Application Note

Product: Ascom Handsets and Ascom Unite
Purpose: Instant Group Communicaton
Date: 11/15/2010

Configuring Push to Talk Using/Group Conferencing Ascom Handsets & Ascom IGC (Instant Group Communicator).

This document outlines the necessary steps and guidelines to configure a system for Push to Talk (PTT) application using Ascom's handset and IGC. It is assumed that the user has already installed the appropriate UNITE products, according to their respective installation guides and conferencing equipment. (See Related Documents section)

Note that the IGC allows for initiation of group conferencing when Alarm and or Data is sent from the Ascom handset.

The steps, screen shots, and command line syntax depicted throughout this document are based upon d62 software version **3.0.15**, IMS2 software version **2.72**, and IGC software version (XGate) **3.00.**

Equipment	Software
D62 handsets	3.0.15 or later
I62 handsets	2.x
IMS2	2.72 or later
IGC	3.00 or later

Handset Configuration

Device Manager Parameters

There are four ways that we can configure a handset to send a group PTT/Conference message. The creation of a Soft-Key, the creation of a Hot Key, using the Service Menu, or through the use of the Alarm button. All options will require the sending of data/number that will be used by UNITE to establish a PTT conference. For the examples shown below, the data/number was chosen to be "2222", however the data/number is configurable.

Soft Key

Utilizing the Ascom Device Manager, we can first set the soft key to use. In this example we chose the middle soft key and gave it a name of PTTIGC. The soft key must be point to a service which will send the appropriate data/number. In this example we chose to use Service 1. See Figure 1. Service 1 is given a name (Example PTTIGC), a Type (Send Data) and the data/number (2222 in this example). See Figure 2.

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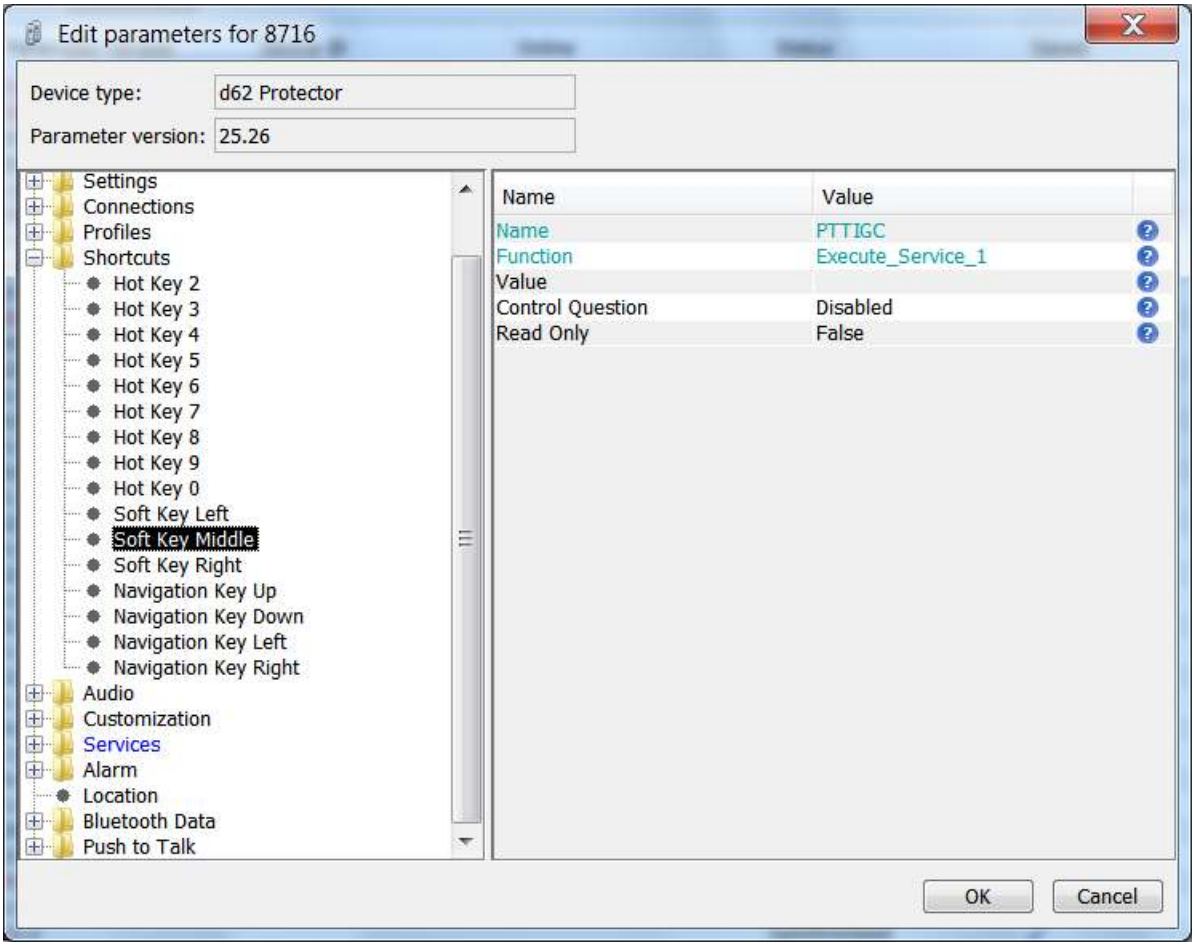

Figure 1

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Figure

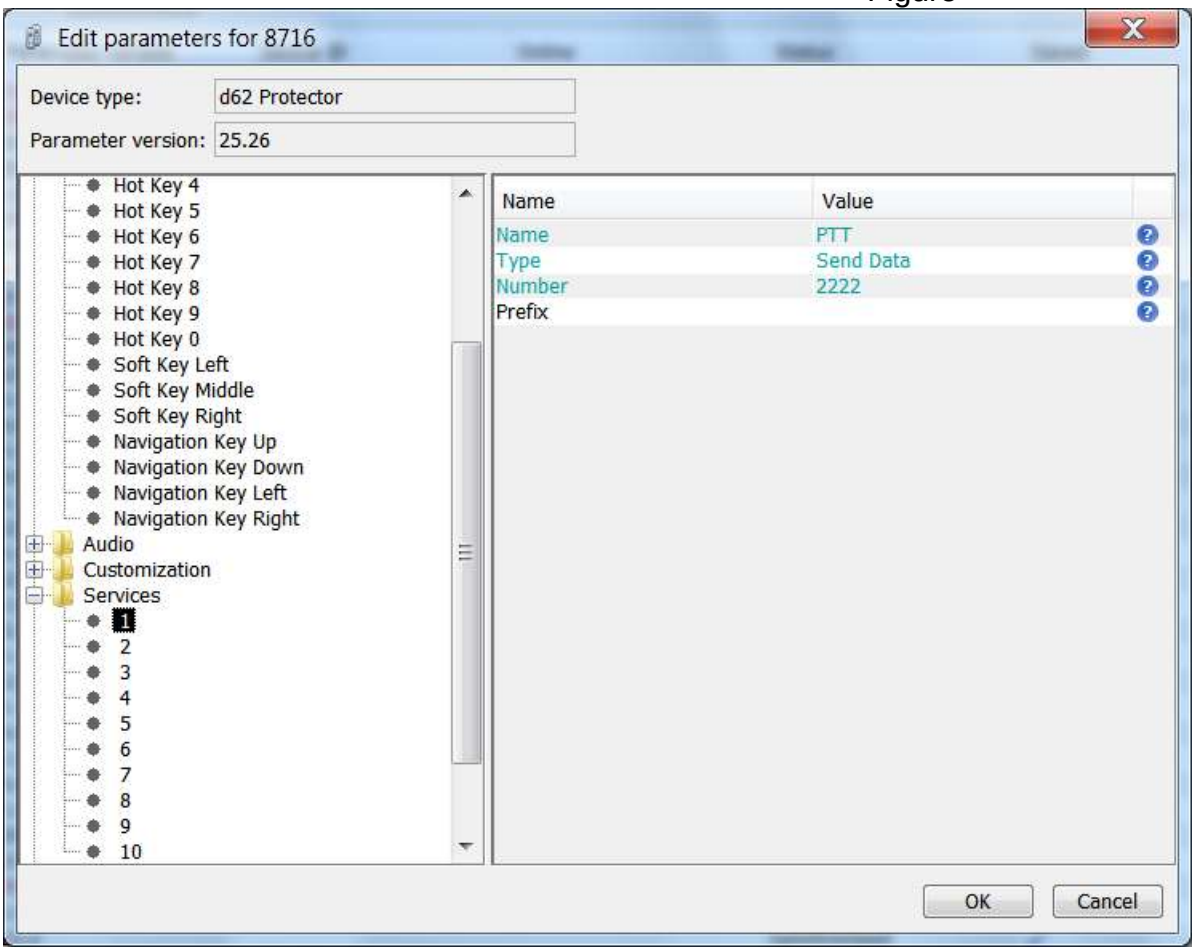


Figure 2

Hot Key

Utilizing the Device Manager, we can set the Function to Execute a Service. In this example we use Hot Key 0 and point it to Service 1. See figure 3 for Hot Key Configuration.

