DCON focus discovery

Discovery of active Foci

We suppose that the roster of user A_1 (belonging to focus A) contains user B_1 (belonging to focus B) and viceversa.

Once an user (we suppose B_1) joins the focus, the Presence Manager enforces the S2S Manger to try to contact all the foci in the B_1’s roster.

Two cases are possible…
Discovery of active Foci

Case 1: A_1 not yet online

If A_1 (the user in B_1 roster) is not yet online the focus A will appear “not active” until A_1 will join it.

Once A_1 joins the focus, in fact, the Presence Manager enforces the S2S Manager to try to contact B.

In such a way the s2s connection is complete and the foci can exchange their conference information by means of an XMPP encapsulated “update message” and add the prefix of the remote focus to the local Asterisk Dialplan.

```
[...]
exten => _857.,1,Meetme(${EXTEN:0:7}|B|${EXTEN:7})
exten => _857.,2,Hangup
exten => _867.,1,Meetme(${EXTEN:0:7}|G|${EXTEN:7})
exten => _867.,2,Hangup
[...]
```
Discovery of active Foci
Case 2: A_1 is already online

If A_1 (the user in B_1 roster) is already online the focus A will appear “active”

So the s2s connection is complete and the foci can exchange their conference information by means of an XMPP encapsulated “update message” and add the prefix of the remote focus to the Asterisk Dialplan.

DCON: spreading of conference events
When the s2s connection has been established and the prefixes have been exchanged every local event is spread to the remote connected foci.

We suppose A_1 registers the new local conference 8671000 by means of the CCP: a "RegisteredEvent" will be sent to SPACE by means of the Manager Interface.

SPACE will then spread it to all the active foci which will update their information.

If A_1 joins the local conference 8671000 an "ActivateEvent" will be sent to SPACE by means of the Manager Interface.

SPACE will then spread it to all the active foci which will update their information.
If User B_1 want to know the conferences active in the distributed system, he/she can send a “QueryActiveConferences” message.

The Gateway checks if DCON is connected and in this case ask it for the conference information about all the active foci.

The user is so aware of the conference 8671000 active on the remote focus A.
If now the user B_1 wants to join the remote conference 8671000, he/she simply calls this conference number.

The Gateway checks the prefix and understands this is a remote conference so:

1) Triggers the creation of the Local Stub Conference 8671000

2) Sends the AddCascaded and AddUser messages to the remote focus by means of the dispatcher
The main focus adds the Cascaded conference, sends a CascadedAdded message. Two RTP channels (Audio and Video) are opened between the foci and the Stub Conference is activated.

Then the main focus adds the remote user B_1 to the conference and sends the new assigned “userID” encapsuled into a UserAdded Message by means of the established B_1’ channel. User B_1 is now in the conference.

DCON: protocol dispatching and local mixing
If local user A sends a BFCP request, the Gateway directly forwards it to the main FCS. After the chair’s decision the FCS sends the response.

If remote user C sends a BFCP request, the Gateway forwards it to the main FCS by means of the dispatcher through the C-s2s-C’ channels.

We suppose audio floor is granted to all participants. C and D will send theirs audio flows to local focus that, after FCS controls, will mix and forward them through the RTP channel.
The main focus will mix the received mixed flow (C-D) with the local user’s flows and will send back the resulting mixed flow to the local users and to the remote focus (through the RTP channel). The remote focus then will spread the received mixed flow (A-B-C-D) to its users.

We suppose audio floor isn’t granted to user D but her/his softphone is BFCP unaware so it however sends the audio flow. C and D will send theirs audio flows to local focus that, after FCS controls, will forward only the granted user flow.
The main focus will mix the received flow (C) with the local user’s flows and will send back the resulting mixed flow to the local users and to the remote focus (through the RTP channel). The remote focus then will spread the received mixed flow (A-B-C) to its users.