

NEC America

XO SIP Service Customer Configuration Guide for SIP
Service Customer Configuration Guide for NEC Spherically
v.7.0.2.12

1. Overview

About this Document:

This document describes interoperability between XO SIP Package 1 (G.711) and Package 2 (G.729a) and NEC Spherical version 7.0.2.12 IP PBX deployed with an XO-provided Cisco 2432 Integrated Access Device (IAD) as the router/demarcation device.

This document assumes the audience has a general understanding of network provisioning and the connectivity requirements of XO Communications SIP service offering.

Known issues/limitations:

1. NEC Spherical supports T.38 fax with 'Quintum Gateway' but T.38 Fax calls were not tested with XO SIP Trunk due to lab setup limitation.
2. NEC Spherical doesn't support 'Diversion' header. In PSTN to PSTN call forward scenario, original caller ID (PSTN number) doesn't get displayed on forwarded party. It displays default outbound caller ID configured on NEC Spherical.
3. MoH (Music on Hold) from NEC Spherical to work (to support 'a=sendonly') may require workaround on XO side. Please contact XO support for more information.
4. NEC Spherical does not support outbound caller ID blocking (*67).
5. NEC Spherical does not support REFER based call transfer.
6. NEC Spherical does not support more than 3 party conference calls.
7. Modem calls were not tested.
8. NEC Spherical supports video codec which XO doesn't support.

Registration Method

Static registration is utilized between the NEC Spherical 7.0.2.12 IP PBX and the XO call agent.

XO SIP Service Packages Supported

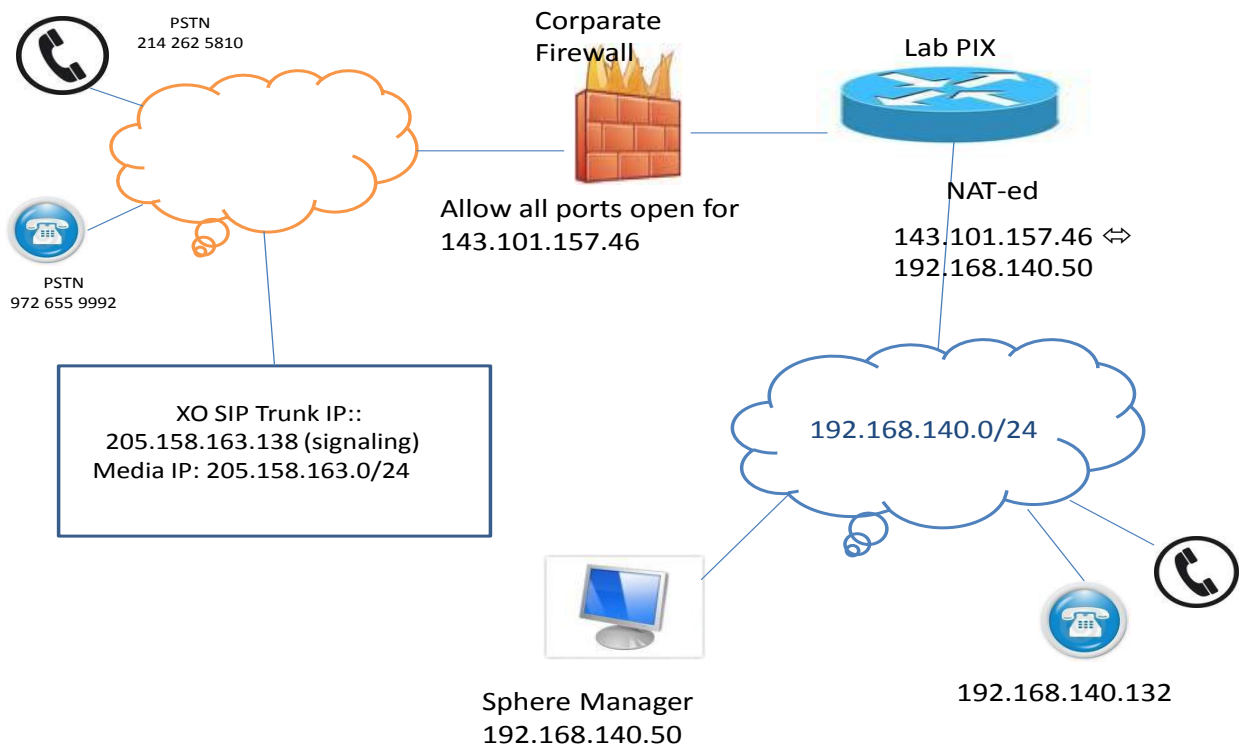
Pkg	Codec	DTMF	Fax
1	G.711	In-band RTP or RFC2833	T.38* and G.711 pass-through T.38 Fax was not tested.
2	G.729a G.711 is secondary	RFC2833 only	T.38* and G.711 pass-through; T.38 Fax was not tested.