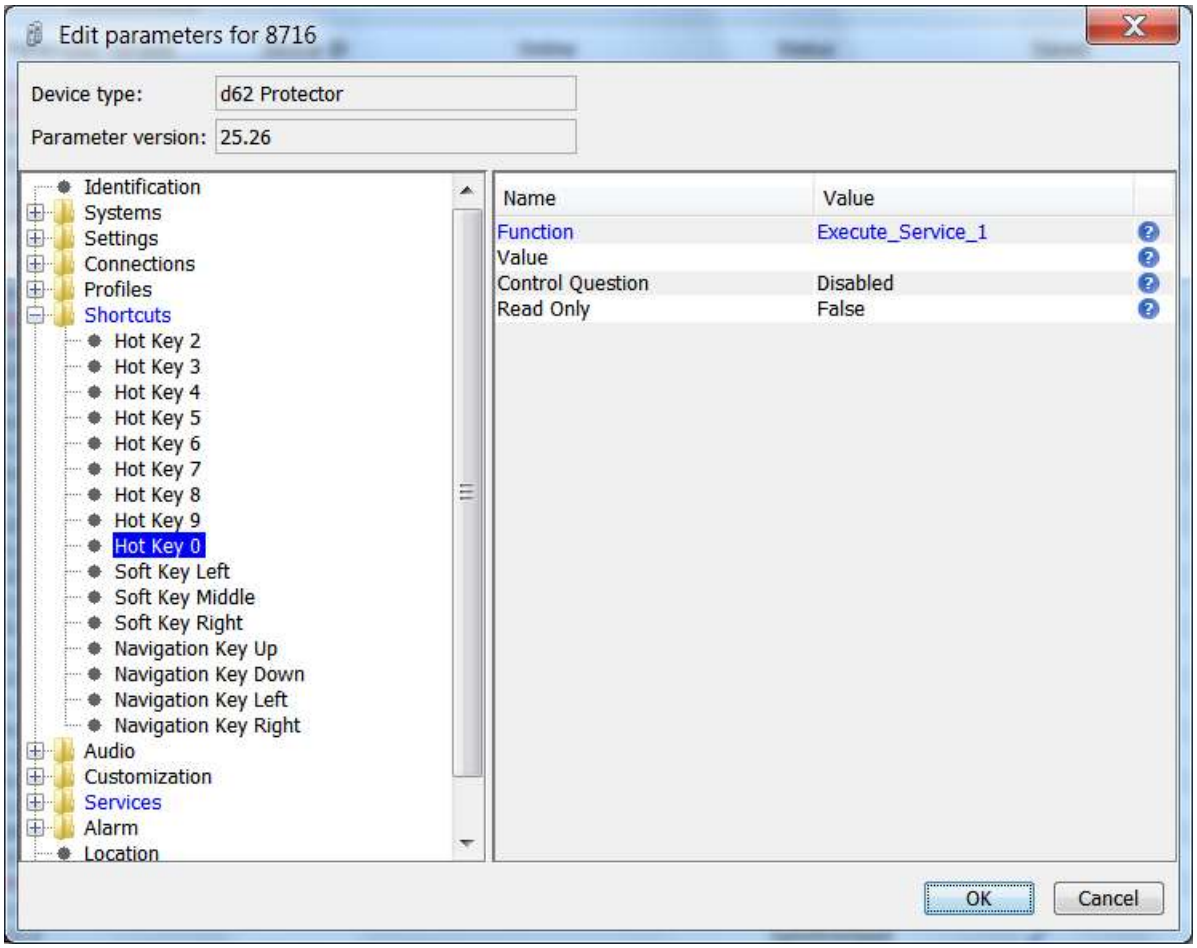
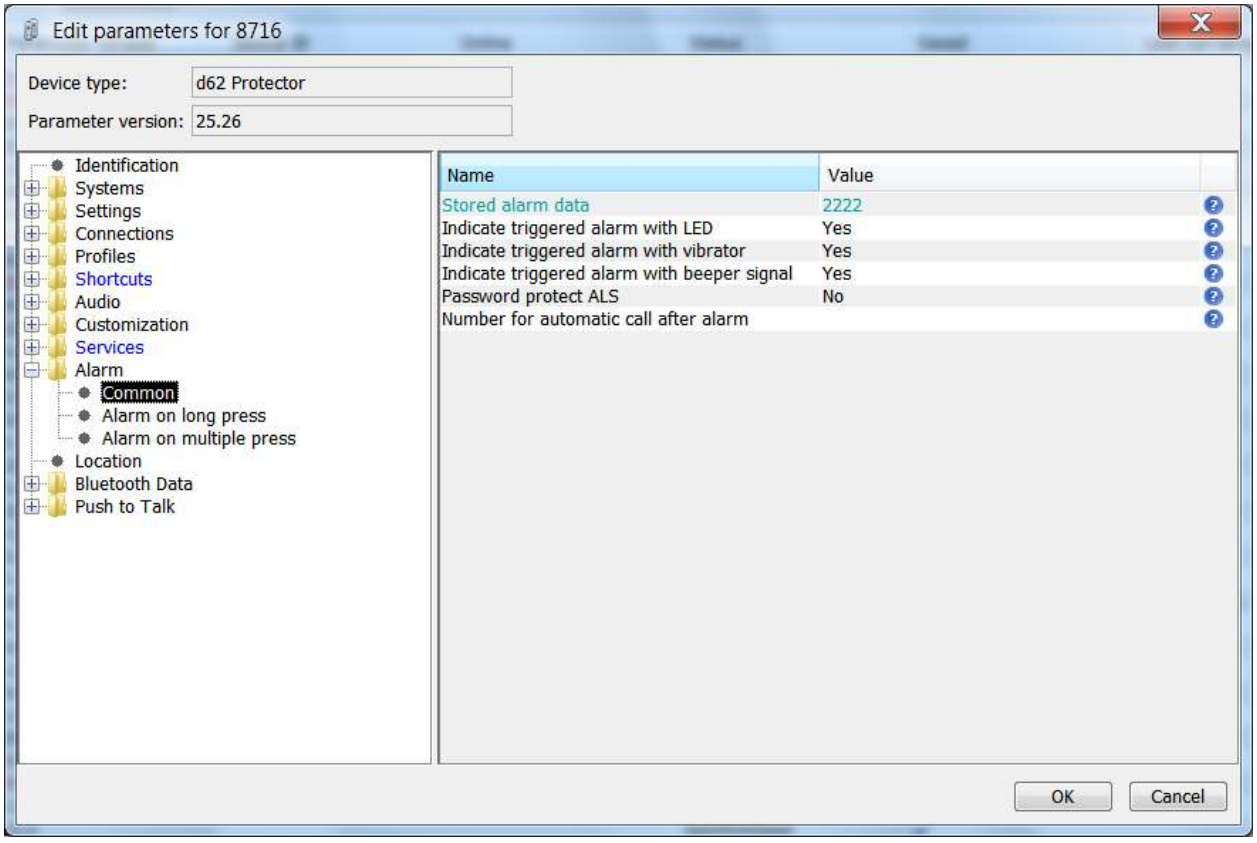


Figure 3

Alarm (Handset License Dependent)

Utilizing the Device Manager, we set the Alarm data/number to have a value of “2222”. When a 'Personal Alarm' (two short presses on the alarm button) is sent, the Alarm data/number will be sent to the IGC. See Figure 4 for Alarm button configuration example.



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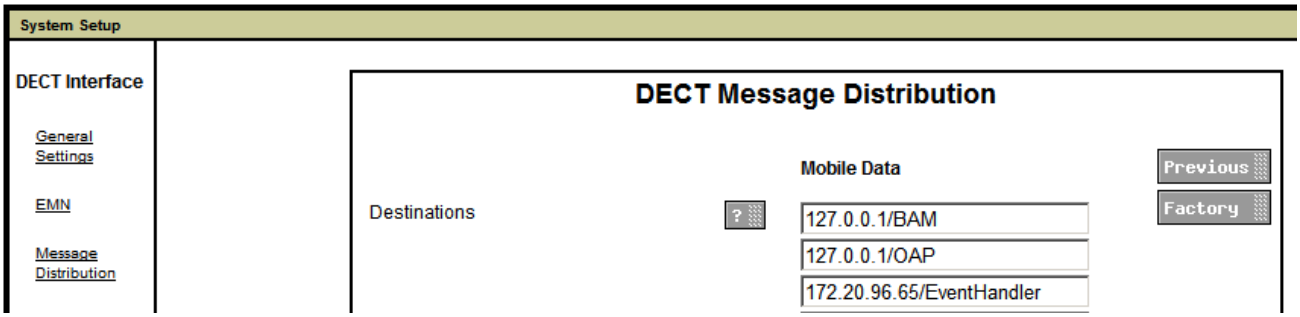
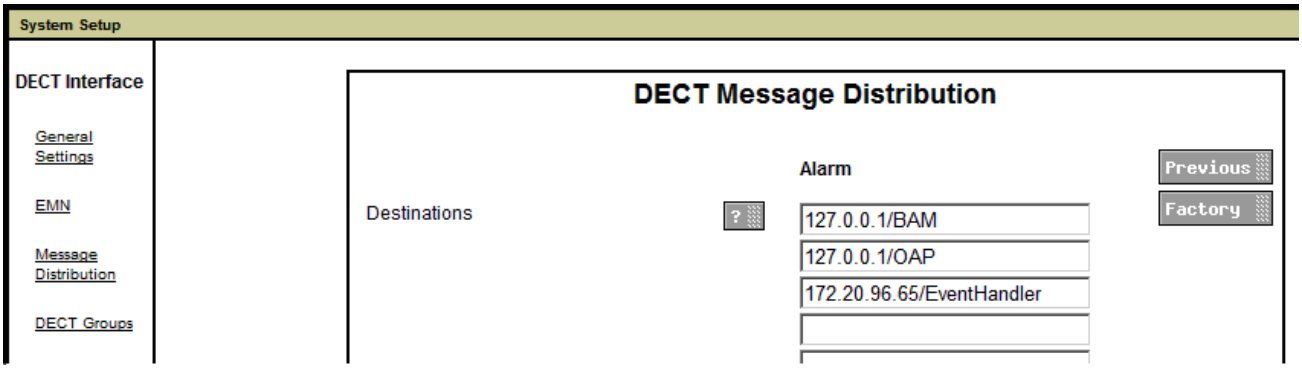
Ascom UNITE Configuration

Configuration of IMS

1. Navigate to the IMS web interface (http://xxx.xx.xx.xx/admin)
2. If you are using a Soft Key, Hot Key, or Service Menu to generate the PTT functionality, make sure the IMS Message Distribution for Mobile Data includes your IGC address. For this example our IGC address is: 172.20.96.65/EventHandler.



3. If you are using the Alarm to generate the PTT functionality, make sure the IMS Message Distribution for Alarm includes your IGC address. Again for this example our IGC address is: 172.20.96.65/EventHandler.



