

Overview

This document will guide you through the process of configuring NetBorder Express Gateway to work with Microsoft Lync Server 2010. The configuration process is divided into two simple steps:

- Step 1, setup your gateway following the [NBE System Configuration](#) section.
- Step 2, add your gateway to Lync's topology following [Microsoft Lync Server 2010 Configuration](#)

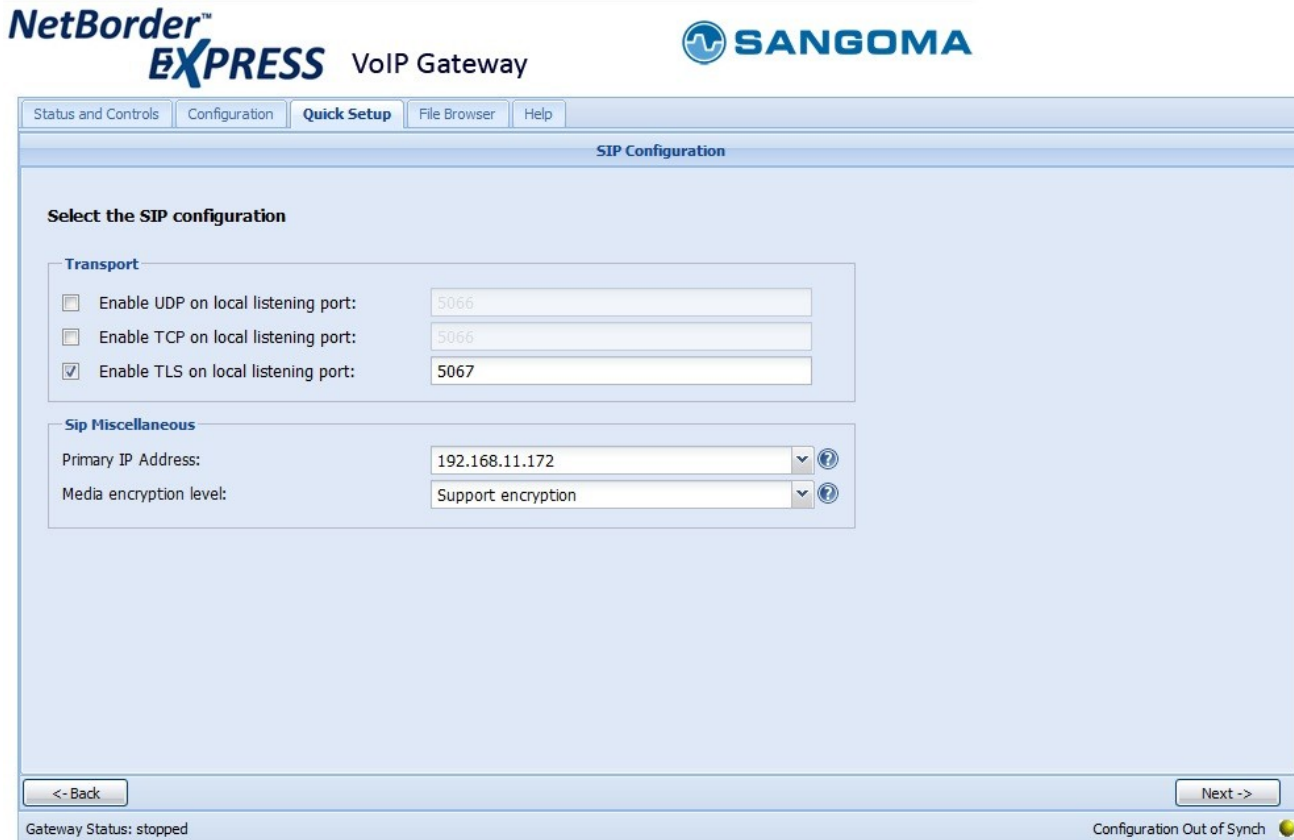
NBE System Configuration

This system is the computer that will be running NetBorder Express Gateway. First, follow these steps:

1. Set the domain name, host name and IP configuration of the system.
2. Install NetBorder Express Gateway on the system. Please refer to ***\$INSTALLDIR/doc/Gateway_Installation_Guide.pdf*** for assistance.
3. Generate the TLS certificate: Follow the corresponding section in the document ***\$INSTALLDIR/doc/OCS_TLS_Configuration_Guide.pdf***
4. Run the “Quick Setup”:
 - Within your favorite Web browser, access the NBE Web GUI at: <http://localhost:7783/>
 - Click on the “Quick Setup” tab and follow the wizard.

