CyberData

The IP Endpoint Company

NET UX Series with Microsoft Lync 2010 and CyberData VoIP Devices

Configuration Note

Document Part #*930529A*

CyberData Corporation
3 Justin Court
Monterey, CA 93940
(831) 373-2601

Contents

1 Introduction

This document provides general configuration instructions for the Network Equipment Technologies (NET) UX Series of products to work with CyberData's VoIP device systems. The UX acts as a gateway between the customer's Microsoft Lync Server 2010 environment and CyberData's VoIP device system.

References to "UX" in this Configuration Note refer to the UX2000 or UX1000.

2 Assumptions and Prerequisites

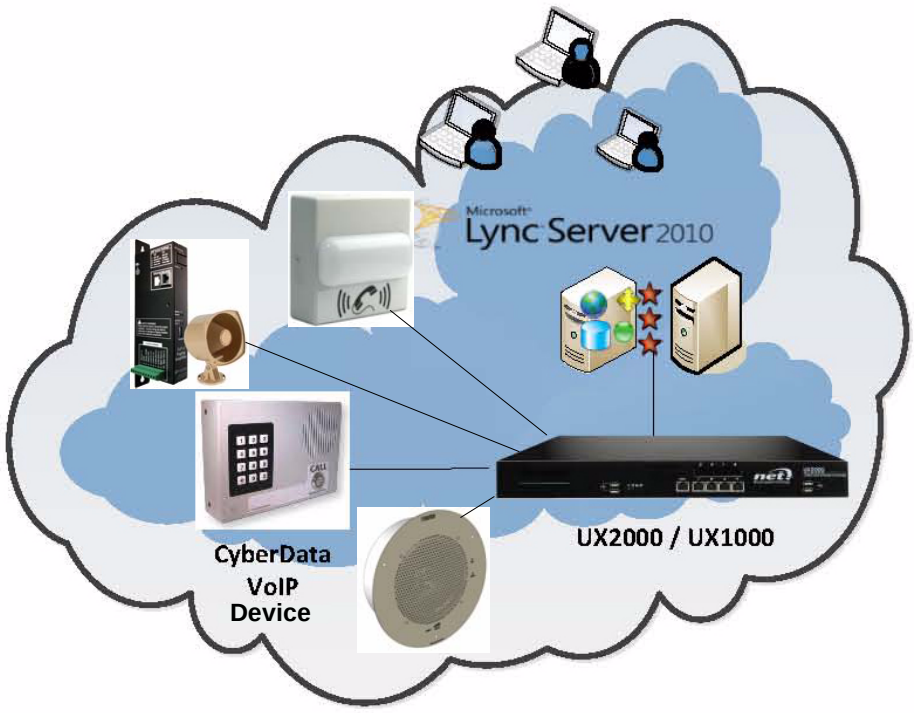
This document is written with following assumptions:

- The user of this document is familiar with NET equipment.
- The installation and configuration of CyberData's VoIP device system has been completed.
- The installation and configuration of Microsoft Lync 2010 has been completed.
- The UX gateway is running software release 2.1v147 or later.
- The UX gateway has been initialized as per product documentation and the UX node is accessible via the Web User Interface (WebUI).

UX software versions older than 2.1v147 can be used and are fully qualified to work with CyberData's VoIP device system. However, some screen shots in this guide may differ from earlier versions of the UX software.

3 Network Layout

Figure 1. NET UX Series with CyberData VoIP Device



4 UX Configuration

The Web User Interface (WebUI) of UX Series of products has a built-in configuration wizard that allows users to easily configure UX to make A Single CyberData VoIP device interwork with Microsoft Lync 2010 by following minimum configuration steps.

GENERAL ALERT	Although the configuration tasks can be performed manually, it is highly recommended that customers use the configuration wizard to minimize the possibility of product misconfiguration.

Once the UX configuration for Microsoft Lync 2010 and a single CyberData VoIP device communication is completed, we will make necessary modifications to the UX configuration to allow communication between Microsoft Lync and multiple CyberData's VoIP devices.

Once both the above communication channels are setup, we will remove any configuration item/s that may not be needed.

4.1 Configuring UX For Microsoft Lync 2010 And A Single CyberData VoIP Device Interworking

This section describes the steps to use the UX configuration wizard for Lync 2010 and a single CyberData VoIP device interworking.

