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Microsoft Skype for Business Deployment Guide

Conference Resource Pools

Conference Resource Pools

Internally, the UCMA Connector for Skype for Business uses Skype for Business conference resources to manage each call, the creation of which is a resource intensive procedure. Therefore, the Connector does not delete these conference resources after each call is completed, but it will reuse them for subsequent calls until they are expired by Skype for Business (typically, in the region of 8 hours).

To improve performance and to ensure that conference resources are always available, the Connector can be configured to create and maintain a pool of ready conference resources at startup time. This will increase the time taken for the startup phase but it will guarantee that there are conference resources available for call handling, starting from the very first call.

To enable this feature, it is necessary to create a pool of Trusted Application Endpoints (TAE) in Skype for Business that will be used by the Connector to manage these pre-created conferences.

Conference Pool Management

To enable the Conference Pooling feature, follow these steps:

1. Create a pool of Trusted Application Endpoints (TAE) in Skype for Business as described in [Creating Trusted Application Endpoints for Conference Pooling](#).
2. Set the conference-pool-size option to define the number of conference resources to be created in advance.

Calculating Resources for Conference Pooling

Use the following guidelines to calculate the recommended number of TAE that must be created in Skype for Business and the number of conferences that each Connector should create in advance. To do this, we need the following 3 factors:

1. Identify the maximum number of simultaneous calls that is expected to be handled by the system (maxCalls)
2. How many Connectors will be deployed (numConn)
3. The number of Connectors that may be stopped at any time (numStopped)

Guideline value of option conference-pool-size

The guideline value of the **conference-pool-size** option can be calculated as follows:

`conference-pool-size = 1.2 * maxCalls / (numConn - numStopped)`

For example:

- There are 3 Connectors of which 1 may be stopped at any time

- The maximum number of calls expected to be handled by the system is 100

In this case, $100 / (3 - 1) = 50$. Adding 20% means the recommended **conference-pool-size** = 60. This means that under normal conditions when all 3 Connectors are operational, there will be 180 pre-created conferences in the system.

Guideline number of Trusted Applications

The number of required TAEs is related to the value of the **conference-pool-size** option. When creating conferences, the Connector will spread them among the number of available TAEs. As a guideline, it is recommended that at least 10 pre-created conferences should be available per TAE.

Number of Trusted Application Endpoints = `conference-pool-size / 10`

If the number of conferences per Trusted Application Endpoint is less than 10, there might be delays experienced during conference allocation when call volumes are high.

The number of conferences per TAE can be increased, but the consequences of a TAE failure should be considered. In this case, it will take a little time for the Connector to redistribute the required conference resources to the remaining TAEs, meaning that the total number of conferences might fall below the minimum required value for a short period of time.

Creating Trusted Application Endpoints for Conference Pooling

The Connector uses **uri-pattern** matching to identify a sequence of Trusted Application Endpoints that will be used for conference pooling. Therefore, these should be created in Skype for Business using a sequential naming pattern and defined in the Connector using the `uri-pattern` and `count` options set on the **Switch** object.

For example, if `uri-pattern=sip:conf{DD}@skype.lab` and `count=99`, then you must create 99 endpoints with names from `sip:conf01@skype.lab` to `sip:conf99@skype.lab` in Skype for Business, where numbers from 01-99 are endpoint numbers.

Managing Outbound CLI

The Connector will use these resources to initiate outbound calls from the contact center. It is not possible to determine which one will be chosen for each call, so it is advised to consider what CLID will be presented to the call destination. To do this, you must configure the following:

1. All Conference Service Application Endpoints must have a LineURI defined in the Skype For Business configuration.
2. A Calling Number Translation Rule must exist in Skype for Business to transform the Conference Resource LineURI to the desired CLID for outbound calls.

For example:

- The CLID for outbound calls should be 16504661100, which would correspond to the main Routing Point for incoming calls in the contact center.
- Three Conference Resources are configured: Conf1, Conf2, and Conf3.
- The following LineURIs for the Conference Resources are defined:

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- Conf1: LineURI=tel:16504669999;ext=01
- Conf2: LineURI=tel:16504669999;ext=02
- Conf3: LineURI=tel:16504669999;ext=03

In Skype for Business, define a Calling Number Translation Rule to transform `^16504669999$` into `16504661100` and add this to the Calling Number Translation Rules for all outbound trunks. The `ext` part of the LineURI will be ignored by the Translation Rule. Now all outbound calls that originate from the Conference Resources will arrive at the customer with the required dialable CLID `16504661100`.