<Deleted>false</Deleted>
<LocationBaseURLSub>https:// qa-ks-vm-483.cisco.com/feeder</ LocationBaseURLSub>
<DirectorySynchronizationRole>0</DirectorySynchronizationRole>
<WarningMode>>false</WarningMode>
</HttpsLink>
</HttpsLinks>
```

### JSON Example

To list the Unity Connection locations joined in an HTTPS network:

```
GET https://<connection-server >/vmrest/httpslinks/
Accept: application/json
Content_type: application/json
Connection: keep_alive
```

The following is the response from the above \*GET\* request and the actual response will depend upon the information given by you:

```
200
ok
{
  "@total": "1",
  "HttpsLink":
  {
    "URI": "/vmrest/httpslinks/d06ace70-645d-4763-9a46-6286ac371f1a",
    "?AcceptCertificateErrors?:?false?",
    "?AcceptSelfSignedCertificates?:?true?",
    "BaseFeedURL": "https:// qa-ks-vm-482.cisco.com/feeder",
    "DisplayName": " qa-ks-vm-482",
    "LastUsn": "114",
    "MaxUsn": "114",
    "ObjectCount": "8",
    "ObjectId": "d06ace70-645d-4763-9a46-6286ac371f1a",
    "Status": "0",
    "?TimeOfLastFailure?: ?013-01-31T21:54:21Z?",
    "?TimeOfLastSync": "2013-03-08T10:21:26Z",
    "UseSSL": "true",
    "VoiceNameSyncStatus": "0",
    "?SyncDistributionLists?:?false?",
    "Deleted": "false",
    "?LocationBaseURLSub?: ?https:// qa-ks-vm-483.cisco.com/feeder?",
    "DirectorySynchronizationRole": "0",
    "WarningMode": "false"
  }
}
```

Note: LocationBaseURLSub tag (representing the feed url of the subscriber) is displayed only if the joined Unity Connection location is a cluster.

### Explanation of Data Fields

The following chart lists the data fields:

Parameter	Data Type	Operations	Description
AcceptCertificateErrors	Boolean	Read/write	If true Cisco Unity Connection ignore any problems with the SSL certificate of the network link

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AcceptSelfSignedCertificates	Boolean	Read/Write	If true allow the remote location to use a self-signed certificate to negotiate SSL with the network link.
URI	String	Read-Only	URI of HTTPS Link
BaseFeedURL	varchar	Read-Only	Specifies the URL used by reader to fetch the information about directory and voice name.
DisplayName	nvarchar	Read/Write	Specifies the display name of the network link.
LastUsn	bigint	Read-Only	Specifies the last USN synced.
MaxUsn	bigint	Read-Only	Specifies the maximum USN received in feed response.
ObjectCount	int	Read-Only	Specifies a count of objects synchronized by the local Unity Connection location from the network link.
ObjectId	char	Read-Only	Acts as a primary key for the API. The ObjectID is a unique system-generated identifier for an HTTPS link object.
Status	smallint	Read-Only	Indicates the status of the directory synchronization with the network link.  Values can be:  <ul style="list-style-type: none"> <li>• 0-Idle</li> <li>• 1-synching</li> </ul>
TimeOfLastFailure	datetime	Read-Only	Reflects the time at which the last error had occurred while synchronizing with the network link.
TimeOfLastSync	datetime	Read-Only	Reflects the time at which the network link was last synchronized.
UseSSL	boolean	Read/Write	Controls whether or not SSL will be used when communicating with the network link.
VoiceNameSyncStatus	smallint	Read-Only	Indicates the status of voice name synchronization with the network link  Values can be:  <ul style="list-style-type: none"> <li>• 0- Idle</li> <li>• 1- Synching</li> </ul>
SyncDistributionLists	Boolean	Read/write	Allow replication of system distribution lists and their memberships.  Values can be:  <ul style="list-style-type: none"> <li>• 0- false</li> <li>• 1- true</li> </ul>

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			Note: This option cannot be disabled once enabled.
Deleted	boolean	Read-Only	Indicates whether the network link has been marked for deletion.  Values can be: <ul style="list-style-type: none"> <li>• 0- false</li> <li>• 1- true</li> </ul>
DirectorySynchronizationRole	smallint	Read-Only	Specifies the directory synchronization mode of the network link in the cluster.  Values can be: <ul style="list-style-type: none"> <li>• 0- Standard</li> <li>• 1- Alert</li> </ul>
LocationBaseURLSub	nvarchar	Read-Only	Specifies the feeder URL for subscriber machine used by reader to fetch the directory information.
WarningMode	boolean	Read-Only	Indicates whether or not the synchronization from the network is in warning mode.  Values can be: <ul style="list-style-type: none"> <li>• 0- false</li> <li>• 1- true</li> </ul>

### Viewing of HTTPS Links

Administrator can use this API to fetch the information related to a particular HTTPS link in an HTTPS network. The following is an example of the GET request that displays the details of a specific HTTPS link associated with the httpsLinkObjectid provided:

```
GET: https://<connection-server>/vmrest/httpslinks/<httpsLinkObjectid>
```

The following is an example of the response from the above \*GET\* request and the actual response will depend upon the information has been provided by you.