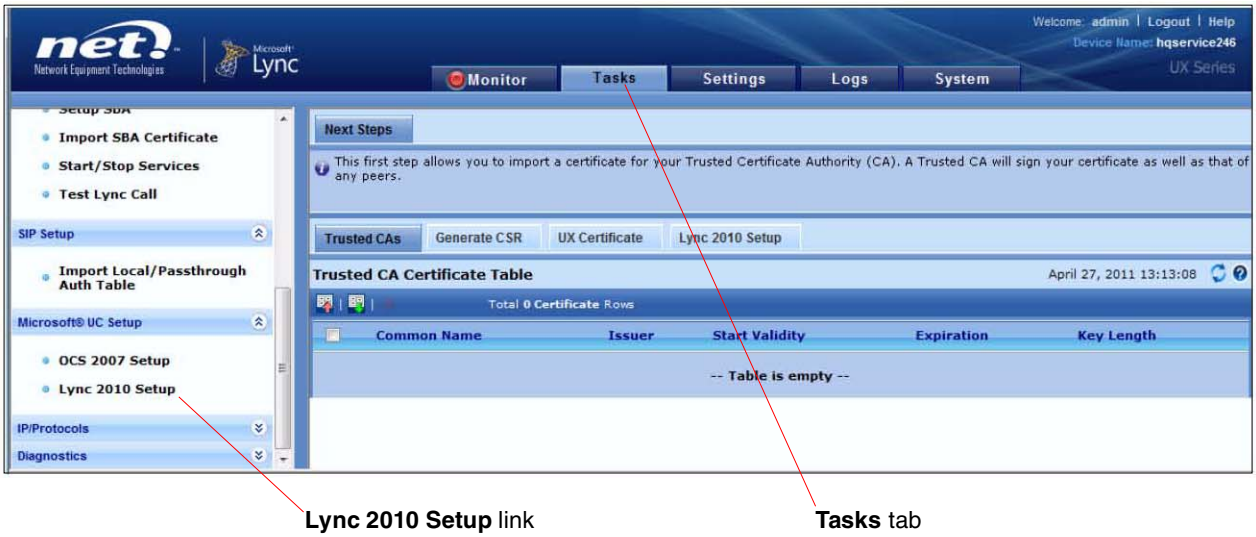
Upon completion of the tasks in the configuration wizard, UX will be set up with the following configuration items and attributes:

- Transformation Table (with basic pass-through dial-plan)
- Call-routing tables
- Signaling groups
- SIP profiles
- SIP server tables
- TLS profile
- Media profiles (G.711 A-Law and G.711 Mu-Law)
- Media crypto profile
- Media lists
- Tone table
- Telephony mapping tables

4.1.1 Launch Configuration Wizard for Microsoft Lync 2010

1. Launch the UX WebUI and login with the administrator credentials.
2. Click the **Tasks** tab on the top of the navigation window. See Figure 2.
3. Click the **Lync 2010 Setup** link on the left pane. See Figure 2.

