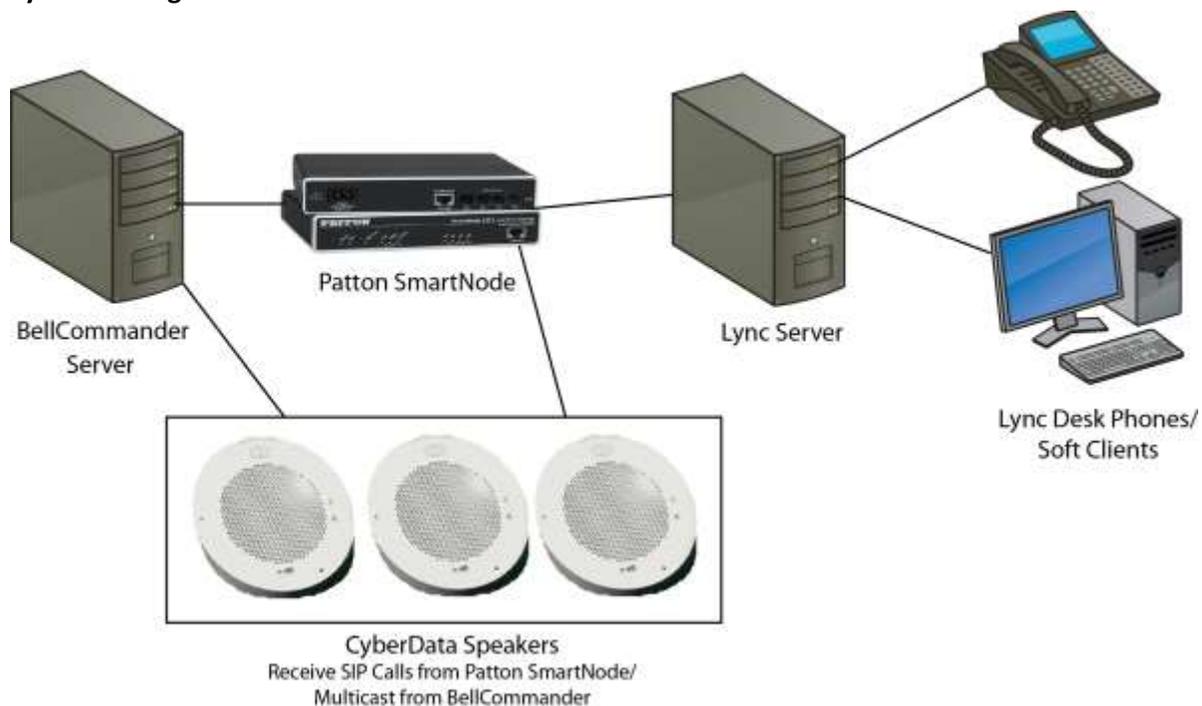# BellCommander Lync Configuration
with Patton SmartNode and CyberData Speakers

Overview:

The BellCommander Lync Configuration provides a complete audio scheduling, bell, and mass notification system with integration with Microsoft Lync.   The system also provides overhead paging via CyberData speakers and devices from Lync phone and clients.

System Configuration:

Patton SmartNode

BellCommander
Server

Lync Server

Lync Desk Phones/
Soft Clients

CyberData Speakers
Receive SIP Calls from Patton SmartNode/
Multicast from BellCommander

Components:

BellCommander Server – Windows PC or Server running BellCommander SIP/Multicast Software.

Patton SmartNode – Patton SmartNode gateway which supports integration with Lync

CyberData Speakers – Any CyberData V2 or V3 speaker or network audio product

Lync Server – Windows Server running Lync 2010 or 2013

Lync Desk Phones/Soft Clients – Windows Lync Client and desk phones that support Lync (ex. Polycom IP450)

BellCommander System Requirements:

Windows 8, 7, Vista, XP, Server 2012, Server 2008, or Server 2003

Pentium 1.4 GHz or higher (dual core recommended)

Recommended memory for Windows version installed

Multicast capable network with multicast routing enabled from BellCommander PC to CyberData speakers

Supported Operations:
Scheduled Bell/Audio Events – BellCommander sends multicast audio to CyberData IP speakers configured to listen to the targeted multicast address. Audio can be targeted to different groups of speakers by using different multicast addresses.