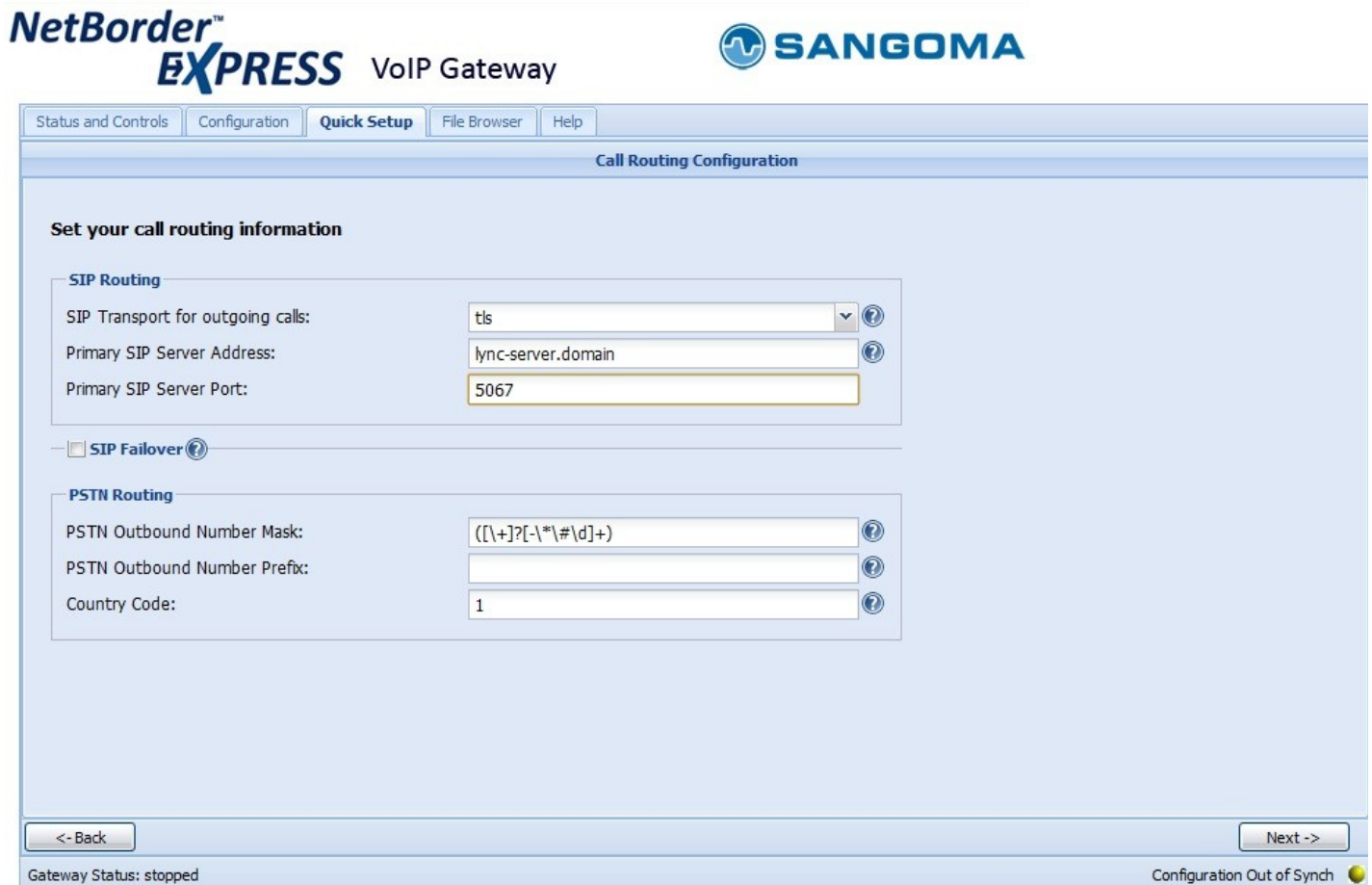
Note: ***\$INSTALLDIR*** refers to the following path in Linux: ***“/opt/Netborder/Express/Gateway”*** and in Windows: ***“C:/Program Files/Netborder/Express/Gateway”***

- In the “SIP Configuration” section, check **Enable TLS on local listening port**.



The screenshot shows the NetBorder Express VoIP Gateway configuration interface. At the top, there's a header with the NetBorder EXPRESS logo and the text 'VoIP Gateway', followed by the SANGOMA logo. Below the header is a navigation bar with tabs: 'Status and Controls', 'Configuration', 'Quick Setup' (which is active), 'File Browser', and 'Help'. The main content area is titled 'SIP Configuration'. Under the heading 'Select the SIP configuration', there are two sections: 'Transport' and 'Sip Miscellaneous'. In the 'Transport' section, there are three rows: 'Enable UDP on local listening port:' with a text box containing '5066', 'Enable TCP on local listening port:' with a text box containing '5066', and 'Enable TLS on local listening port:' with a checked checkbox and a text box containing '5067'. In the 'Sip Miscellaneous' section, there are two rows: 'Primary IP Address:' with a dropdown menu showing '192.168.11.172' and a help icon, and 'Media encryption level:' with a dropdown menu showing 'Support encryption' and a help icon. At the bottom of the configuration area, there are two buttons: '<- Back' and 'Next ->'. Below the configuration area, there's a status bar that says 'Gateway Status: stopped' on the left and 'Configuration Out of Synch' with a yellow circle icon on the right.