Figure 2. Launch Configuration Wizard Tasks For Microsoft Lync 2010

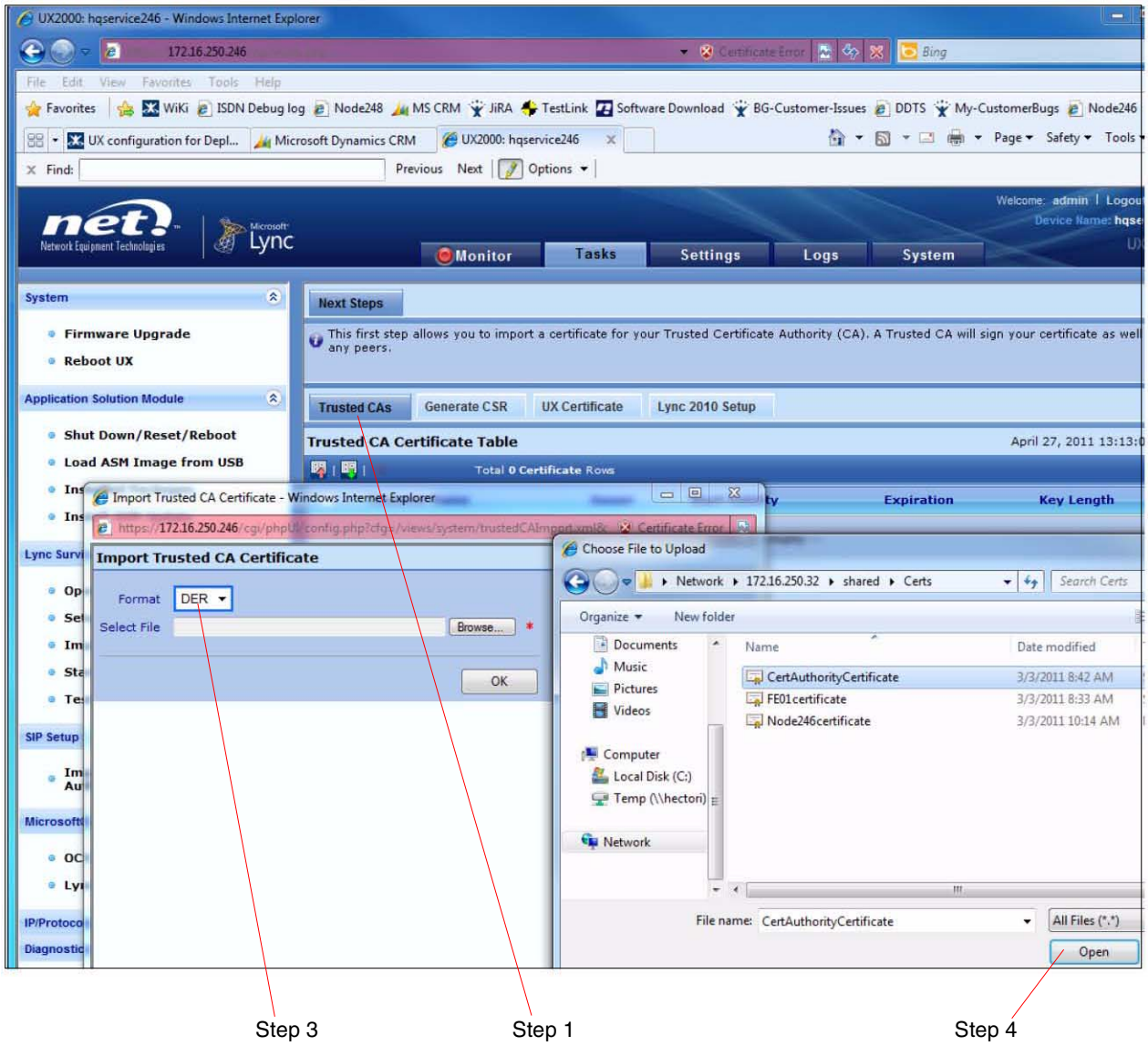


4.1.2 Importing the Trusted Root CA Certificate

Microsoft Lync Server 2010 Deployment requires MTLS to be used as the SIP Transport on the Enhanced Media Gateway. In order to comply with Microsoft Lync 2010 Enhance Media Gateway Certification requirements, both the Trusted Root CA and the CA signed UX node certificate must be imported into the node as described in the following steps:

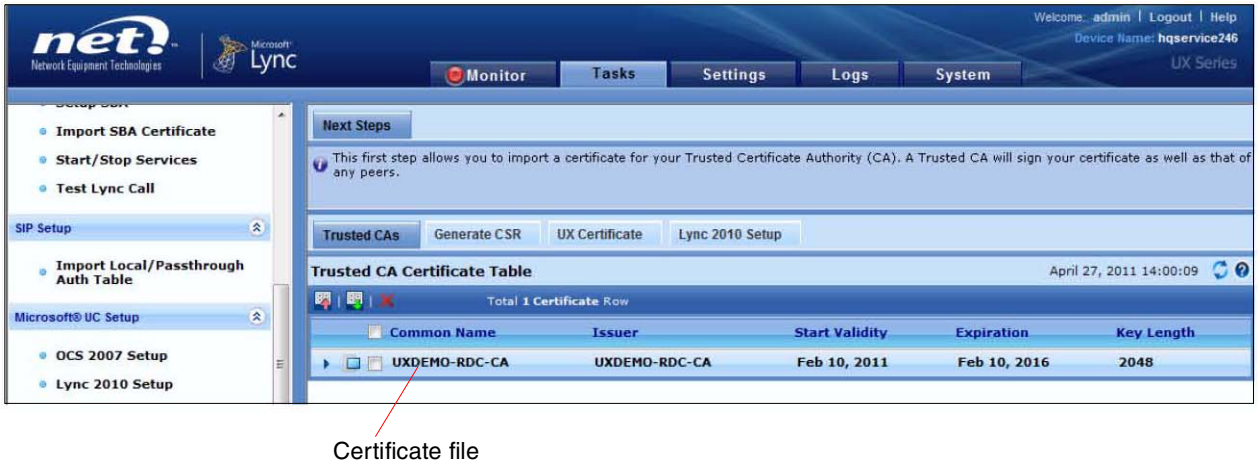
1. On the Lync 2010 Setup screen, click the **Trusted CAs** tab in the right pane. See Figure 3.
2. Import Trusted Root CA Certificate button (red UP ARROW "^")
3. Select **DER** Format. See Figure 3.
4. Browse to the **CA Certificate** file and click **Open**. See Figure 3.
5. Click on the **OK** button.