Mass Notification – Users from designated Lync phones and clients can call into BellCommander and enter codes to trigger BellCommander to play customizable audio alerts to the CyberData speakers

Overhead Paging (Patton) – Users from Lync phones and clients can call to individual CyberData speakers that are registered as SIP endpoints to the Patton SmartNode

Overhead Paging (Patton/BellCommander) – Users from designated Lync phones and clients can call into BellCommander to page to groups of CyberData speakers using multicast

System Limitations:
Lync doesn't currently support paging, so BellCommander is not able to page to groups of phones directly through Lync. Though, some phones are able to be configured to listen to multicast broadcasts. On most phones, the multicast format is the same generic g.711 RTP multicast format that CyberData uses. Polycom uses a different multicast format and BellCommander can send multicast in Polycom's format for scheduled bells and audio. Support will also be added for SIP to Polycom multicast paging in a future release of BellCommander.

Technical Setup:
For the initial setup, install the CyberData IP speakers and follow the CyberData/Patton configuration guide at
http://www.cyberdata.net/support/server/documentation/930559A_PATTON+CyberData_Lync_Guides.pdf

After verifying that the CyberData speakers can be paged via Lync, then BellCommander can be configured. The BellCommander SIP/Multicast Trial can be downloaded after filling out a brief form at
http://www.acrovista.com/bellcommander/download-sip.html

After installing the BellCommander SIP Version, follow the steps in the BellCommander/CyberData guide to configure multicast groups on the CyberData speakers and to send to the groups from BellCommander - http://download.acrovista.com/bccyberdata.pdf   After following this guide, BellCommander will be able to schedule audio and bells to the CyberData speakers.

Mass Notification:
To allow Lync phones to call into BellCommander, BellCommander will need to register as a SIP extension to the Patton SmartNode.   To register BellCommander with the SmartNode, view the configuration of the SmartNode and note an available extension and password. The extensions are in the authentication-service section of the SmartNode configuration.   An example section is shown below:

authentication-service AUTH_SRV_CYBER
 realm 1 192.168.2.149
 username 500 password 500test
 username 501 password 501test
 username 502 password 502test
 username 503 password 503test
 username 504 password 504test
 username 505 password 505test

Choose an extension that is not being used by any other devices and note the password for the extension.   Then, open BellCommander and follow the steps below:

1. Open the Device Manager in BellCommander.
2. Select SIP Extensions from the top drop-down, Sound Device Type.
3. Check the box for "Enable SIP Extensions".
4. For the SIP Server IP/Host Name, enter the IP address of the SmartNode.
5. Click the Apply button.
6. Click the Add… button under "Local SIP Extensions".
7. In the Add Local SIP Extension window, enter the extension number and the password for the extension being registered to the SmartNode.   The rest of the options can be left at the default values.

8. After the extension is added the status should change to "Registered"   If the status shows, "Not Connected", verify the extension and password.   The BellCommander log files (Options|View Log Folder) will also show the full SIP communication. If the logs show "Received SIP/2.0 402 Maximum number of free registrations reached", then the SmartNode may needed to be rebooted.