```
200
ok
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<HttpsLink>
  <URI>/vmrest/httpslinks/25164390-ec93-4dac-804a-c4567618b008</URI>
  <AcceptCertificateErrors>>false</AcceptCertificateErrors>
  <AcceptSelfSignedCertificates>>true</AcceptSelfSignedCertificates>
  <BaseFeedURL>https://qa-ks-vm-454.cisco.com/feeder</BaseFeedURL>
  <DisplayName>qa-ks-vm-454</DisplayName>
  <LastUsn>399</LastUsn>
  <MaxUsn>399</MaxUsn>
  <ObjectCount>6</ObjectCount>
  <ObjectId>25164390-ec93-4dac-804a-c4567618b008</ObjectId>
  <Status>0</Status>
  <TimeOfLastFailure>2013-01-31T21:54:21Z</TimeOfLastFailure>
```

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```
<TimeOfLastSync>2013-02-11T16:28:04Z</TimeOfLastSync>
<UseSSL>true</UseSSL>
<VoiceNameSyncStatus>0</VoiceNameSyncStatus>
<SyncDistributionLists>>false</SyncDistributionLists>
<Deleted>>false</Deleted>
<LocationBaseURLSub>https://qa-ks-vm-455.cisco.com/feeder</LocationBaseURLSub>
<DirectorySynchronizationRole>0</DirectorySynchronizationRole>
<WarningMode>>false</WarningMode>
</HttpsLink>
```

### JSON Example

To view a particular HTTPS link:

```
GET https://<connection-server >/vmrest/httpslinks/<httpsLinkObjectId>
Accept: application/json
Content-type: application/json
Connection: keep-alive
```

The following is the response from the above \*GET\* request and the actual response will depend upon the information given by you:

```
200
ok
{
  URI: "/vmrest/httpslinks/d06ace70-645d-4763-9a46-6286ac371f1a",
  ?AcceptCertificateErrors?:?false?,
  ?AcceptSelfSignedCertificates?:?true?,
  "BaseFeedURL": "https:// qa-ks-vm-482.cisco.com/feeder",
  "DisplayName": " qa-ks-vm-482",
  "LastUsn": "114",
  "MaxUsn": "114",
  "ObjectCount": "8",
  "ObjectId": "d06ace70-645d-4763-9a46-6286ac371f1a",
  "Status": "0",
  ?TimeOfLastFailure?: ?013-01-31T21:54:21Z?,
  "TimeOfLastSync": "2013-03-08T10:21:26Z",
  "UseSSL": "true",
  "VoiceNameSyncStatus": "0",
  ?SyncDistributionLists?:?false?,
  "Deleted": "false",
  ?LocationBaseURLSub?: ?https:// qa-ks-vm-483.cisco.com/feeder?,
  "DirectorySynchronizationRole": "0",
  "WarningMode": "false"
}
```

**Note:** LocationBaseURLSub (representing the feed URL of the subscriber) is displayed only if the joined Unity Connection location is a cluster.

### Explanation of Data Fields

The following chart lists the data fields:

Parameter	Data Type	Operations	Description
AcceptCertificateErrors	Boolean	Read/write	If true Cisco Unity Connection ignore any problems with the SSL certificate of the network link.