Figure 3. Importing Trusted Root CA Certificate



Now the **Trusted CA Certificate Table** displays the certificate file that was just imported in previous step, as shown in Figure 4:

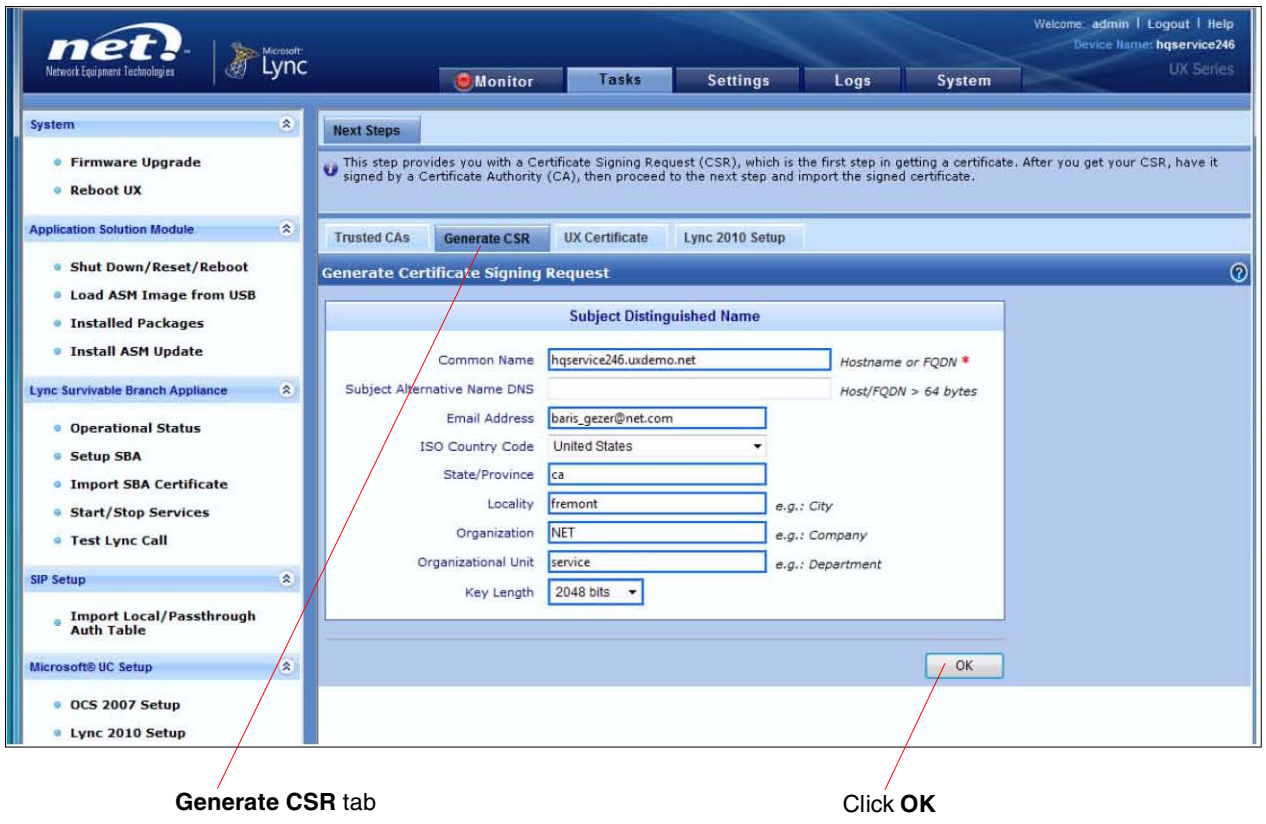
Figure 4. Trusted Root CA Certificate Imported



4.1.3 Generating Certificate Signing Request

1. In the **Lync 2010 Setup** screen, click the **Generate CSR** tab in the right pane. See Figure 5.
2. Fill in the relevant information on the screen as shown in Figure 5 and click **OK**.