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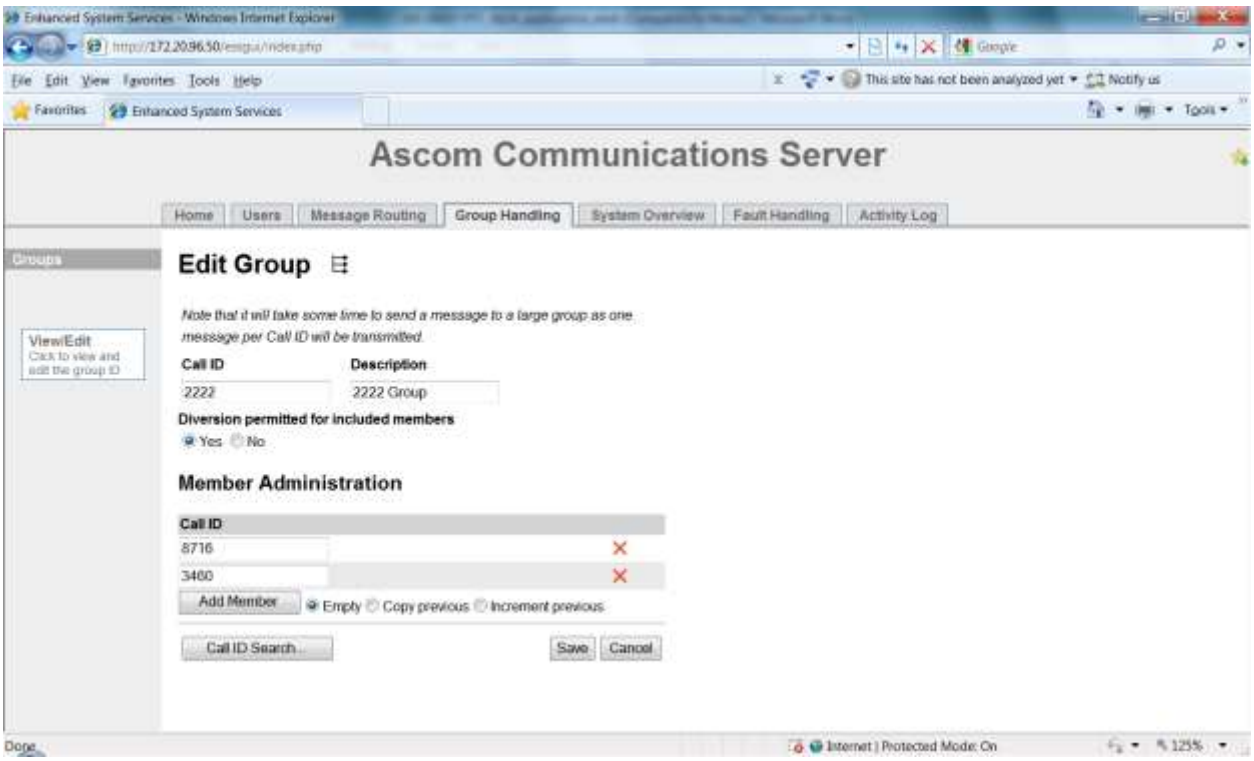
Configuration of ACS

1. Navigate to the ACS web interface (http://xxx.xx.xx.xx)

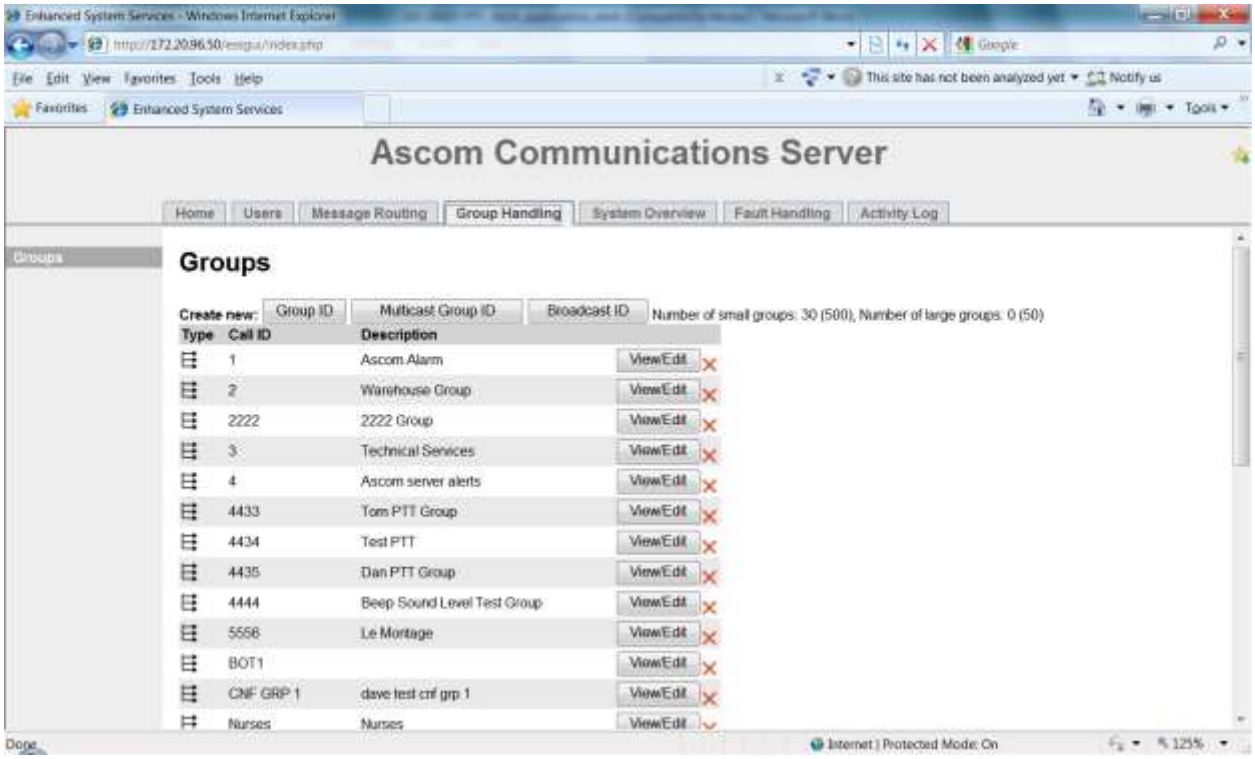
2. When the ACS web page appears click on the “ESS Administration” button.

3. Next click on the “Group Handling” Tab.

4. Create a Group that includes the phone numbers you want called when an event occurs and name the Group to match the Data field you set in your “Soft Key”, “Hot Key” or “Alarm”. For this example we created a Group named “2222 Group” and the handsets in that group are 8716 and 3460.



5. Save your new Group and it will appear in the list as shown in the next figure.

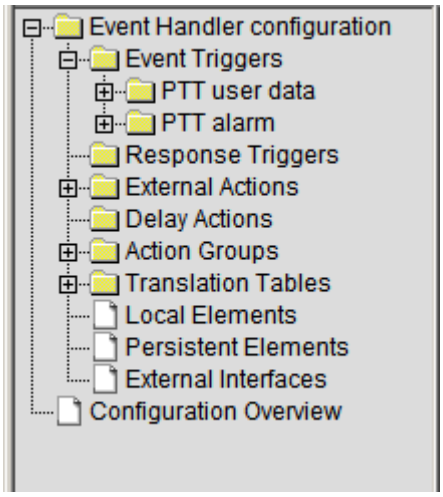


Configuration of Instant Group Communicator (IGC)

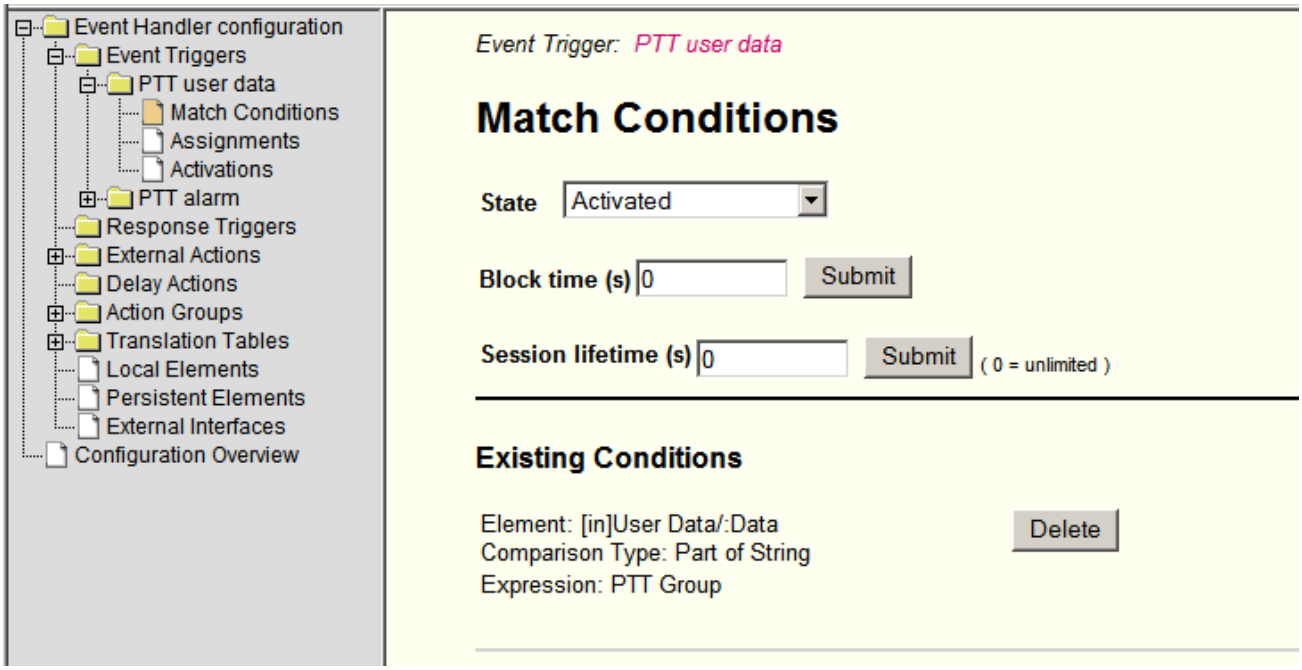
1. Open a web browser and navigate to the IGC web page (http://xxx.xxx.xxx.xxx) Click on the “Advanced” button. A login pop-up window will appear. Log into the IGC using the appropriate User name and Password.

2. From the “Basic Setup” screen, click the “Advanced” tab and choose the “Configuration” link. This will take you to the “Event Handler Configuration” page

3. Create your PTT Event triggers. For this example we will create two Event Triggers: “PTT user data” and “PTT alarm”. The “PTT user data” will be used with soft key, hot key, and Services PTT activations and the “PTT alarm” will be used with alarm button activation.



4. For the “PTT user data” Event. Create a Match Condition that matches the data that was set in the handset. For our example we look for incoming User Data that matches “PTT Group”.