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AcceptSelfSignedCertificates	Boolean	Read/Write	If true allow the remote location to use a self-signed certificate to negotiate SSL with the network link.
URI	String	Read-Only	URI of HTTPS Link
BaseFeedURL	varchar	Read-Only	Specifies the URL used by reader to fetch the information about directory and voice name.
DisplayName	nvarchar	Read/Write	Specifies the display name of the network link.
LastUsn	bigint	Read-Only	Specifies the last USN synced.
MaxUsn	bigint	Read-Only	Specifies the maximum USN received in feed response.
ObjectCount	int	Read-Only	Specifies a count of objects synchronized by the local Unity Connection location from the network link.
ObjectId	char	Read-Only	Acts as a primary key for the API. The ObjectID is a unique system-generated identifier for an http(s) link object.
Status	smallint	Read-Only	Indicates the status of the directory synchronization with the network link.  Values can be: <ul style="list-style-type: none"> <li>• 0-Idle</li> <li>• 1-synching</li> </ul>
TimeOfLastFailure	datetime	Read-Only	Reflects the time at which the last error had occurred while synchronizing with the network link..
TimeOfLastSync	datetime	Read-Only	Reflects the time at which the network link was last synchronized.
UseSSL	boolean	Read/Write	Controls whether or not SSL will be used when communicating with the network link.
VoiceNameSyncStatus	smallint	Read-Only	Indicates the status of voice name synchronization with the network link  Values can be: <ul style="list-style-type: none"> <li>• 0-Idle</li> <li>• 1-Synching</li> </ul>
SyncDistributionLists	Boolean	Read/write	Allow replication of system distribution lists and their memberships.  Values can be: <ul style="list-style-type: none"> <li>• 0-false</li> <li>• 1-true</li> </ul>

			<b>Note:</b> This option cannot be disabled once enabled.
--	--	--	---

## Creating the HTTPS Link

Administrator can use this API to add a Unity Connection server to an HTTPS network. The mandatory fields for creating HTTPS link are:

- RemoteServer
- RemoteUsername
- RemotePassword

The following is an example of the POST request that joins the specified Unity Connection location with the network:

```
POST: https://<connection-server>/vmrest/httpslinks/operation/autojoin
<HttpsLink>
  <RemoteServer> qa-ks-vm-200.cisco.com</RemoteServer>
  <RemoteUsername>admin</RemoteUsername>
  <RemotePassword>ecsbulab</RemotePassword>
  <UseSSL>true</UseSSL>
  <AcceptSelfSignedCertificates>true</AcceptSelfSignedCertificates>
  <AcceptCertificateErrors>false</AcceptCertificateErrors>
  <EnableDirectorySync>true</EnableDirectorySync>
  <EnableVoicenameSync>true</EnableVoicenameSync>
</HttpsLink>
```

The following is the response from the above POST request and the actual response will depend upon the information given by you:

```
201
ResponseBody : /vmrest/httpslinks/< newHttpsLinkId>
```

### JSON example To create an HTTPS link:

```
POST: https://<connection-server>/vmrest/httpslinks/operation/autojoin
Accept: application/json
Content-type: application/json
Connection: keep-alive
```

```
{
  "RemoteServer": " qa-ks-vm-200.cisco.com ",
  "RemoteUsername": "admin",
  "RemotePassword": "ecsbulab",
  ?UseSSL?: ?true?,
  ?AcceptSelfSignedCertificates? : ?true?,
  ?AcceptCertificateErrors? : ?false?,
  ?EnableDirectorySync? : ?true?,
  ?EnableVoicenameSync? : ?true?
}
```

The following is the response from the above POST request and the actual response will depend upon

```
<pre>
201
ResponseBody : /vmrest/httpslinks/< newHttpsLinkId>
```

### Explanation of Data Fields

The following chart lists the data fields:

Parameter	Data Type	Operations	Description
RemoteServer	String	Write	IP address/Hostname/Fully-Qualified Domain Name (FQDN) of the remote location with which to establish the HTTPS link  Note: In case UseSSL option needs to be enabled, please make sure the remote SSL certificate common name (CN) matches the RemoteServer.
RemoteUsername	String	Write	Username of an administrator on the remote location
RemotePassword	String	Write	Password for the administrator of the remote location
UseSSL	Boolean [true only]	Read/Write	If true Encrypt the data passed between the locations  Note: This option cannot be set to false while joining in HTTPS network.
AcceptSelfSignedCertificates	Boolean	Read/Write	If true Allow the remote location to use a self-signed certificate to negotiate SSL with this site
AcceptCertificateErrors	Boolean	Read/Write	If true Cisco Unity Connection ignore any problems with the SSL certificate of the remote location
EnableDirectorySync	Boolean	Write	If true Enable the task to synchronize all directory information after an HTTPS link is established.
EnableVoicenameSync	Boolean	Write	If true Enable the task to synchronize all recorded names after an HTTPS link is established.

## Updating the HTTPS Link

Administrator can use this API to modify directly connected location in an HTTPS network.