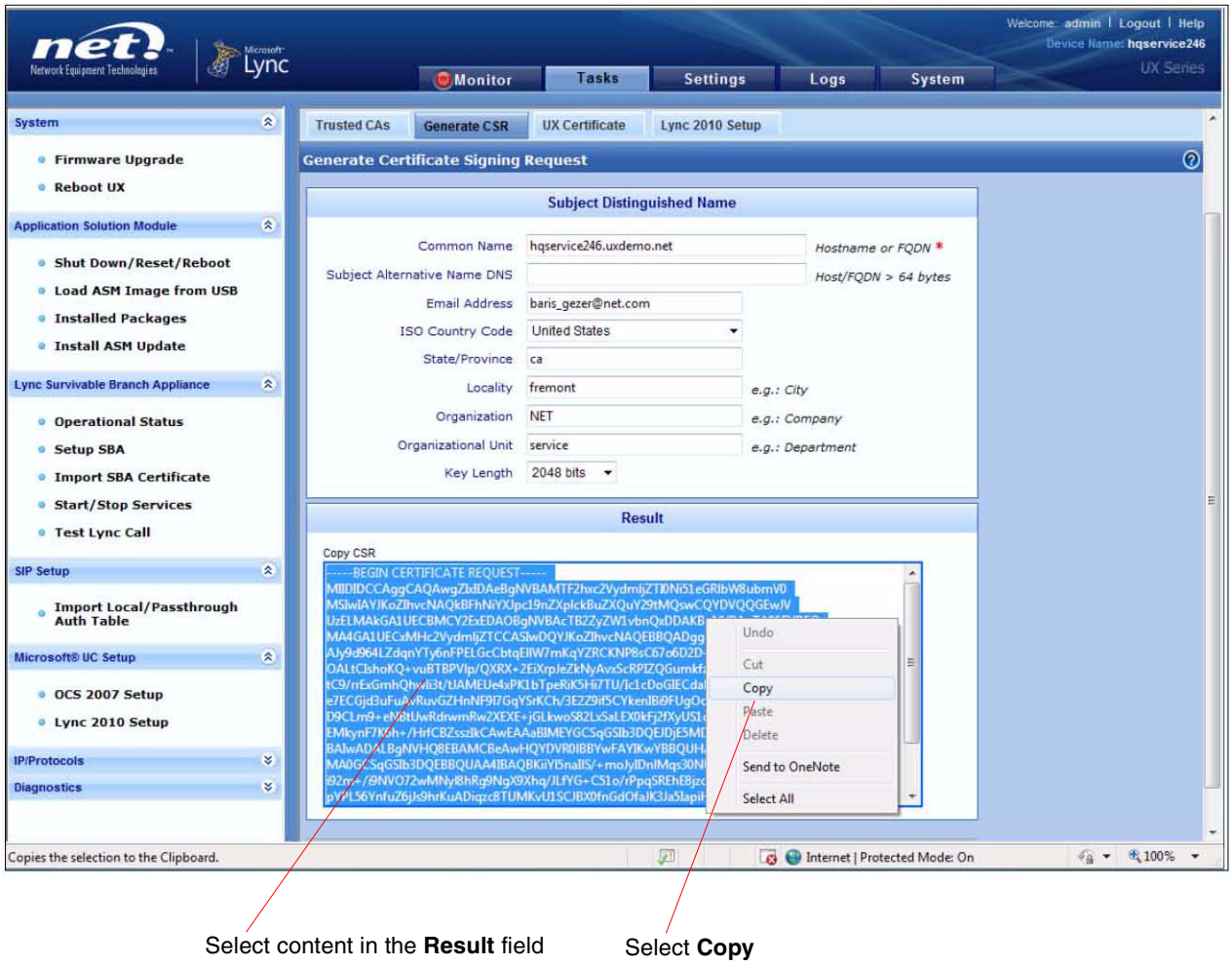
Figure 5. Generating Certificate Request



The previous steps will create the certificate request in the bottom pane of the screen as shown in Figure 6.

