IM&P Federation With Microsoft-based Organizations Skype for Business 12/28/2017

I had set this up in a lab when it was first added as a preview feature and did not document as I should have. When I went to implement for a customer, I of course had to repeat troubleshooting. I have configured this again and wanted to document, so I would not have to face this issue again. Hopefully, it will help someone else who is trying to set this up.

Software versions used in lab:

CUCM - 11.5.1.12900-21

IMP - 11.5.1.12900-25

EXP - X8.10.3

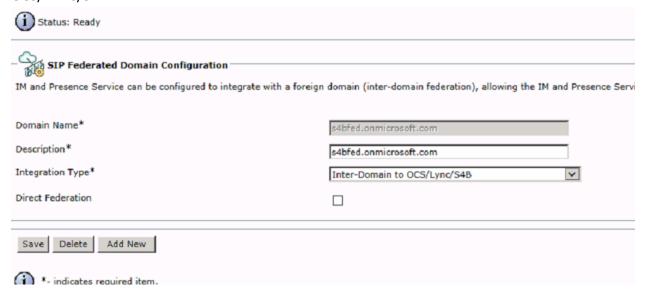
Jabber for Windows - 11.8.5

Skype for Business trial account – test domain bmarley@s4bfed.onmicrosoft.com

Steps to configure on IMP:

1. Presence > Inter-Domain Federation > SIP Federation

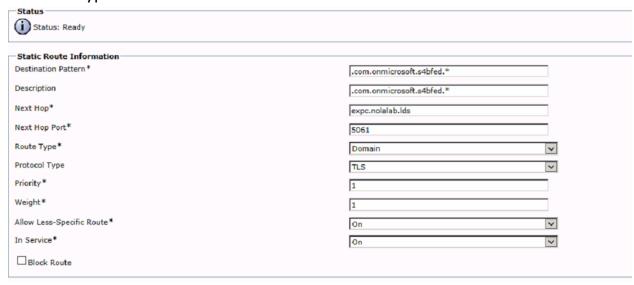
Add domain that you want to federate with integration type Inter-Domain to OCS/LYNC/S4B.



2. Presence > Routing > Static Routes

Add domain to be routed to next hop Expressway C FQDN. Port 5061 Route type – Domain

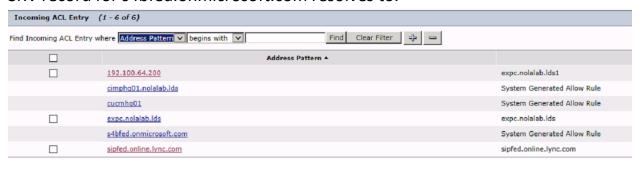
Protocol Type - TLS



3. System > Security > Incoming ACL

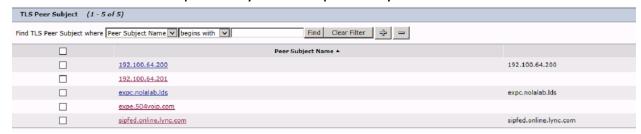
Add Expressway C FQDN and IP address – 2 entries.

I added the sipfed.online.lync.com as well. This is what the SIP federation SRV record for s4bfed.onmicrosoft.com resolves to.



4. System > Security > TLS Peer Subjects

Add IP and FQDN of Expressway C and Expressway E



5. System > Security > TLS Context Configuration

Under Default_Cisco_UP_SIP_Proxy_Peer_Auth_TLS_Context add the IP and FQDN of Expressway C and E. Also add the sipfed.online.lync.com.



6. System > Service Parameters Select the IMP node and Cisco SIP Proxy Service. Under Federation Routing Parameters (Clusterwide) Make note of the Federation Routing IM/P FQDN. You will need to create a CNAME internal DNS record which points to the IMP PUB FQDN.