The following is an example of the PUT request that modifies the HTTPS Link as represented by the `httpsLinkId`:

```
PUT: https://<connection-server>/vmrest/httpslinks/<httpsLinkId>
```

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<HttpsLink>
  <DisplayName>qa-ks-vm-454_updated</DisplayName>
  <RemoteServer>qa-ks-vm-454.cisco.com</RemoteServer>
  <UseSSL>true</UseSSL>
  <AcceptSelfSignedCertificates>true</AcceptSelfSignedCertificates>
```



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```
<AcceptCertificateErrors>true</AcceptCertificateErrors>
<SyncDistributionLists>true</SyncDistributionLists>
</HttpsLink>
```

The following is the response from the above PUT request and the actual response will depend upon the information given by you:

Response Code : 204  
No Content

### JSON example

To modify an HTTPS link

PUT: https://<connection-server>/vmrest/httpslinks/<httpsLinkObjectid>

Accept: application/json  
Content-type: application/json  
Connection: keep-alive

```
{
  "DisplayName": "qa-ks-vm-200_updated",
  "RemoteServer?: ?qa-ks-vm-200.cisco.com?,
  ?UseSSL?: ?true?,
  ?AcceptSelfSignedCertificates? : ?true?,
  ?AcceptCertificateErrors? : ?true?,
  ?SyncDistributionLists? : ?true?,
}
```

The following is the response from the above PUT request and the actual response will depend upon the information given by you:

Response Code : 204  
No Content

### Explanation of Data Fields

The following chart lists the data fields:

Parameter	Data Type	Operations	Description
DisplayName	nvarchar	Read/Write	Specifies the display name of the network link.
RemoteServer	String	Write	IP address/Hostname/Fully-Qualified Domain Name (FQDN) of the remote location with which HTTPS link is established.  Note: In case UseSSL option needs to be enabled, please make sure the remote SSL certificate common name (CN) matches the RemoteServer.
UseSSL	Boolean	Read/Write	If true Encrypt the data passed between the locations  Values can be:

			<ul style="list-style-type: none"> <li>• 0-false</li> <li>• 1-true</li> </ul>
AcceptSelfSignedCertificates	Boolean	Read/Write	<p>If true Allow the remote location to use a self-signed certificate to negotiate SSL with this site</p> <p>Values can be :</p> <ul style="list-style-type: none"> <li>• 0-false</li> <li>• 1-true</li> </ul>
AcceptCertificateErrors	Boolean	Read/Write	<p>If true Cisco Unity Connection ignore any problems with the SSL certificate of the remote location.</p> <p>Values can be :</p> <ul style="list-style-type: none"> <li>• 0-false</li> <li>• 1-true</li> </ul>
SyncDistributionLists	Boolean	Read/write	<p>Allow replication of system distribution lists and their memberships.</p> <p>Values can be:</p> <ul style="list-style-type: none"> <li>• 0-false</li> <li>• 1-true</li> </ul> <p><b>Note:</b> This option cannot be disabled once enabled.</p>

## Removing An HTTPS Location

Administrator can use the following two APIs to unjoin the directly connected Unity Connection location from an HTTPS network.

### Deleting an HTTPS Link

Administrator can use this API to unjoin a particular HTTPS Link from the network. This API marks selected HTTPS link as deleted, which is removed from the Unity Connection location after ?Remove Objects Associated With Deleted Network Location? task runs.

```
DELETE: https://<connection-server>/vmrest/httpslinks/operation/unjoin/<httpsLinkId>
```

The following is the response from the above DELETE request and the actual response will depend upon the information given by you:

```
Response Code :200
Success message
```

### JSON example To delete an http(s) link

```
DELETE: https://<connection-server>/vmrest/httpslinks/operation/unjoin/<httpsLinkId>
Accept: application/json
```

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Content-type: application/json  
Connection: keep-alive

The following is the response from the above DELETE request and the actual response will depend upon the information given by you:

Response Code :200  
Success message

### Deleting self-location from HTTPS network

Administrator can use this API to unjoin self-location from the HTTPS network. This API marks all the HTTPS links as deleted, which are removed from the Unity Connection location after ?Remove Objects Associated With Deleted Network Location? task runs.

DELETE: <https://<connection-server>/vmrest/httpslinks/operation/unjoinself>

The following is the response from the above DELETE request and the actual response will depend upon the information given by you:

Response Code : 200  
Success message

### JSON example To delete self-location from HTTPS network

DELETE: <https://<connection-server>/vmrest/httpslinks/operation/unjoinself>  
Accept: application/json  
Content-type: application/json  
Connection: keep-alive

The following is the response from the above DELETE request and the actual response will depend upon the information given by you:

Response Code :200  
Success message