1. Select the content in the **Result** field. See Figure 6.
2. Perform a right-click and select **Copy**. See Figure 6.

Figure 6. Copying Generated CSR

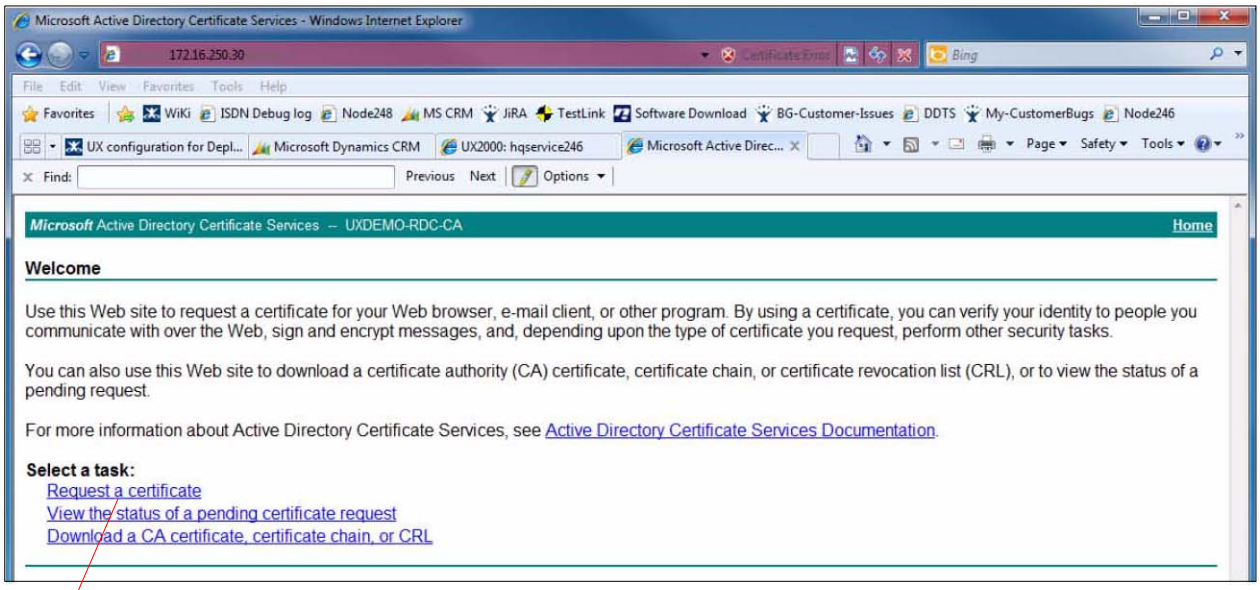


4.1.4 Requesting the Certificate in Active Directory Certificate Service

1. Launch Internet Explorer and browse to ADCS page (i.e: **https://<ip address of your CA machine>/certsrv**)

2. Click the **request a certificate** link.

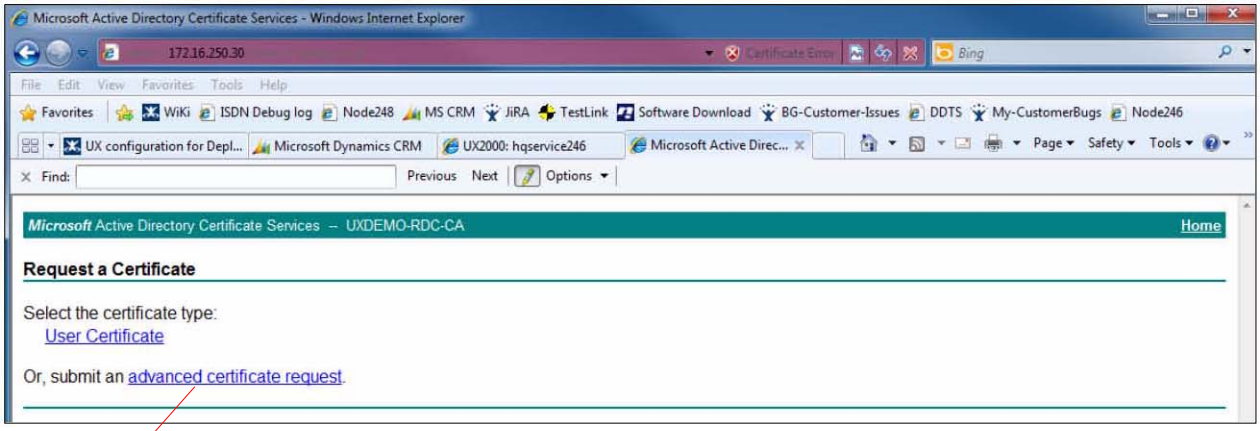
Figure 7. Requesting Certificate in AD - 1