5. Next we need to create five Assignments. The local variables can be named whatever the installer chooses. (see figure next page)

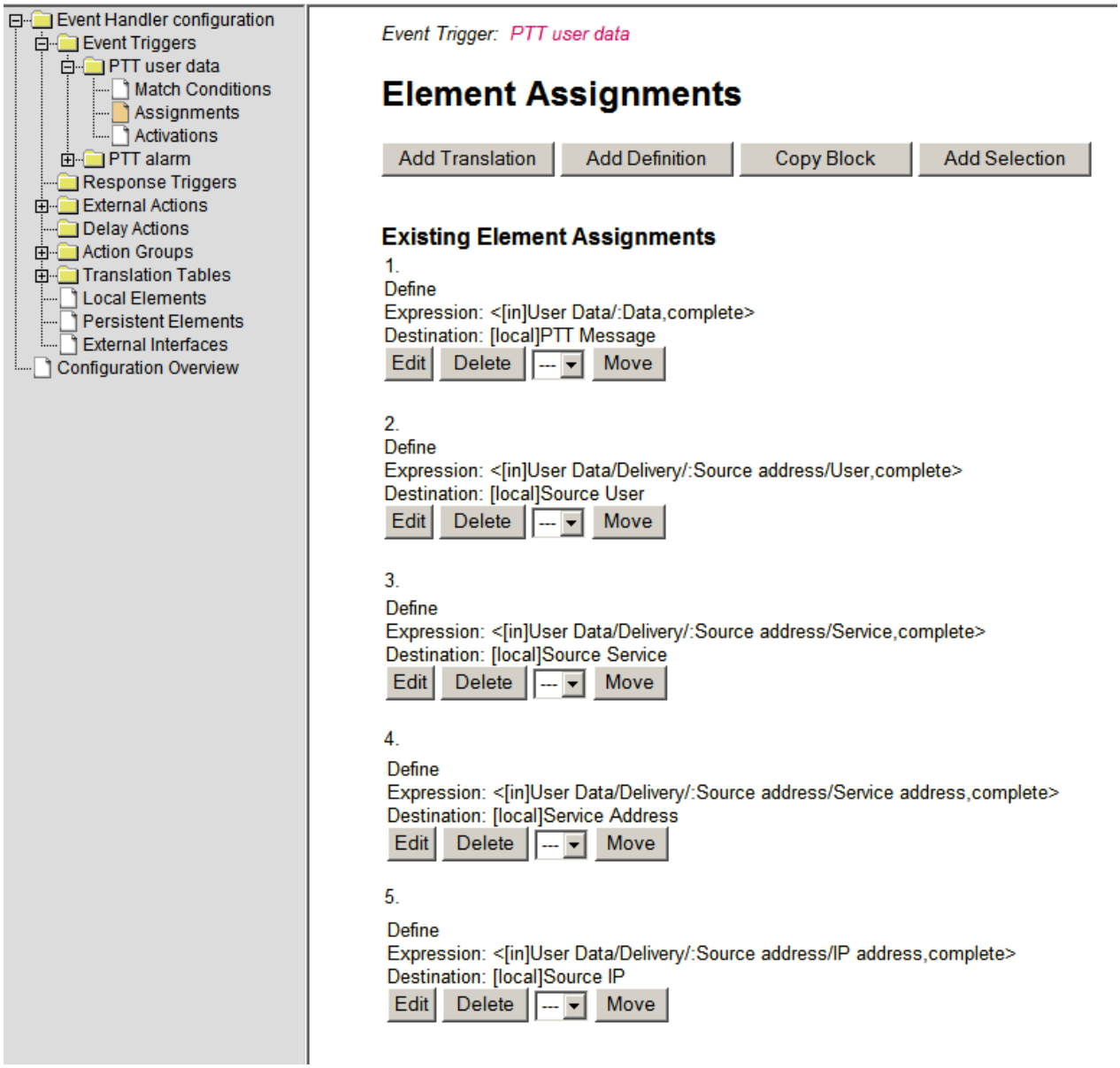
   In Assignment 1, we store the incoming **[in]User Data/:Data** (in our example this will be "PTT Group") in a local variable called **PTT Message**

   In Assignment 2, we store the incoming **[in]User Data/Delivery/:Source address/User** in a local variable called **Source User**

   In Assignment 3, we store the incoming **[in]User Data/Delivery/:Source address/Service** in a local variable called **Source Service**

   In Assignment 4, we store the incoming **[in]User Data/Delivery/:Source address/Service Address** in a local variable called **Service Address**

   In Assignment 5, we store the incoming **[in]User Data/Delivery/Source Address/IP Address** in a local variable called **Source IP**.


Event Handler configuration
Event Triggers
PTT user data
Match Conditions
Assignments
Activations
PTT alarm
Response Triggers
External Actions
Delay Actions
Action Groups
Translation Tables
Local Elements
Persistent Elements
External Interfaces
Configuration Overview
Event Trigger: PTT user data
Element Assignments
Add Translation
Add Definition
Copy Block
Add Selection
Existing Element Assignments
1.
Define
Expression: <[in]User Data/:Data,complete>
Destination: [local]PTT Message
Edit
Delete

Move
2.
Define
Expression: <[in]User Data/Delivery/:Source address/User,complete>
Destination: [local]Source User
Edit
Delete

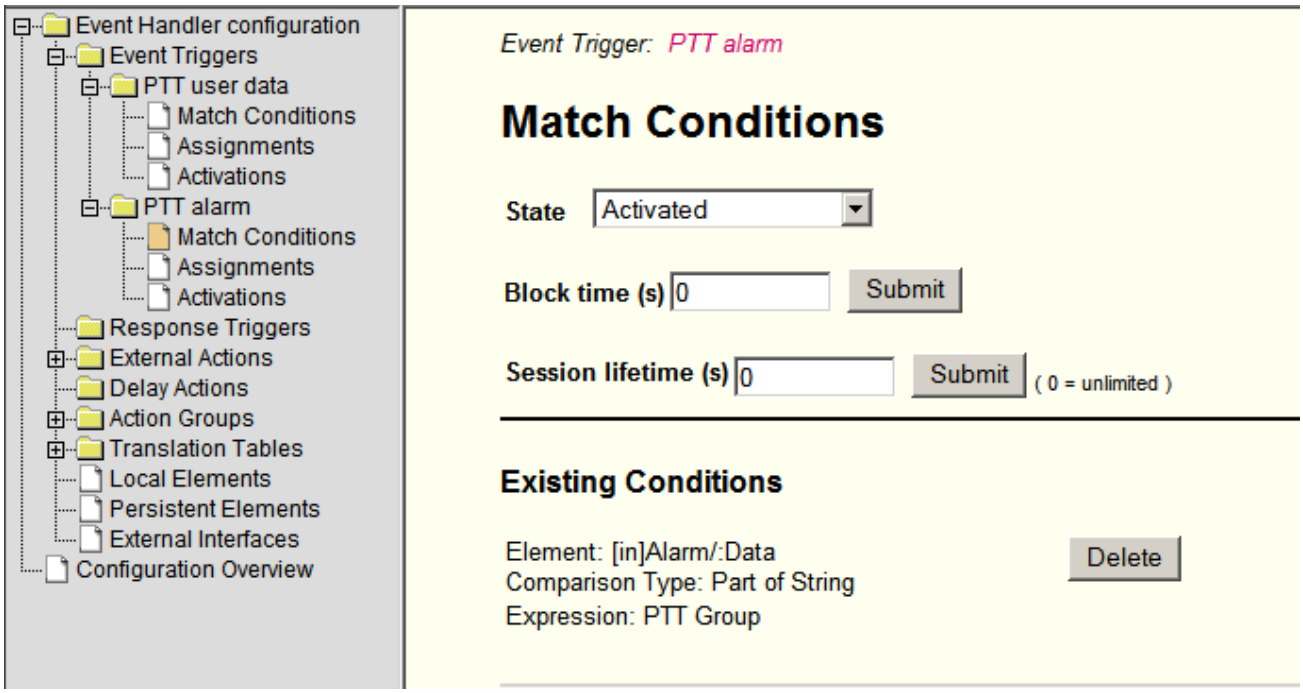
Move
3.
Define
Expression: <[in]User Data/Delivery/:Source address/Service,complete>
Destination: [local]Source Service
Edit
Delete

Move
4.
Define
Expression: <[in]User Data/Delivery/:Source address/Service address,complete>
Destination: [local]Service Address
Edit
Delete

Move
5.
Define
Expression: <[in]User Data/Delivery/:Source address/IP address,complete>
Destination: [local]Source IP
Edit
Delete

Move

6. Similarly for the “PTT alarm” Event Trigger. Create a Match Condition that matches the data that was set in the handset. For our example, we look for incoming Alarm that matches “PTT Group”.



7. Next we need to create five Assignments. The local variables can be named whatever the installer chooses. (see figure next page)

   In Assignment 1, we store the incoming **[in]Alarm/:Data** (in our example this will be “PTT Group”) in a local variable called **PTT Message**.

   In Assignment 2, we store the incoming **[in]Alarm/Delivery/:Source address/User** in a local variable called **Source User**.

   In Assignment 3, we store the incoming **[in]Alarm/Delivery/:Source address/Service** in a local variable called **Source Service**.

   In Assignment 4, we store the incoming **[in]Alarm/Delivery/:Source address/Service address** in a local variable called **Service Address**.

   In Assignment 5, we store the incoming **[in]Alarm/Delivery/Source address/IP address** in a local variable called **Source IP**.

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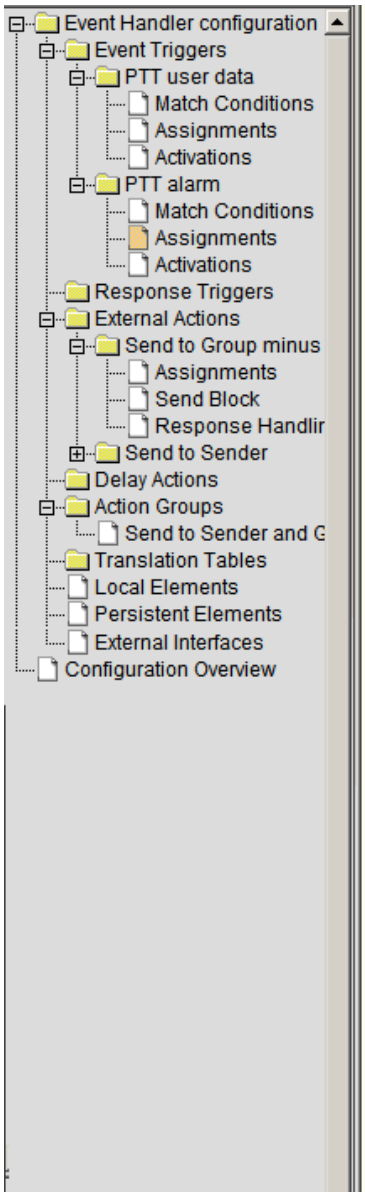