2. Testing of NEC Sphericall version 7.0.2.12

2.1. Software and Hardware Versions Tested

1. NEC Sphericall
 - a. Hardware: Windows 2008 R2 Sever, PhoneHub Version 7.0.2.12,
 - b. Software Package: Sphericall Version =7.0.2.12 , phone hub = 7.0.0.2
2. NEC Phones
 - a. Polycom 450
 - a. Software Version: BootROM 4.2.2.0710, Application 3.2.3.1734
 - b. NEC DT700
 - a. Software version: 1.1.11.10
3. Cisco 2432-24FXS IAD
 - a. Software Version: c2430-is-mz.xo
4. Sonus NBS: V07.03.01 R006
5. Broadsoft AS: Rel_17.0_1.458

2.2. Lab test network diagram:



Sphere Server:

IP Address: 192.168.140.50

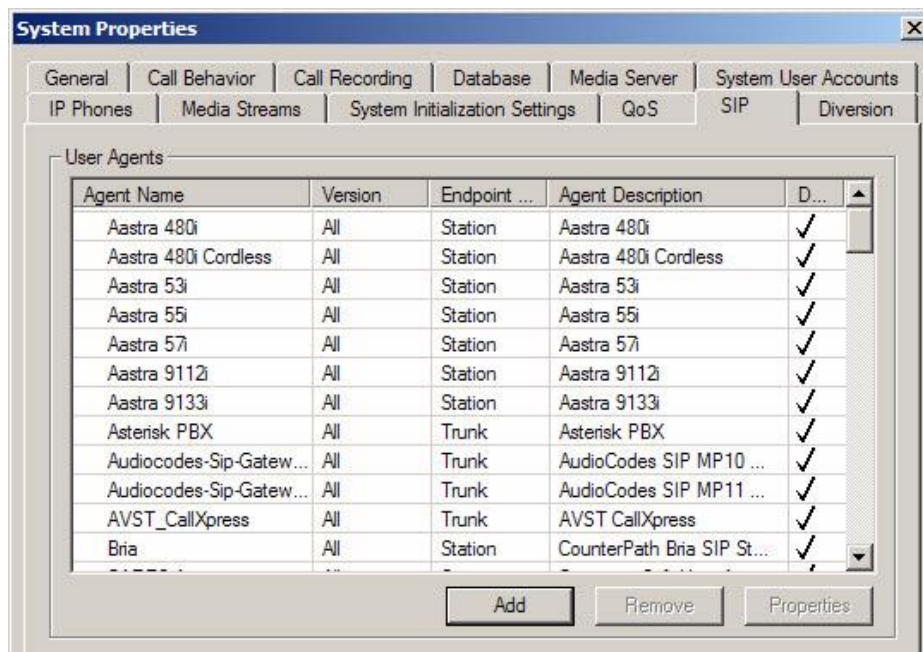
Subnet Mask: 255.255.255.0

Default Gateway: 192.168.140.254

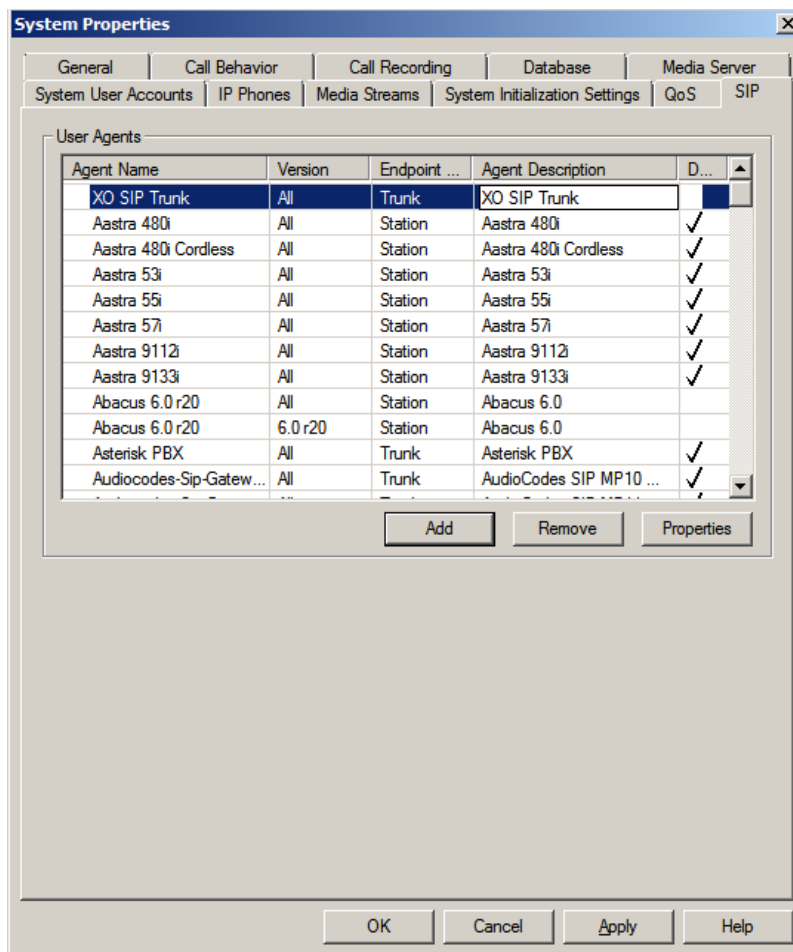
XO SIP trunk Configuration in Sphericall:

This is a pure SIP soft trunking to an outside service provider. The configuration steps are the following:

1. Create a new SIP User agent for XO SIP Trunk in Sphere Administrator
 - a. Select the SIP tab on the System Properties window.



- b. Review the User Agents listed in the window
- c. If the SIP endpoint you are using is not listed in this window, then click **Add**
- d. Enter the User Agent name – XO SIP Trunk
- e. Enter in the field the Version – leave it empty(All)