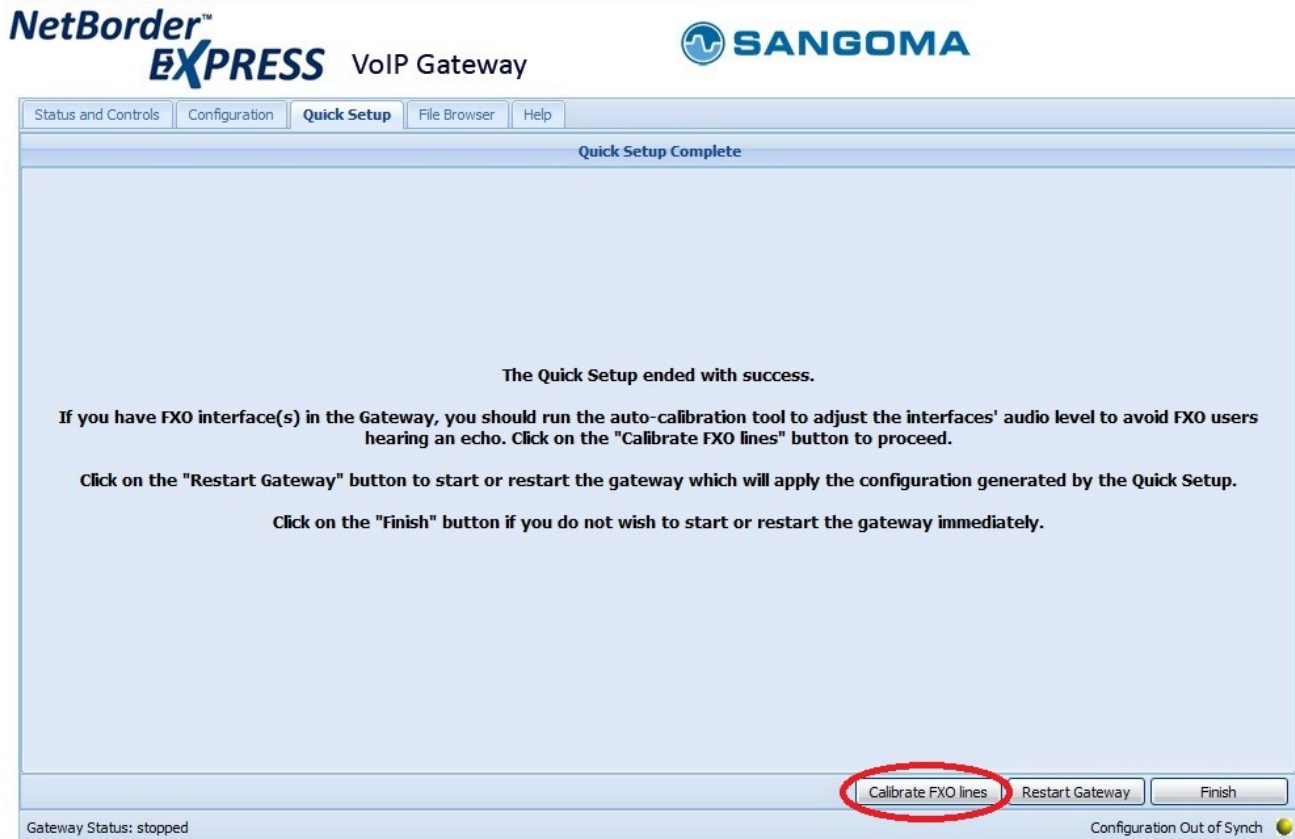
- In the “Call Routing Information” section, set the **Primary SIP Server Address** to your Lync Mediation Server FQDN. Also set the **Primary SIP Server Port** to 5067 because the Lync Mediation Server listens on that port by default.



The image shows the NetBorder Express VoIP Gateway configuration interface. The top navigation bar includes tabs for Status and Controls, Configuration, Quick Setup, File Browser, and Help. The main content area is titled "Call Routing Configuration" and contains a section "Set your call routing information". Under "SIP Routing", there are three fields: "SIP Transport for outgoing calls" (set to "tls"), "Primary SIP Server Address" (set to "lync-server.domain"), and "Primary SIP Server Port" (set to "5067"). Below this is a checkbox for "SIP Failover" which is unchecked. Under "PSTN Routing", there are three fields: "PSTN Outbound Number Mask" (set to "([\\+]?[\\-]*[\\#\\d\\+])"), "PSTN Outbound Number Prefix" (empty), and "Country Code" (set to "1"). At the bottom, there are buttons for "<- Back" and "Next ->". The status bar at the bottom indicates "Gateway Status: stopped" and "Configuration Out of Synch".

- If you are configuring a Branch Site, you might also have to set a **Backup SIP Server Address/Port** by first checking **SIP Failover**.

- If you are using FXO interfaces on the system, make sure that they are connected and perform the “Calibrate FXO lines” steps at the end of the Quick Setup wizard.



- Finish the Quick Setup.