Event Trigger: *PTT alarm*

Element Assignments

Add Translation | Add Definition | Copy Block | Add Selection

Existing Element Assignments

1.
Define
Expression: <[in]Alarm/:Data,complete>
Destination: [local]PTT Message
Edit | Delete | --- | Move

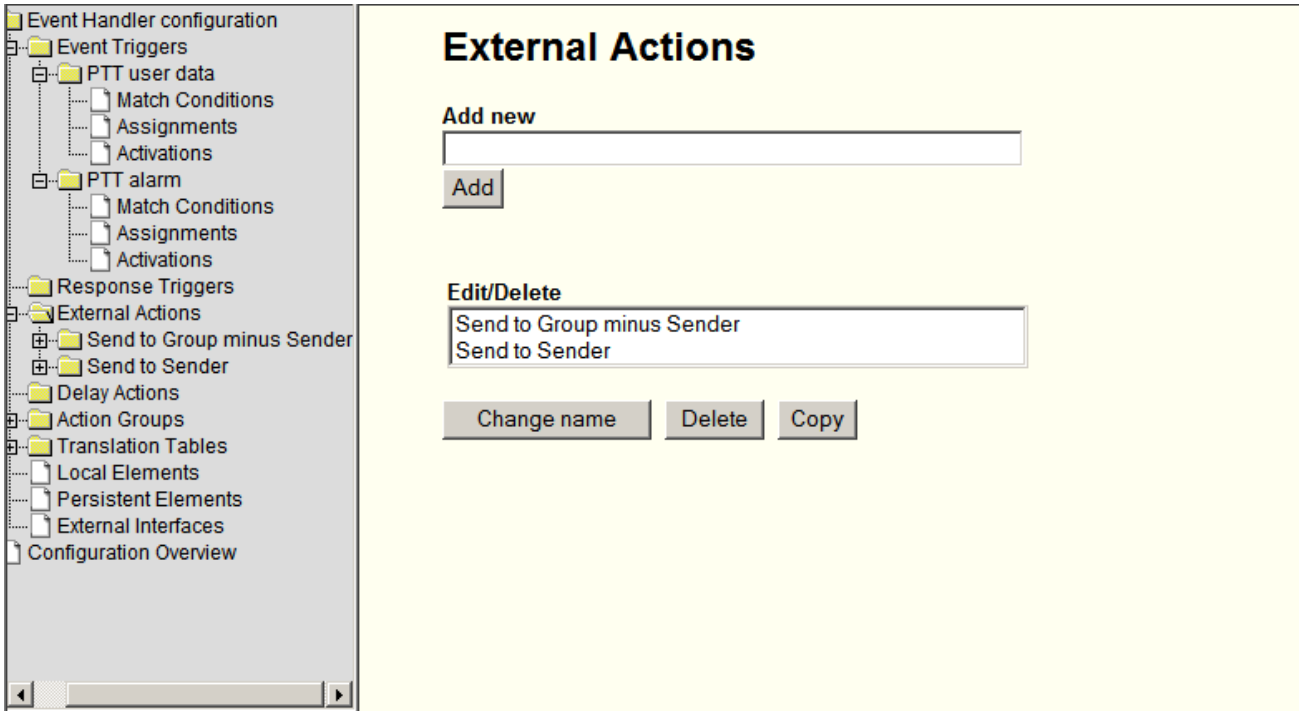
2.
Define
Expression: <[in]Alarm/Delivery/:Source address/User,complete>
Destination: [local]Source User
Edit | Delete | --- | Move

3.
Define
Expression: <[in]Alarm/Delivery/:Source address/Service,complete>
Destination: [local]Source Service
Edit | Delete | --- | Move

4.
Define
Expression: <[in]Alarm/Delivery/:Source address/Service address,complete>
Destination: [local]Service Address
Edit | Delete | --- | Move

5.
Define
Expression: <[in]Alarm/Delivery/:Source address/IP address,complete>
Destination: [local]Source IP
Edit | Delete | --- | Move

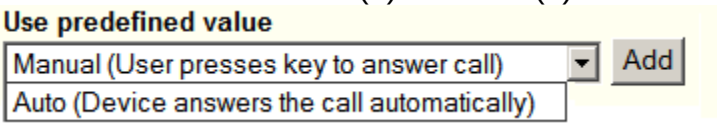
8. In order for the originator to function in PTT mode, they must receive the outgoing PTT message. We must create two External Actions: the “Send to Sender” action will send the PTT message to the handset that initiated the PTT request and the “Send to Group minus Sender”. action will send the PTT message to the group. We also remove the sender from the group to handle the case where the PTT request is being made by a member of the group. This will prevent the sender from receiving a double message.



9. For the “Send to Group minus Sender” we need to make 13 Assignments The first six assignments are discussed below (see figure next page).

In Assignment 1 we are using our PTT Message as the Call Setup/Delivery/Destination address/User. For our example PTT Message contains the Alarm or User Data **PTT Group.** Therefore the PTT request will go to the group we defined in the ACS as **PTT Group.**

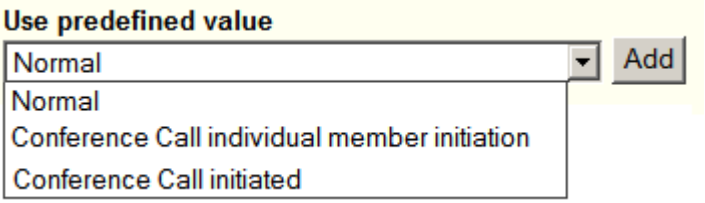
In Assignment 2 we are setting the **Call Setup/:Answer mode**. This will control the answer mode of the handsets that receive the PTT request. For our example we set the answer mode to **Auto** (appears as a 1), There are two choices: Manual (0) and Auto(1).



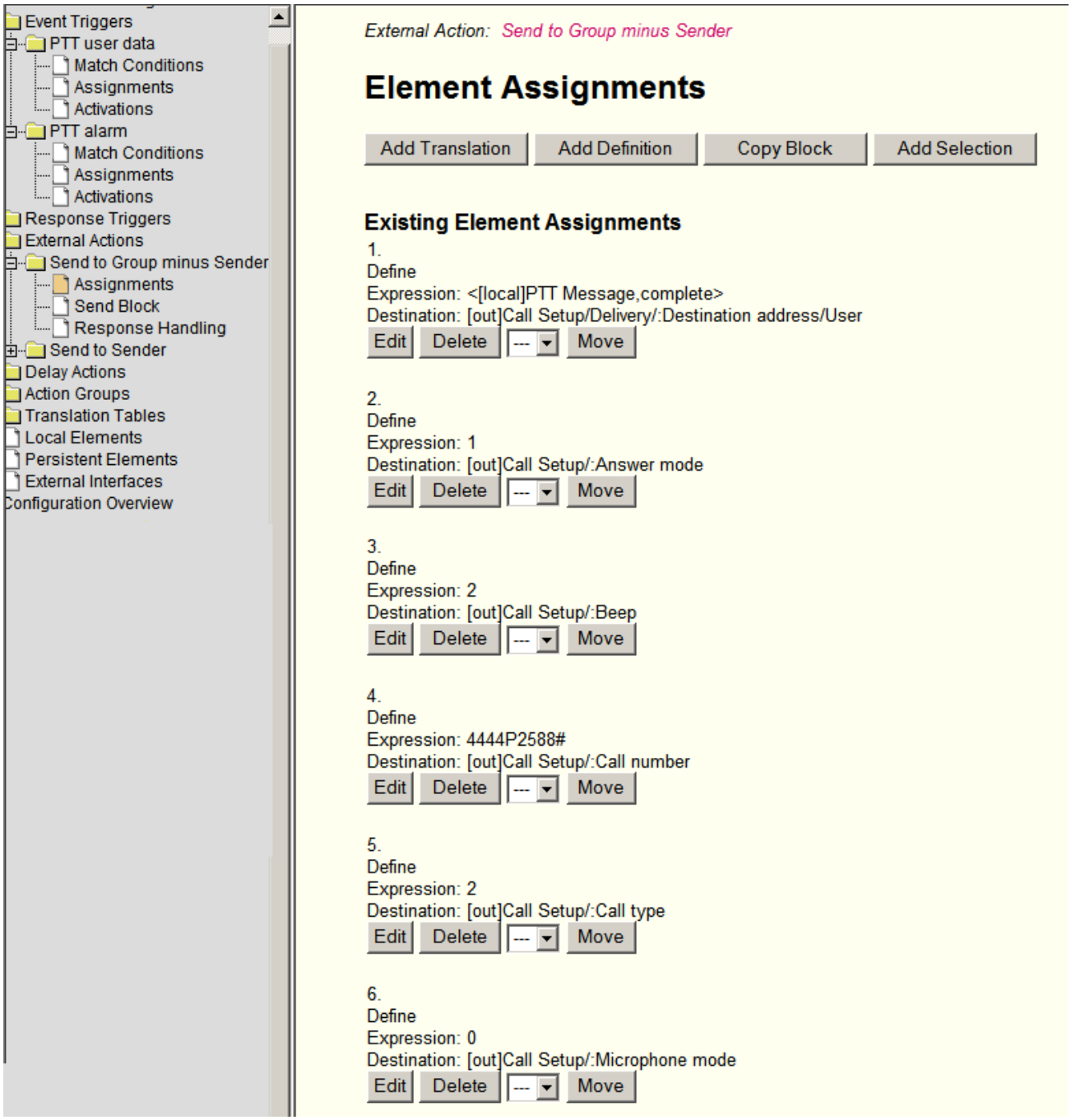
In Assignment 3 we are setting the **Call Setup/:Beep**. This will control the alerting in the handset, when a PTT event occurs. The value is 0-7 (i.e. 0 = silence, 1 = 1 beep…etc).

In Assignment 4 we are placing the number of the conference bridge followed by a P for pause followed by the conference bridge password, if one is required. (In our example we assign **4444P2588#** as the **Call Setup/:Call number**. Here **4444** is the number of the conference bride and **2588#** is the password.)

In Assignment 5 we are setting the Call Setup/:Call type. For our example the call type was set to **Conference Call** (2). There are three choices: Normal(0), Conference Call individual member initiated(1), and Conference Call(2).



In Assignment 6 we are setting the **Call Setup/:Microphone mode**. There is only one setting available through the drop down window, which is Push To Talk(0). However the user is allowed to enter other digits into the field (1,2…etc), but this will cause the handsets to not function properly for PTT.