9. Click the Add… button under "Allowed Extensions" and enter an extension that will be allowed to call into BellCommander.   Repeat the process to add additional extensions.
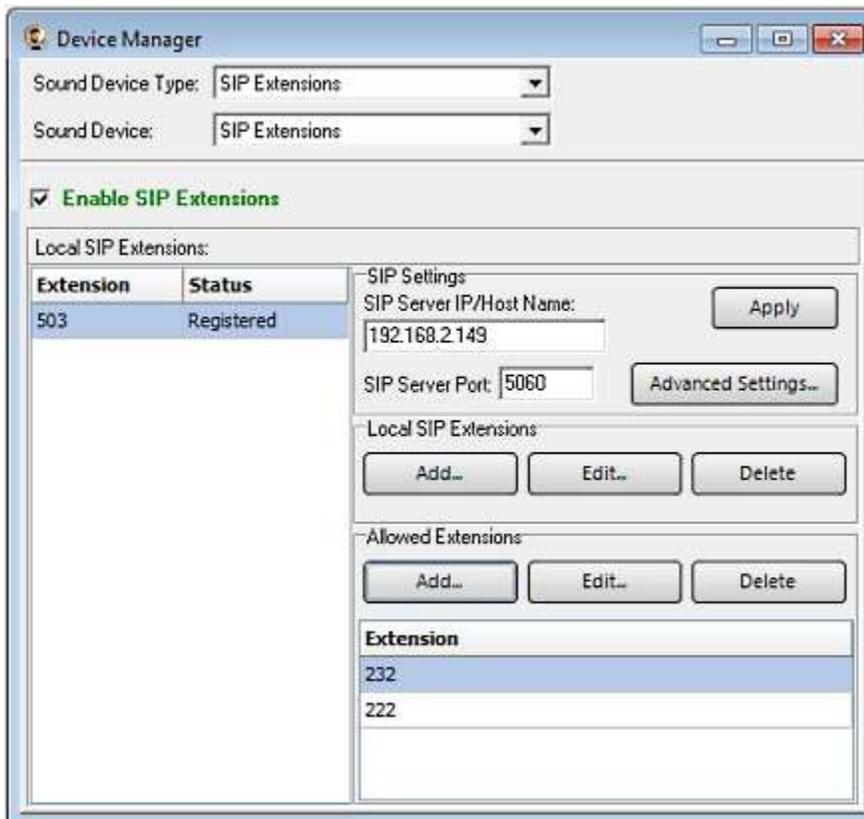
10. At this point, BellCommander should be configured to receive calls. To test, use a phone in the Allowed Extensions list and call into the extension registered by BellCommander.   To launch a notification, enter the notification's SIP code and press the # key. The SIP codes for the notifications can be found in the Notifications window.   By default, dialing 991# will trigger the Tornado notification.   Dialing 999# will stop the active notification. The BellCommander log files (Options|View Log Folder) can be used for troubleshooting if the notifications aren't launched.

Overhead Paging (Patton/BellCommander)

BellCommander can receive calls from Lync phones and forward the audio to multicast groups for CyberData speakers and phones that support generic g.711 RTP multicast.   The configuration would be nearly identical to the mass notification configuration above.   The same process should be done with adding an additional SIP extension.   When adding the SIP extension, the extension can either be mapped directly to a paging group or BellCommander can answer and wait for a zone code followed by the # key to be entered.   The default option would be to wait for the user to enter a zone code, but to map the extension to a paging zone, select "Page Zone" and select the zone to be paged:
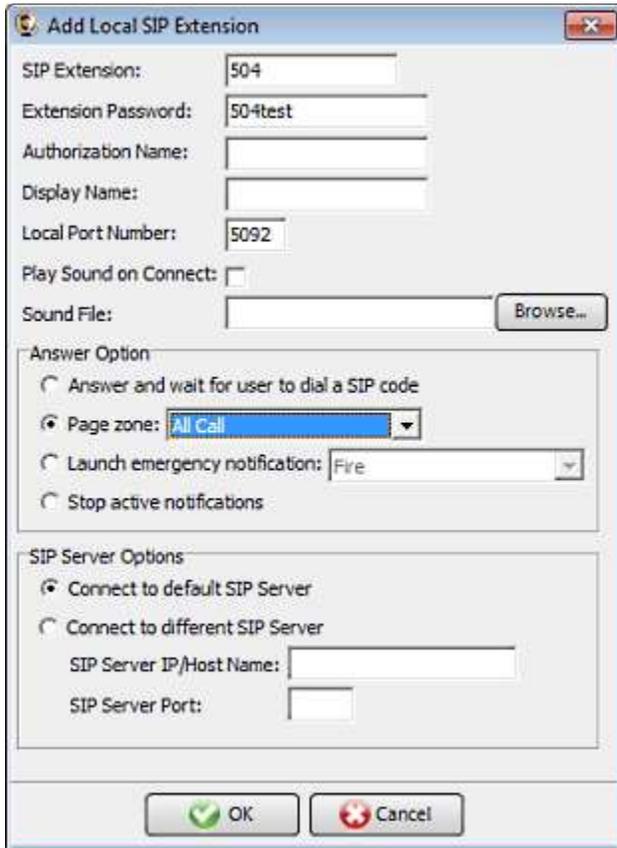
In the example above, BellCommander will immediately begin sending audio to the "All Call" zone when extension 504 is called from an allowed extension.   For the default option to wait for a SIP code, the zone SIP codes would be set in the Zone Manager through the add or edit zone buttons.