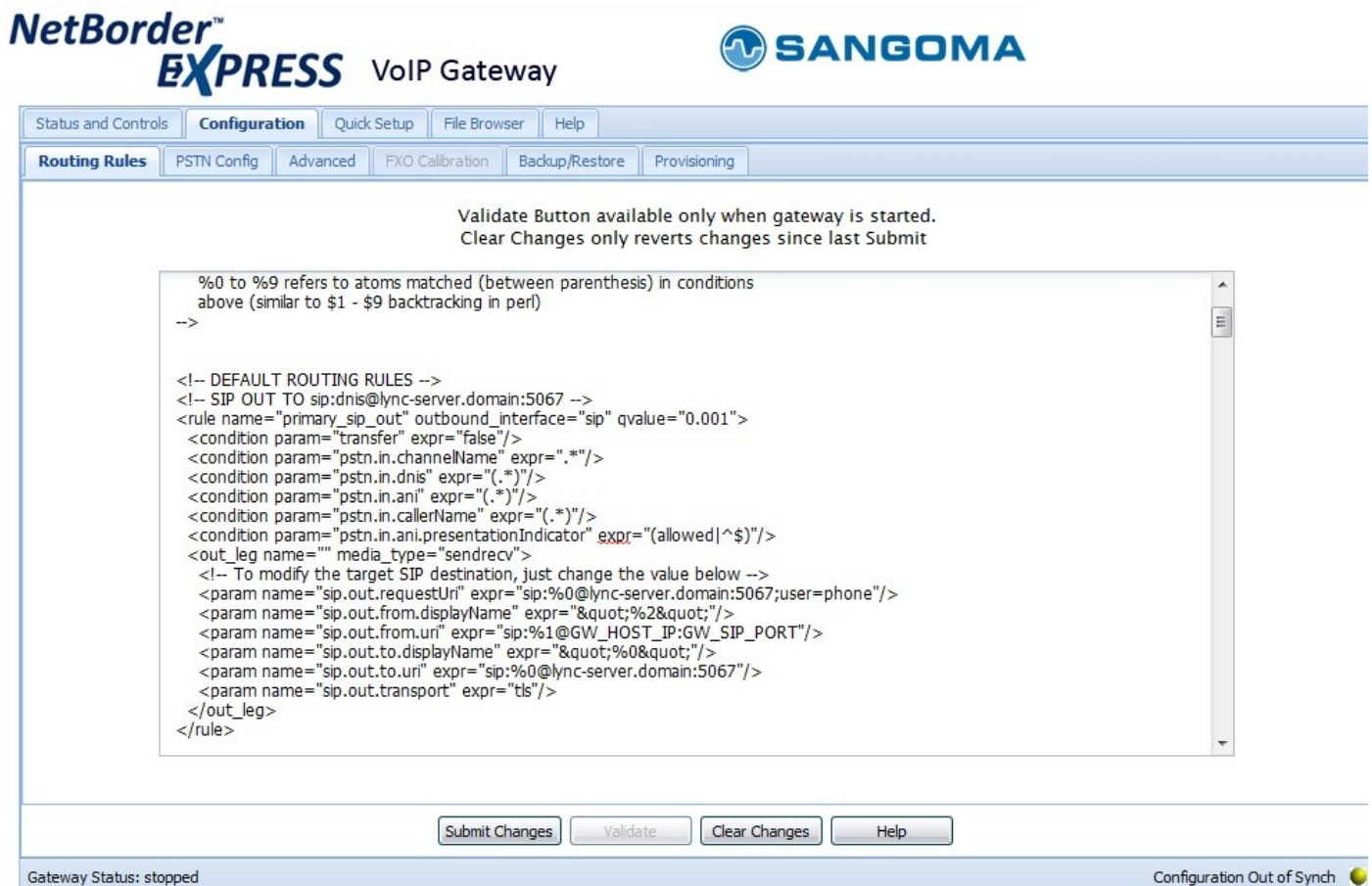
5. Configure specific advanced gateway parameters by copy pasting these 2 commands in a command shell.

```
cd "$INSTALLDIR/bin"
```

```
netborder-properties-editor -p ../config/netborder-gateway-paramDefs.xml -c "  
set netborder.gw.failoverMode stopFailoverOnSipMessage;set netborder.media.rtp.lockOnSDP true;  
set netborder.media.srtp.mode as-needed;set netborder.net.HostNameServer.DNSServerIPAddrList use-host-dns-list;  
set netborder.sip.contactHostNameMode automatic-hostname;  
set netborder.sip.in.send183wSDPBeforeMediaAvailable true;  
set netborder.media.vad.silenceDecisionDebounceMs 850;set netborder.sip.interpretSupported100RelAsRequire true;  
set netborder.sipIsdnMessageMapping.config.file \"C:/Program Files/Netborder/Express/Gateway/config/sip-response-isdn-cause-mapping-  
ocs.xml\";  
save ../config/gw.properties\" ../config/gw.properties
```

Reminder: *\$INSTALLDIR* refers to the following path in Linux: **“/opt/Netborder/Express/Gateway”** and in Windows: **“C:/Program Files/Netborder/Express/Gateway”**

6. You may have to manually modify the routing rules to fit your needs. You can view and edit the routing rules through the Web GUI under the “Configuration/Routing Rules” tab. The two rules that should be fired by default are “primary_sip_out” and “default_pstn_out_with_caller_name”. (For detailed information on routing rules, please consult **\$INSTALLDIR/doc/Routing_Rules_Guide.pdf**)