Event Triggers
PTT user data
Match Conditions
Assignments
Activations
PTT alarm
Match Conditions
Assignments
Activations
Response Triggers
External Actions
Send to Group minus Sender
Assignments
Send Block
Response Handling
Send to Sender
Delay Actions
Action Groups
Translation Tables
Local Elements
Persistent Elements
External Interfaces
Configuration Overview
External Action: Send to Group minus Sender
Element Assignments
Add Translation
Add Definition
Copy Block
Add Selection
Existing Element Assignments
1.
Define
Expression: <[local]PTT Message,complete>
Destination: [out]Call Setup/Delivery/:Destination address/User
Edit
Delete

Move
2.
Define
Expression: 1
Destination: [out]Call Setup/:Answer mode
Edit
Delete

Move
3.
Define
Expression: 2
Destination: [out]Call Setup/:Beep
Edit
Delete

Move
4.
Define
Expression: 4444P2588#
Destination: [out]Call Setup/:Call number
Edit
Delete

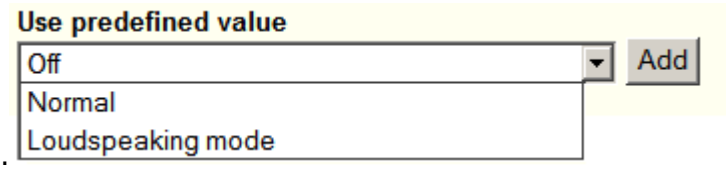
Move
5.
Define
Expression: 2
Destination: [out]Call Setup/:Call type
Edit
Delete

Move
6.
Define
Expression: 0
Destination: [out]Call Setup/:Microphone mode
Edit
Delete

Move

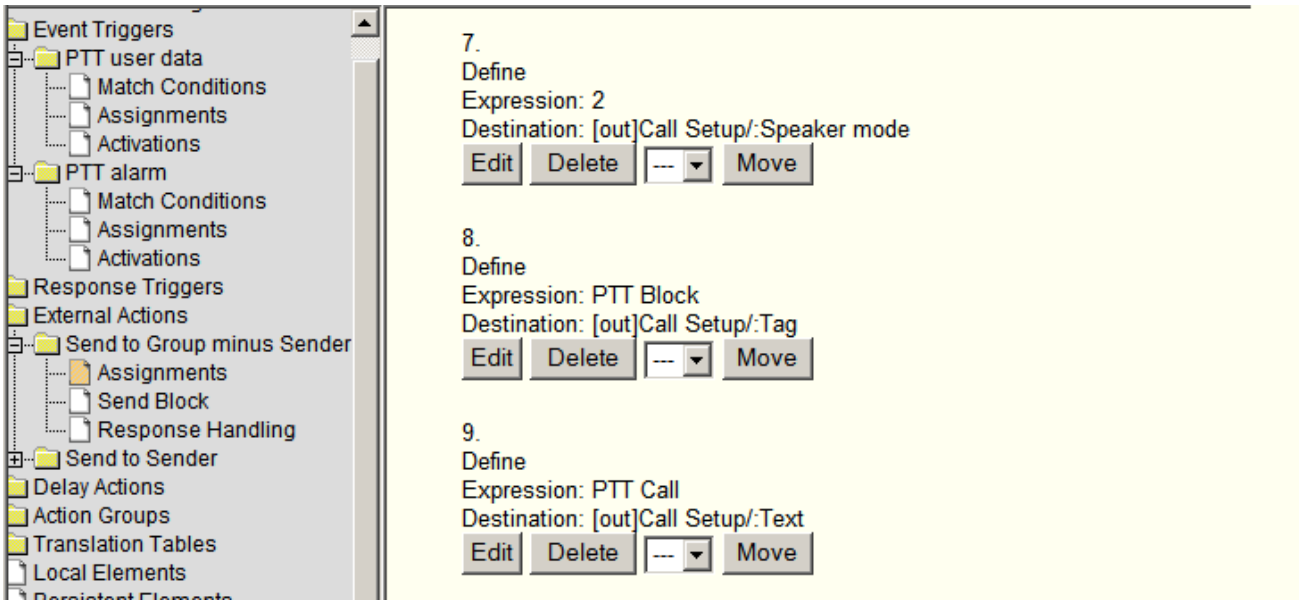
10. Send to Group minus Sender (continued) Assignments 7 through 12 are discussed below.

In Assignment 7, we are setting the **Call Setup/:Speaker mode**. There are three possible settings: Off(0), Normal(1),and Loudspeaking(2). For our example we have selected Loudspeaking mode (2).



In Assignment 8, we are setting **Call Setup/:Tag**. This is text that will categorize the sent block. This is primarily used to analyze data in the System Activity Log. For our example we used the text: **PTT Block**.

In Assignment 9, we are setting the **Call Setup/:Text**. This is text that will appear on the handset when a PTT call is received. For our example we used the text: **PTT Call**.



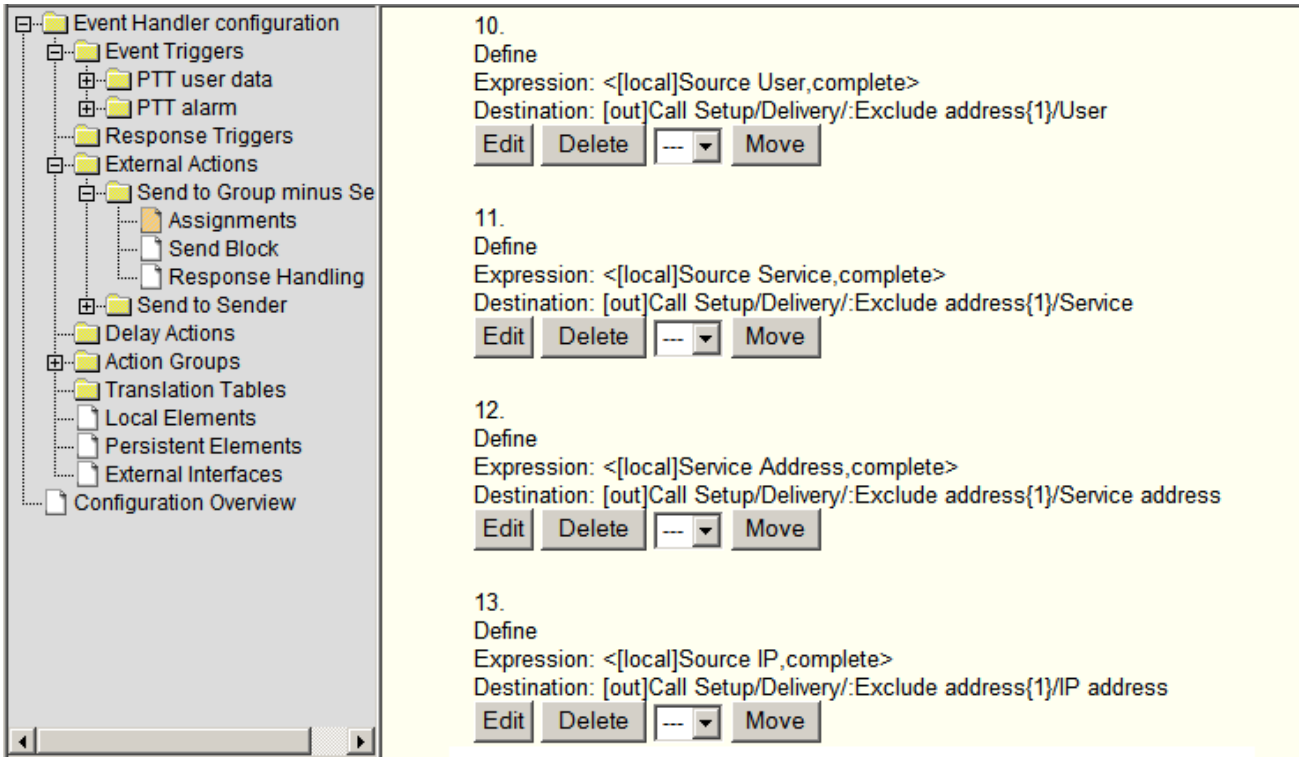
11. Send to Group minus Sender (continued) Assignments 10 through 13 are discussed below. These assignments are used to exclude the user that initiated the PTT call from the group call, if they are a member of that group.

In Assignment 10, we are setting the **Call Setup/Delivery/:Exclude address(1)/User** to the value of our local variable **Source User**. Earlier we stored the user that triggered the PTT call in this variable.

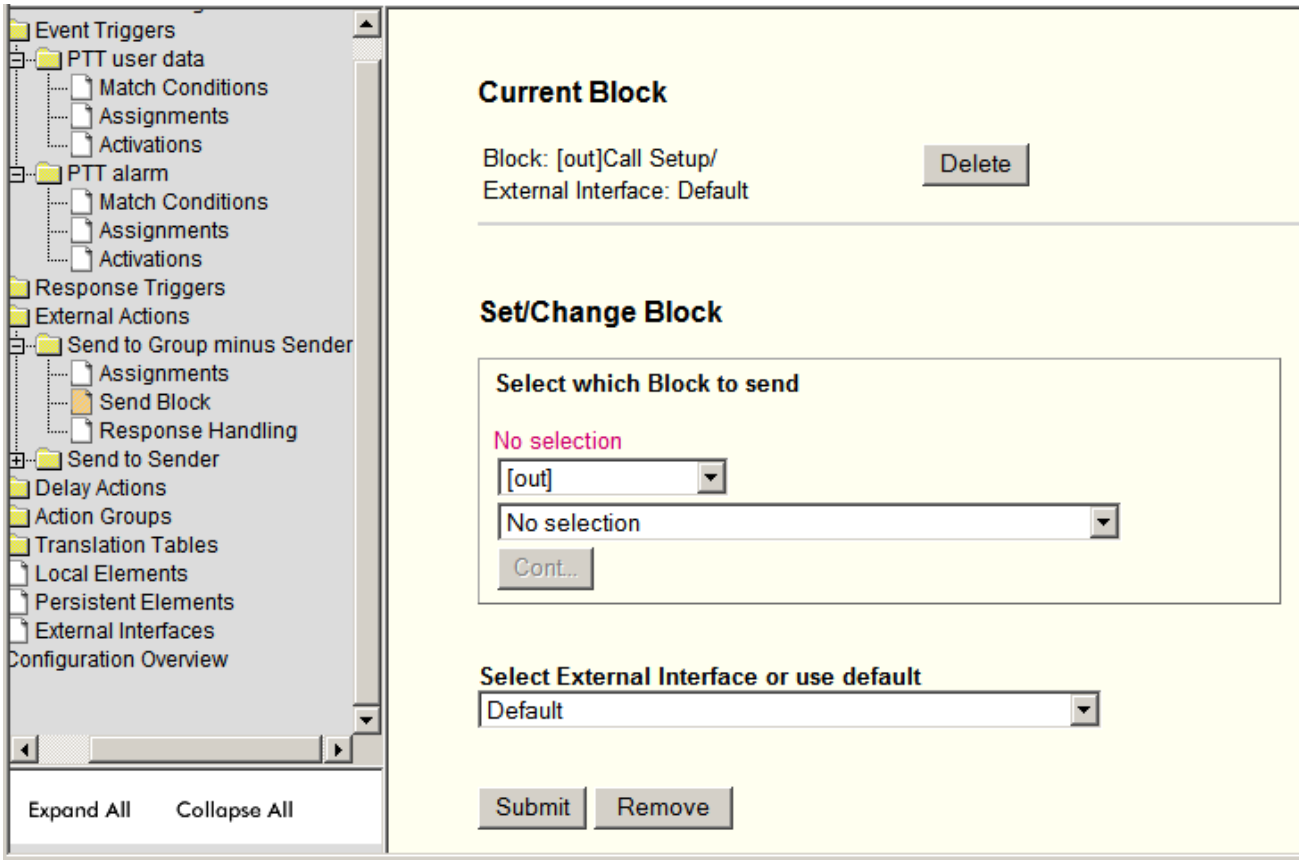
In Assignment 11 we are setting the **Call Setup/Delivery/:Exclude address(1)/Service** to the value of our local variable **Source Service**. Earlier we stored the source of the user that triggered the PTT call in this variable.