- f. Select an endpoint - Trunk
- g. Enter an Agent Description that is appropriate for the Name & Endpoint Type – XO SIP Trunk
- h. Click **Apply**.



- After the XO SIP Trunk user agent is created, set the following parameters, the other parameters can take their own default values:

INVITE Request-URI Source	INVITE Request To-URI
MediaServer Max Packetization (ms)	20ms
OPTIONS Request:	Unsupported
REFER Based Transfer:	Unsupported

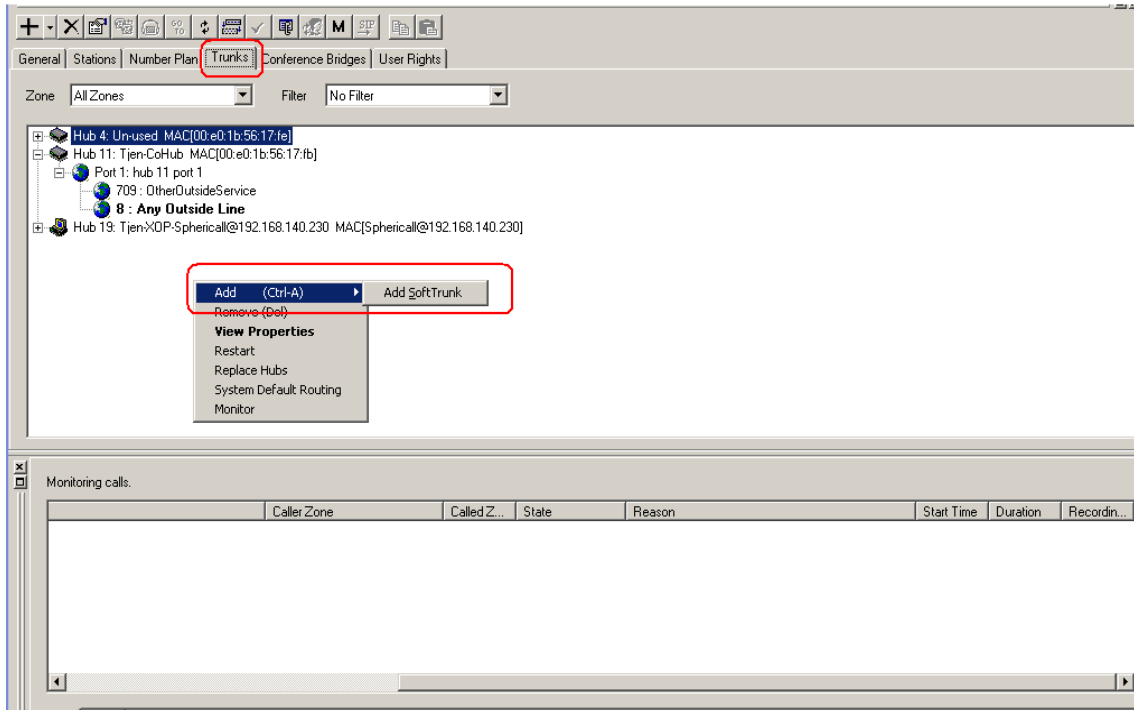
User Agent Parameter	Value
'talk' Event (Notify Request) Based 3PCC	Unsupported
'to-tag' (SUBSCRIBE Request) In New Subscription	Disallowed
Click-To-Dial	Ring Caller's Phone First
Convert Firmware	Not Applicable
Desktop Audio Switching Supported	Unsupported
Desktop Video	Unsupported
Drop call on 400 Re-INVITE response	Unsupported
Drop call on 486 Re-INVITE response	Unsupported
Drop call on 488 Re-INVITE response	Unsupported
Enable Distinctive Ringing	Disabled
Endpoint Created By	Call Manager
Find Terminal Method	Default
Hardware Address	Unavailable
INVITE Request-URI Source	INVITE Request To-URI
MWI NOTIFY Request	Supported
MWI SUBSCRIBE Request	Supported
MediaServer Max Packetization (ms)	20 ms
OPTIONS Request	Unsupported