NetBorder[™]
EXPRESS VoIP Gateway

Status and Controls **Configuration** Quick Setup File Browser Help

Routing Rules PSTN Config Advanced FXO Calibration Backup/Restore Provisioning

Validate Button available only when gateway is started.
Clear Changes only reverts changes since last Submit

```

%0 to %9 refers to atoms matched (between parenthesis) in conditions
above (similar to $1 - $9 backtracking in perl)
-->

<!-- DEFAULT ROUTING RULES -->
<!-- SIP OUT TO sip:dnis@lync-server.domain:5067 -->
<rule name="primary_sip_out" outbound_interface="sip" qvalue="0.001">
  <condition param="transfer" expr="false"/>
  <condition param="pstn.in.channelName" expr="."/>
  <condition param="pstn.in.dnis" expr="(.)"/>
  <condition param="pstn.in.ani" expr="(.)"/>
  <condition param="pstn.in.callerName" expr="(.)"/>
  <condition param="pstn.in.ani.presentationIndicator" expr="(allowed|^$)"/>
  <out_leg name="" media_type="sendrecv">
    <!-- To modify the target SIP destination, just change the value below -->
    <param name="sip.out.requestUri" expr="sip:%0@lync-server.domain:5067;user=phone"/>
    <param name="sip.out.from.displayName" expr="&quot;%2&quot;"/>
    <param name="sip.out.from.uri" expr="sip:%1@GW_HOST_IP:GW_SIP_PORT"/>
    <param name="sip.out.to.displayName" expr="&quot;%0&quot;"/>
    <param name="sip.out.to.uri" expr="sip:%0@lync-server.domain:5067"/>
    <param name="sip.out.transport" expr="tls"/>
  </out_leg>
</rule>

```

Submit Changes Validate Clear Changes Help

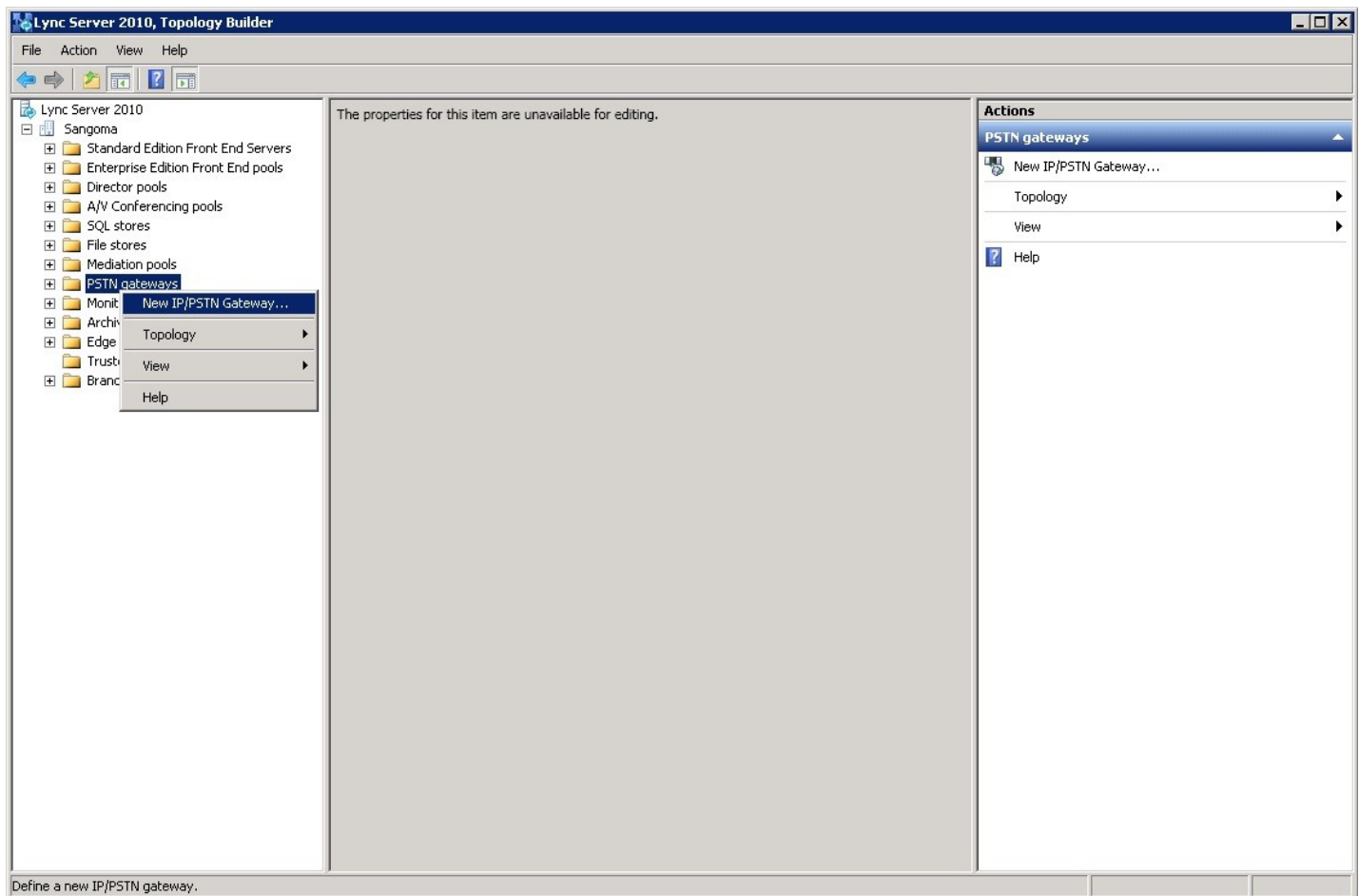
Gateway Status: stopped Configuration Out of Synch

7. Your system's NetBorder Express Gateway is now ready to work with Microsoft Lync Server 2010. The only step left is to add it to your Microsoft Lync Server's list of Gateways.