Request a certificate link

3. Click the **advanced certificate request** link.

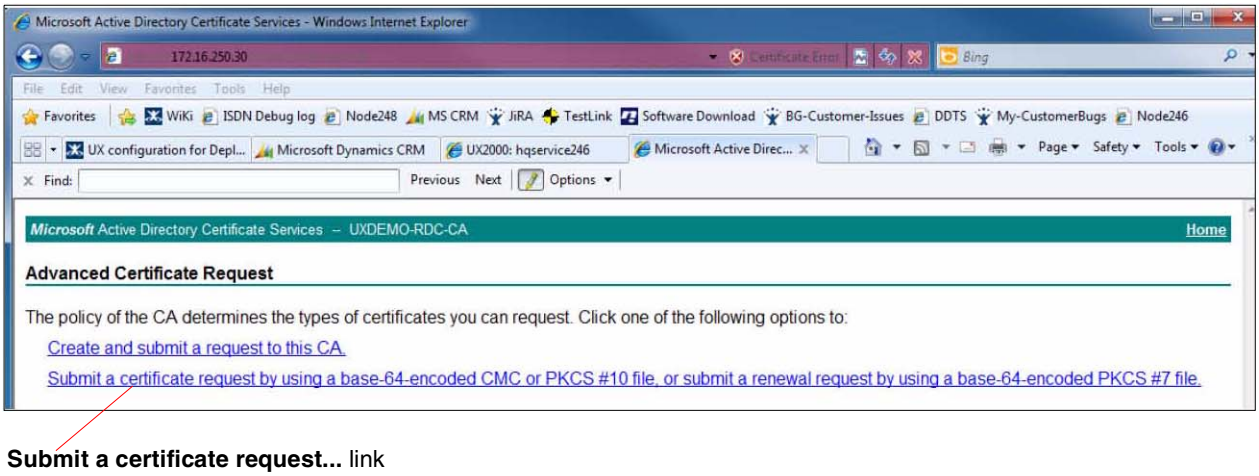
Figure 8. Requesting Certificate in AD - 2



Advanced certificate request link

4. Click the **Submit a certificate request by using a base-64-encoded CMC or PKCS #10 file, or submit a renewal request by using a base-64-encoded PKCS #7 file** link.