Federation Routing Parameters (Clusterwide)

Federation Routing IM/P FQDN.*

cimphq01-public.nolalab.lds

C:\Users\Administrator>nslookup

Default Server: UnKnown

Address: ::1

> cimphq01-public.nolalab.lds

Server: UnKnown

Address: ::1

Name: cimphq01.nolalab.lds

Address: 192.100.64.15

Aliases: cimphq01-public.nolalab.lds

7. Certificates!!!!!!!

On IMP, you will need to install the Expressway C server certificate, Root CA of S4B (Baltimore Cybertrust Root), and Root CA that issued the Expressway C server certificate.



8. **Restart services that were requested**. Cisco SIP Proxy, Cisco Presence Engine, and XCP router.

Steps to configure on Expressway C:

1. Add a new Zone

- Type Traversal Client to the Expressway E.
- SIP Mode ON
- Port 7003
- Transport TLS
- TLS Verify Mode Off (If your certificates are setup correctly, you can set to on. I left it off to test)
- Peer 1 Address FQDN of Expressway E
- The other settings I left at default.

2. Add another Zone

- Type Neighbor Zone to IMP PUB
- SIP Mode ON
- Port 5062 Zone will not become active if you use 5061.
- Transport TLS
- TLS Verify Mode Off (If your certificates are setup correctly, you can set to on. I left it off to test)
- Peer 1 Address IMP FQDN
- The other settings I left at default.

3. Add 3 Search Rules

A. IMP Neighbor to Traversal Client

- Protocol SIP
- SIP Variant Microsoft SIP IM&P
- Source name IMP Neighbor Zone
- Mode Alias Pattern Match
- Pattern Type Regex
- Pattern String .*@s4bfed.onmicrosoft\.com
- Pattern Behavior Leave
- On successful Match Continue
- Target Traversal to Expressway E

B. Traversal to Neighbor

- Protocol SIP
- SIP Variant Microsoft SIP IM&P
- Source name Traversal Client
- Mode Alias Pattern Match
- Pattern Type Regex
- Pattern String .*@504voip\.com
- Pattern Behavior Leave
- On successful Match Continue
- Target IMP Neighbor

C. Traversal to Neighbor IMP Public FQDN

- Protocol SIP
- SIP Variant Microsoft SIP IM&P
- Source name Traversal Client
- Mode Alias Pattern Match
- Pattern Type Regex
- Pattern String .*cimphq01-public\.nolalab\.lds.*
- Pattern Behavior Leave
- On successful Match Continue
- Target IMP Neighbor

4. Certificates!!!!!

You will need to upload the following to the Expressway C Trusted CA: Root and/or Intermediate that issued Certificate of Expressway E. Root that issued Certificate for IMP Tomcat certificate.

Tomcat Certificate of IMP PUB.

Steps to configure on Expressway E:

1. Add Zones

- Type Traversal Server to the Expressway C.
- SIP Mode ON
- Port 7003
- Transport TLS
- TLS Verify Mode Off (If your certificates are setup correctly, you can set to on. I left it off to test)
- The other settings I left at default.

Add DNS ZONE if one does not already exist.

2. Add 3 Search Rules

A. Traversal Server to DNS 1

- Protocol SIP
- SIP Variant Microsoft SIP IM&P
- Source name Traversal Server
- Mode Alias Pattern Match
- Pattern Type Regex
- Pattern String .*@s4bfed.onmicrosoft\.com
- Pattern Behavior Leave
- On successful Match Continue
- Target DNS

B. Traversal Server to DNS 2

- Protocol SIP
- SIP Variant All SIP Variants
- Source name Traversal Server
- Mode Any Alias
- On successful Match Continue
- Target DNS

C. Default to Traversal Server

- Protocol SIP
- SIP Variant Microsoft SIP IM&P
- Source name Default Zone
- Mode Alias Pattern Match
- Pattern Type Regex
- Pattern String .*@504voip\.com
- Pattern Behavior Leave
- On successful Match Continue
- Target Traversal Server

3. Certificates!!!!!

You will need to upload the following to the Expressway E Trusted CA:

Root and/or Intermediate that issued Certificate of Expressway C and E.

Root for S4B – Baltimore Cybertrust Root