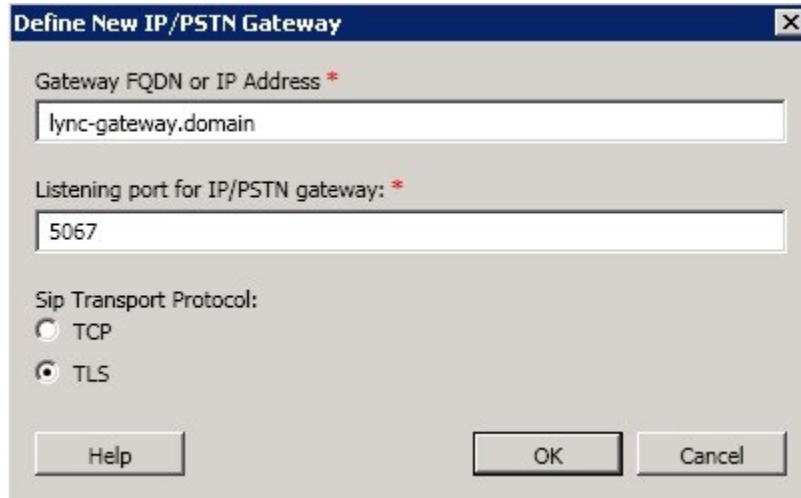
Microsoft Lync Server 2010 Configuration

For Microsoft Lync Server 2010 to use NetBorder Express Gateway, the latter needs to be added to Lync's topology. If your Microsoft Lync Server 2010 is not already installed or for any Lync concern, please refer to the Lync documentation (<http://lync.microsoft.com>). To add NetBorder Express Gateway to Lync's topology, please follow these steps:

1. Log in as a domain Administrator on the computer running Microsoft Lync Server 2010, then open the “Lync Server Topology Builder”. Open your topology and right-click on PSTN gateways and select **New IP/PSTN Gateway**. (If you are configuring a Branch Site, create a new Branch Site instead)