Revert to Default OK Cancel

User Agent Parameter	Value
MediaServer Max Packetization (ms)	20 ms
OPTIONS Request	Unsupported
REFER Based Transfer	Unsupported
Re-INVITE With Held SDP	Holds Call And Provides MoH
Receiving MoH	Supported
Reliable Provisional Response	Unsupported
Remote Reboot	Unsupported
Retry-After Value Sent In SIP Response (sec)	300 sec
Send Forwarding Information	Disabled
Send Non-Primary Number	Disabled
Send Transferring Information	Disabled
Session Timer	Unsupported
Session Timer Refresher	Call Manager
Timer C	Unsupported
URI 'qheaders' Parameter	Supported
Video	Unsupported
xpdf+xml support for Presence	Supported

Revert to Default OK Cancel

3. Add a new soft trunk : In Sphere Administrator, Trunks tab, right click, Add->AddSoftTrunk



4. Create a new XO SIP Trunk

The screenshot shows a 'Configure Service Provider' dialog box with the following configuration:

Field	Value
Description	XO SIP Trunk
Account	2146355886
Service Provider Domain	205.158.163.138
Outbound Proxy	205.158.163.138
Port	5060
Registration Type	None
Primary MGC	sphere-primary
Secondary MGC	None
Contact Domain	
Preferred Transport	UDP
User Agent	XO SIP Trunk