In Assignment 12 we are setting the **Call Setup/Delivery/:Exclude address(1)/Service address** to the value of our local variable **Service Address**. Earlier we stored the service address of the user that triggered the PTT call in this variable.

In Assignment 13 we are setting the **Call Setup/Delivery/:Exclude address(1)/IP address** to the value of our local variable **Source IP**. Earlier we stored the service IP address of the user that triggered the PTT call in this variable.

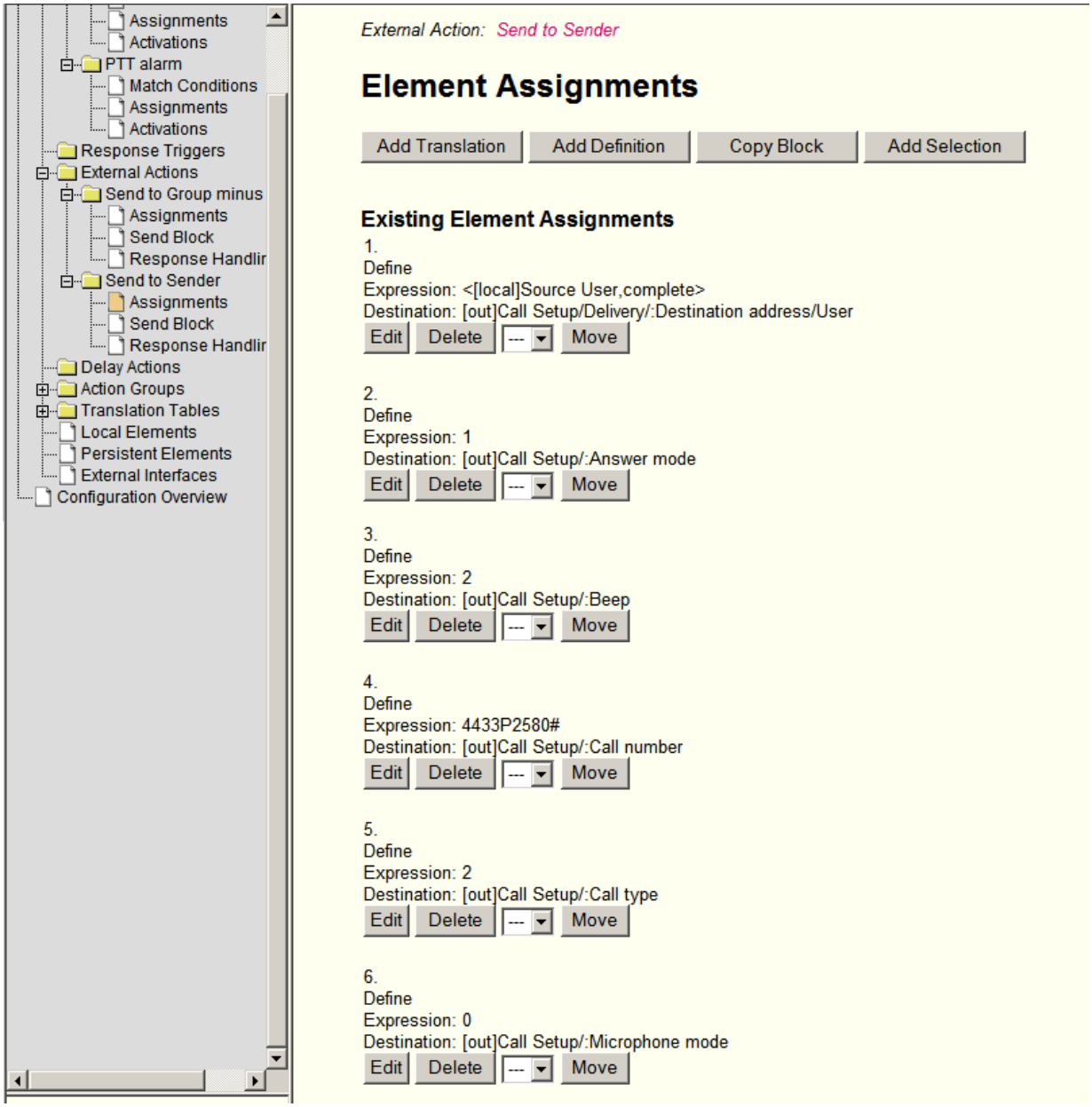


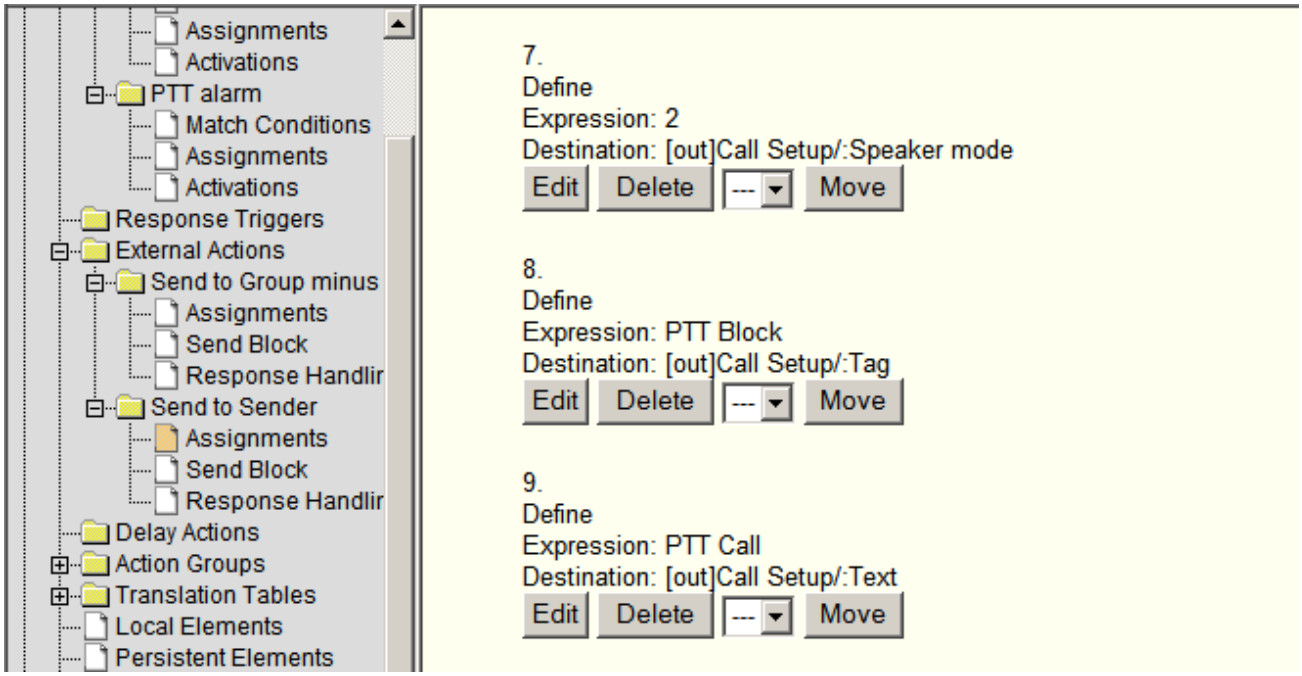
12. Next we create a Send to Group minus Sender - Send Block. Here we define an **[out] Call Setup/** block and use the default external interface



13. Next we need to create our assignments in the Send to Sender external action.

The first assignment stores the user who generated the PTT event in the Call Setup/Delivery/Destination/:Destination address/User. The remaining eight assignments are the same as we did above in **the Send to Group minus Sender** external action. We do not need assignments 10 through 13.