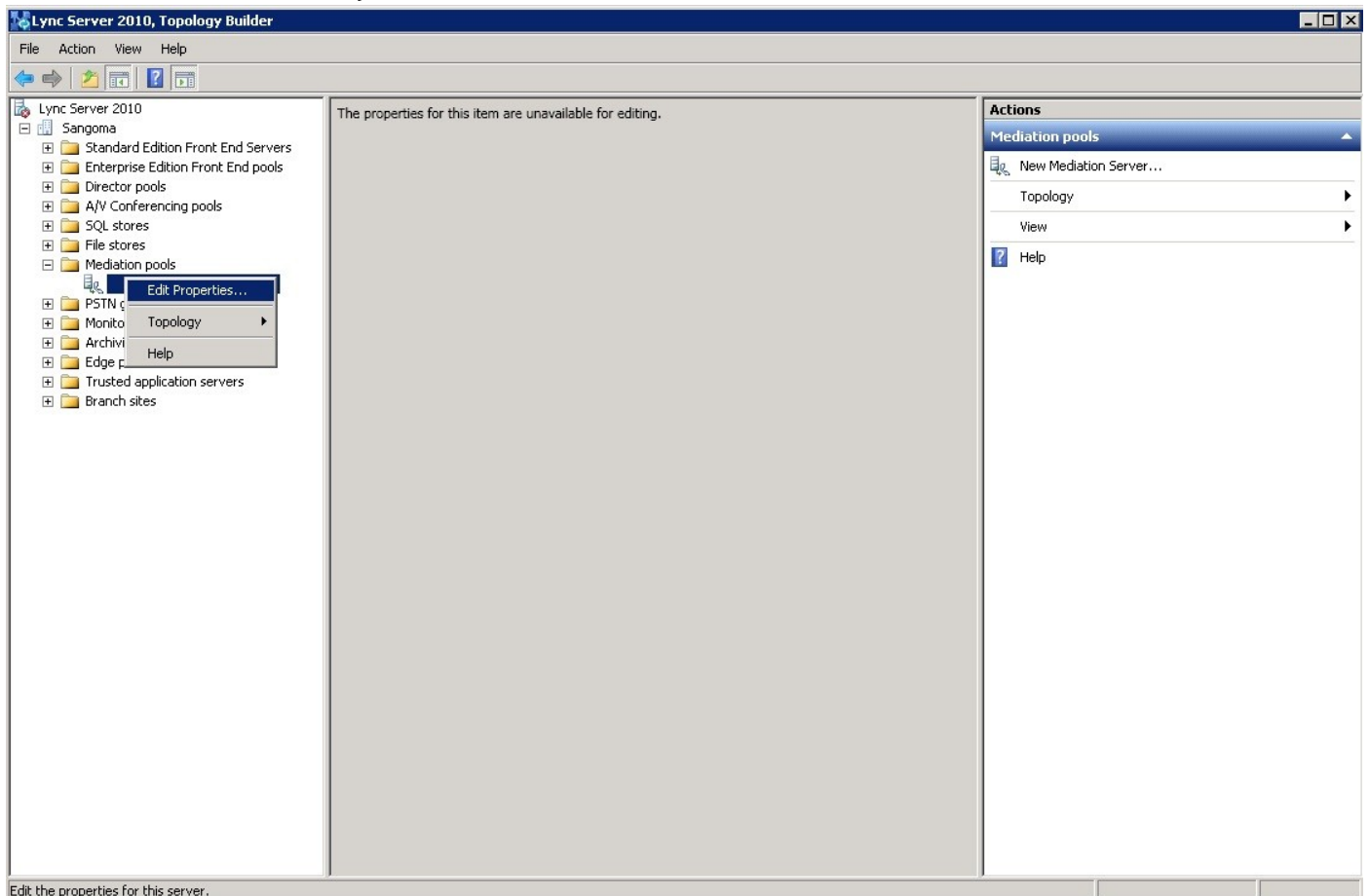


2. Complete the **Gateway FQDN or IP Address** field. This is the FQDN of the system running NBE.



The dialog box is titled "Define New IP/PSTN Gateway". It contains two text input fields. The first field is labeled "Gateway FQDN or IP Address *" and contains the text "lync-gateway.domain". The second field is labeled "Listening port for IP/PSTN gateway: *" and contains the text "5067". Below these fields are two radio buttons for "Sip Transport Protocol": "TCP" (unselected) and "TLS" (selected). At the bottom are three buttons: "Help", "OK", and "Cancel".

3. Associate the Gateway to the Mediation Server.



Edit Properties

PSTN gateway

Mediation Server PSTN gateway

Listening ports: * TLS: TCP:

☐ Enable TCP port

The following gateways are not associated with any Mediation Server. Click Add to associate them with this Mediation Server.

Gateway	Site

Add...

The following gateways are associated with this mediation server. Click New to define a new gateway and add it to the list. Click Remove to remove a gateway from the list.

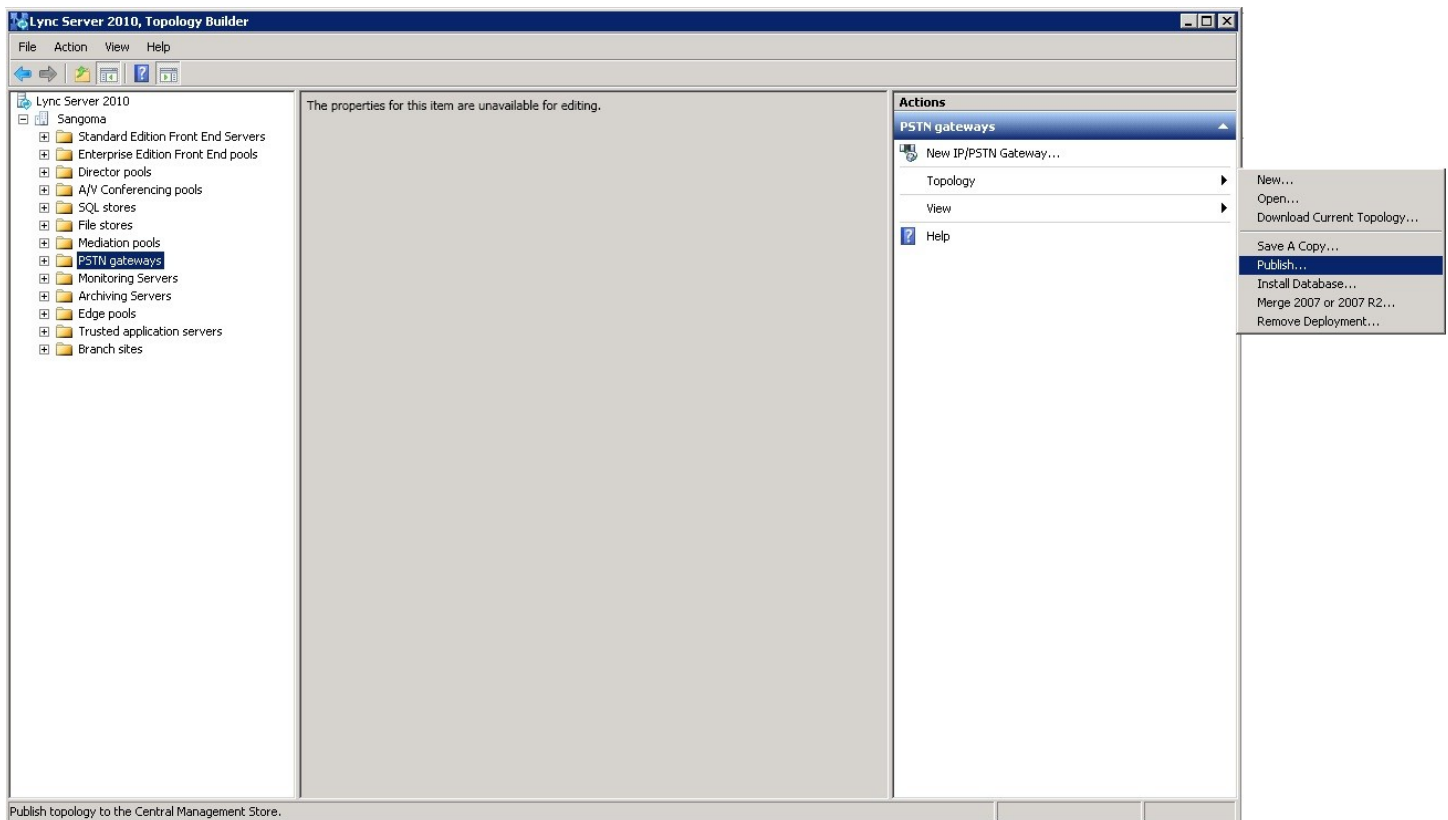
Gateway	Site
✓ lync-gateway.domain	Sangoma