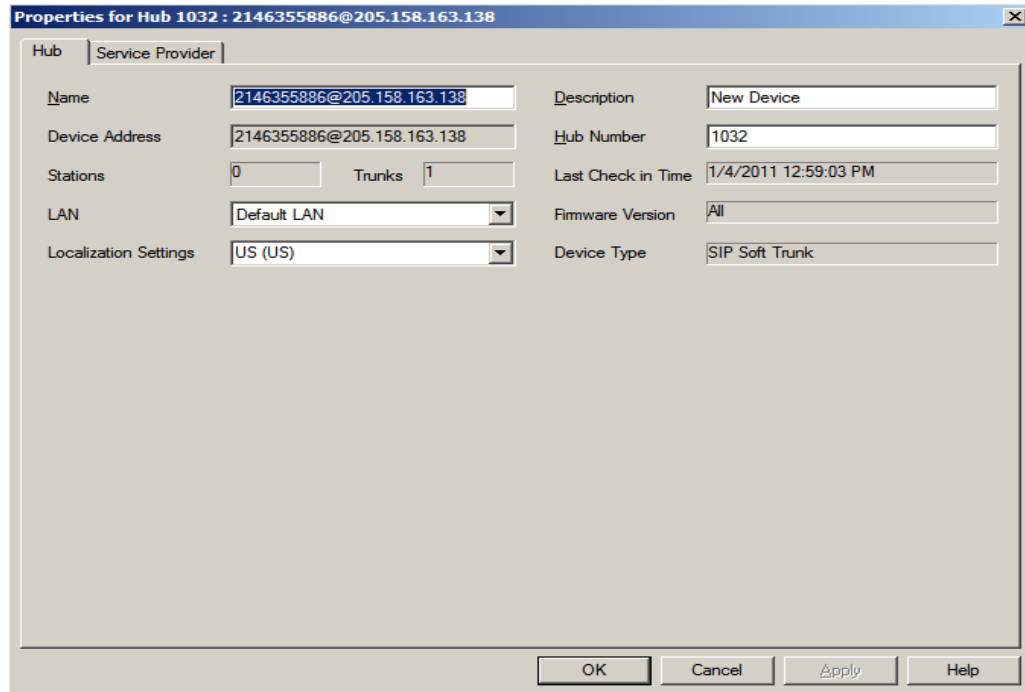
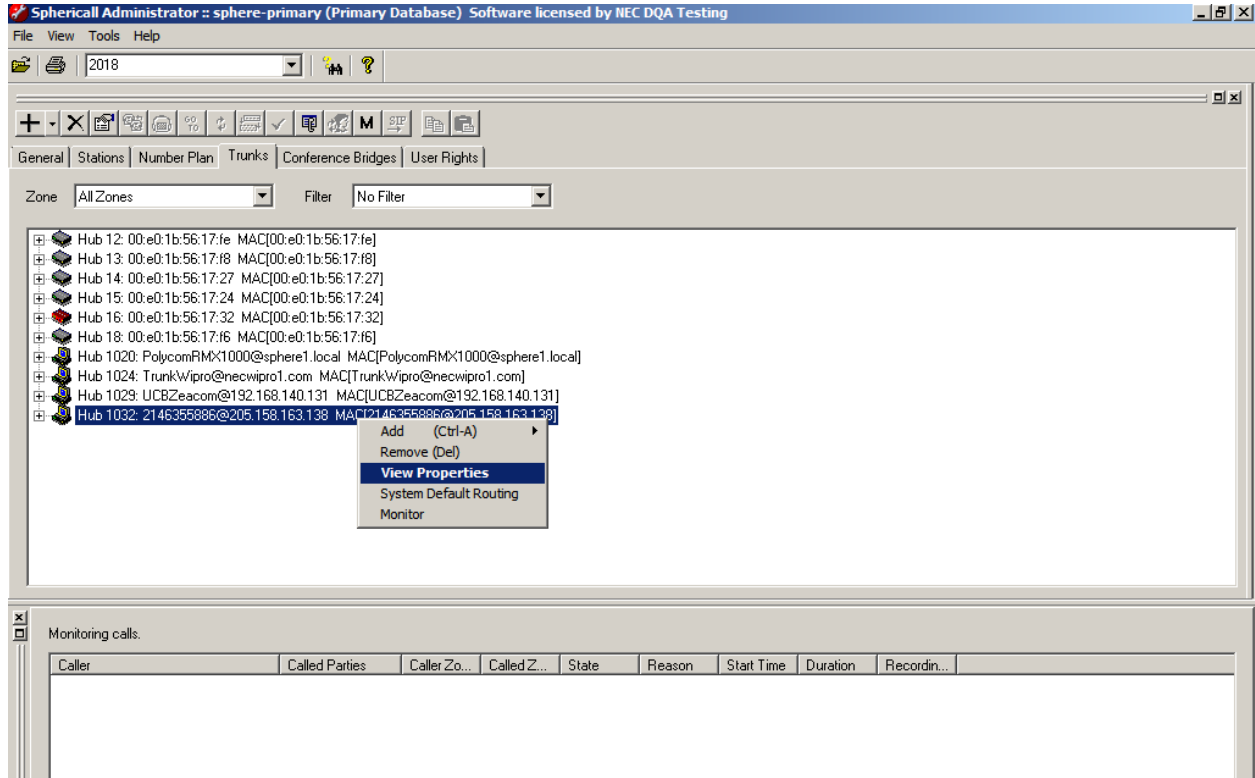
Buttons: DNS Test, OK, Cancel

Service provider Domain: XO NBS IP

Outbound proxy: XO NBS IP

Account: One of DID provided by XO. (XO doesn't require account name and password).

5. After SIP trunk created, view trunk Properties



6. Configure SIP trunk properties