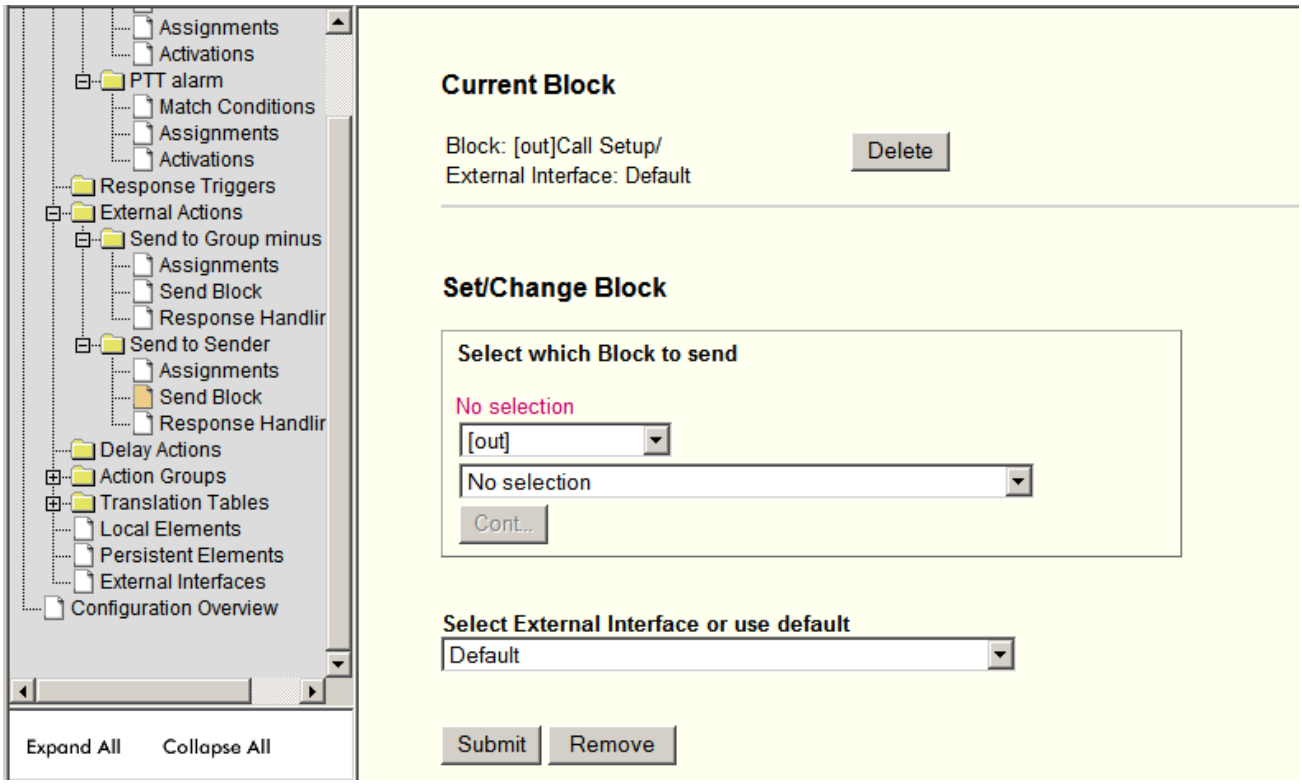

Assignments
Activations
PTT alarm
Match Conditions
Assignments
Activations
Response Triggers
External Actions
Send to Group minus
Assignments
Send Block
Response Handlir
Send to Sender
Assignments
Send Block
Response Handlir
Delay Actions
Action Groups
Translation Tables
Local Elements
Persistent Elements
7.
Define
Expression: 2
Destination: [out]Call Setup/:Speaker mode
Edit
Delete

Move
8.
Define
Expression: PTT Block
Destination: [out]Call Setup/:Tag
Edit
Delete

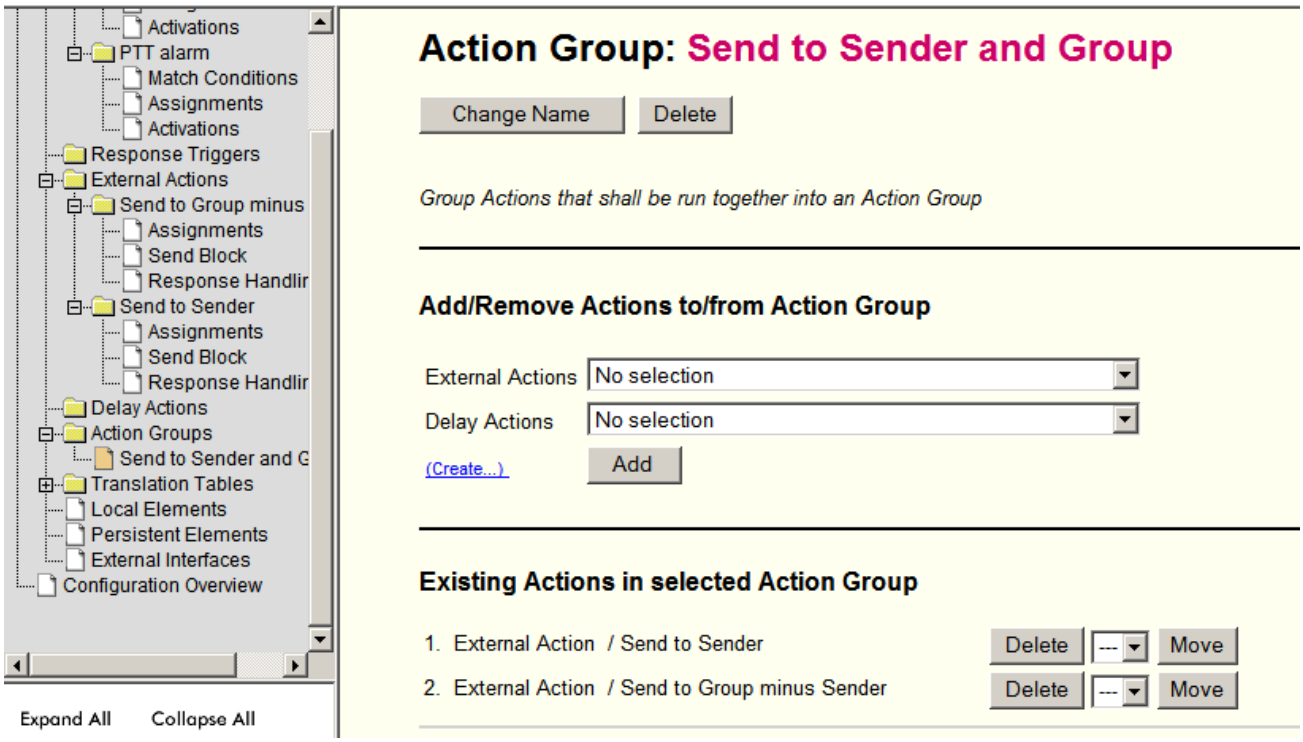
Move
9.
Define
Expression: PTT Call
Destination: [out]Call Setup/:Text
Edit
Delete

Move

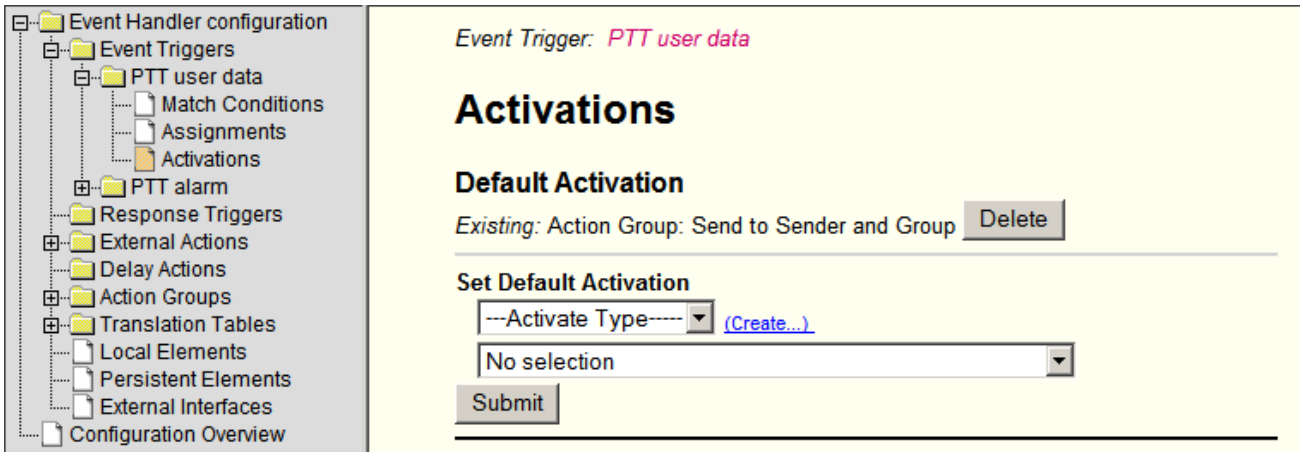
14. Next we create a Send to Sender - Send Block. Here we define an **[out] Call Setup/** block and use the default external interface

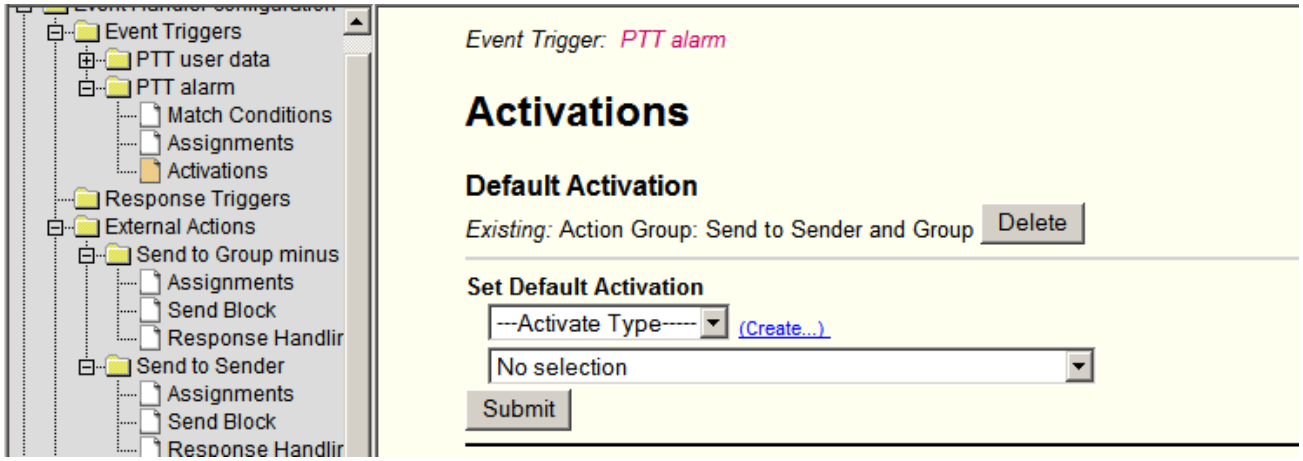


15. Now that we have created our two actions we can create our Action Group. For our example we have created the Action Group: **Send to Sender and Group** and in the group we included both of our external actions: **Send to Sender** and **Send to Group minus Sender**



16. Lastly we need to go back to our PTT User Data trigger and our PTT alarm trigger and set our Default Activations to the Action Group: **Send to Sender and Group.**





Technical Support Contact Information

Ascom U.S. technical support can be obtained through the following:

Application Note

Product: Ascom Handsets and Ascom Unite
Purpose: Instant Group Communicaton
Date: 11/15/2010

Phone: 1-877-71ASCOM or 1-877-712-7266

Email: techsupport@ascomwireless.com

Reference Documents

TD 92338GB	Installation and Operation Manual XGate (IGC)
TD 92364GB	User Manual Administration, XGate (IGC)
TD 92329GB	Programming Guide, Event Handler (IGC)
TD 92232GB	Installation Guide ELLISE2
TD 92161GB	Installation and Operation Manual Integrated Message Server (IMS)
TD 92253GB	Installation and Operation Manual for Enhanced System Services (ACS)