New...
Remove

Make Default

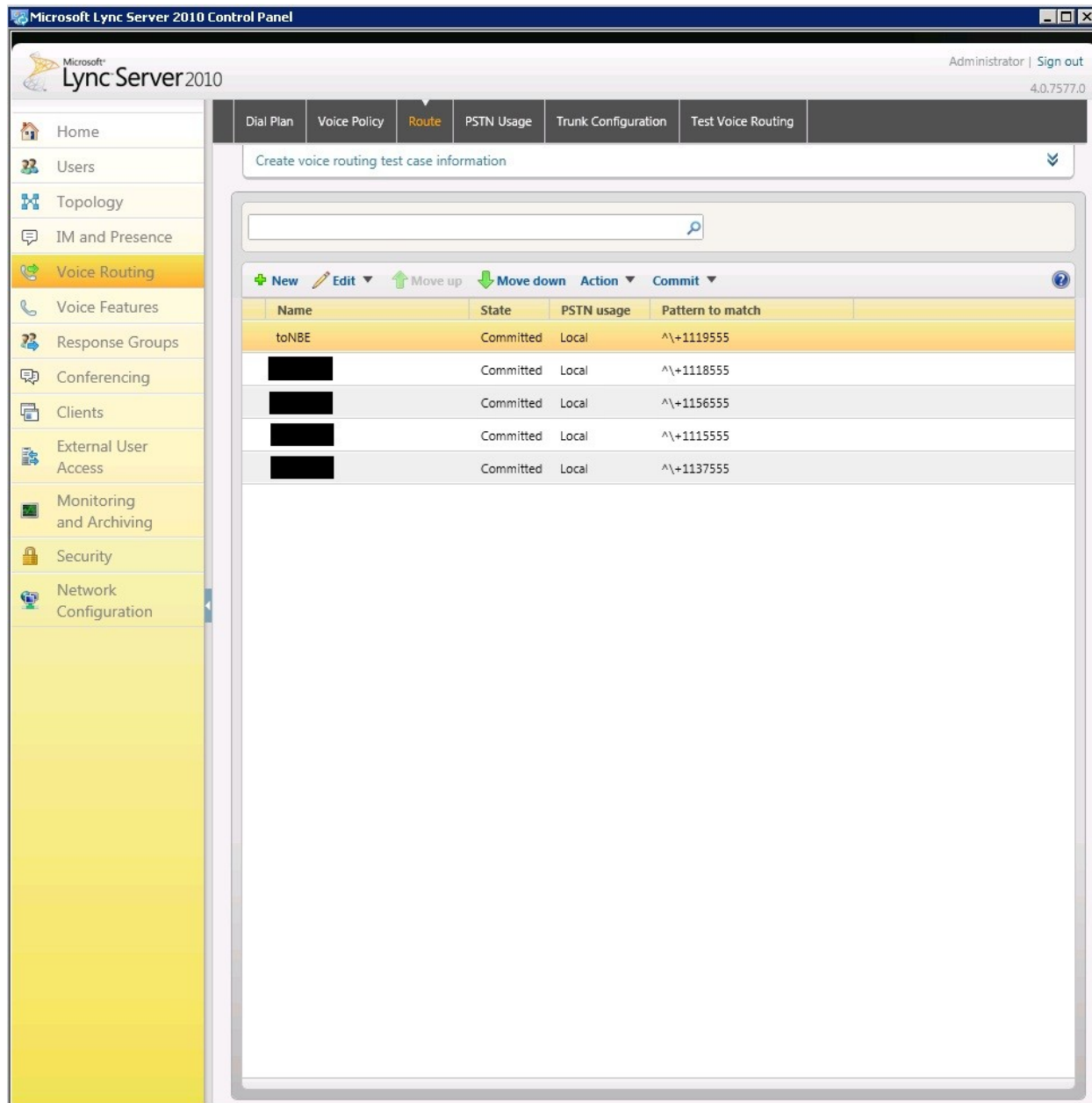
Help OK Cancel

4. Save and publish the new topology. (Note that you may have to reboot the system or restart Lync's services for the new topology to take effect)



5. Open Lync Server Control Panel.

6. On the left menu, select “Voice Routing”. Under the “Route” tab, you need to create at least one new Voice Route for Lync to be able to reach NetBorder Express Gateway when a Lync user calls a given extension pattern.



7. You might need to edit your dial plan translation patterns under the “Dial Plan” tab to fit your customized needs. Please refer to Microsoft Lync Server’s documentation.