Figure 9. Requesting Certificate in AD - 3

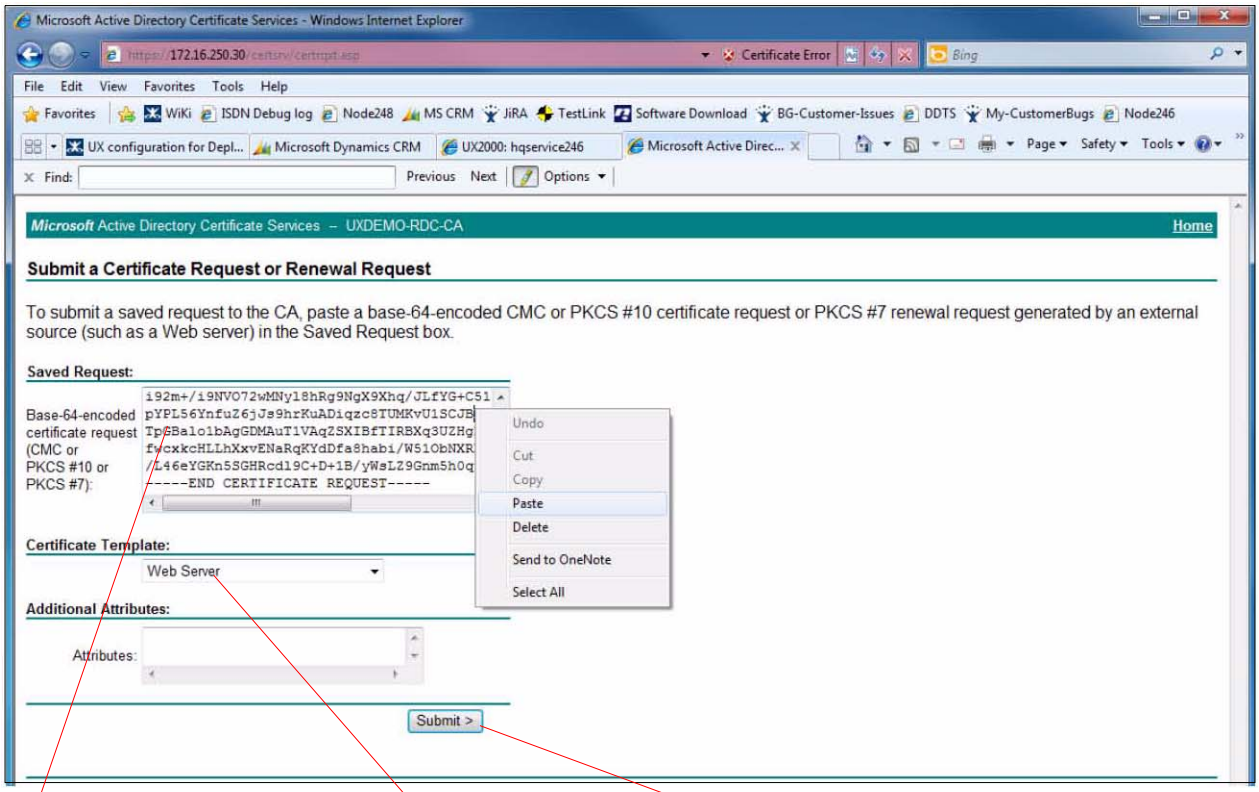


Submit a certificate request... link

1. Paste the copied content from Section 4.1.3, "Generating Certificate Signing Request" into the **Saved Request** field. See Figure 10.

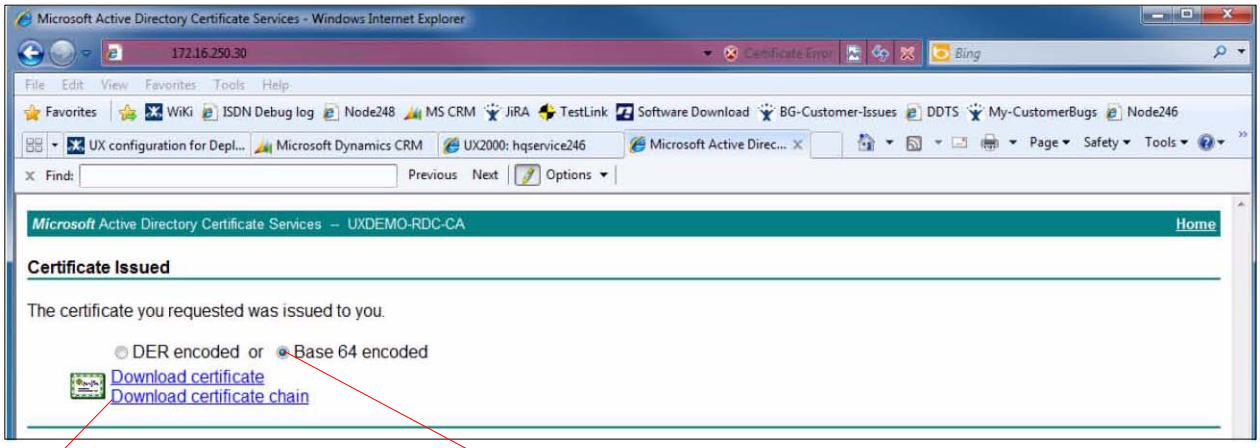
2. Select **Web Server** as the **Certificate Template** and click **Submit**. See Figure 10.

Figure 10. Requesting Certificate in AD - 4



3. Select the **Base 64 encoded** radio button. See Figure 11.
4. Click the **Download certificate chain** link. See Figure 11.

Figure 11. Downloading Issued Certificate



5. Save the **<name>.p7b** file on your local harddisk. See Figure 12.

Figure 12. Saving Issued Certificate - 1

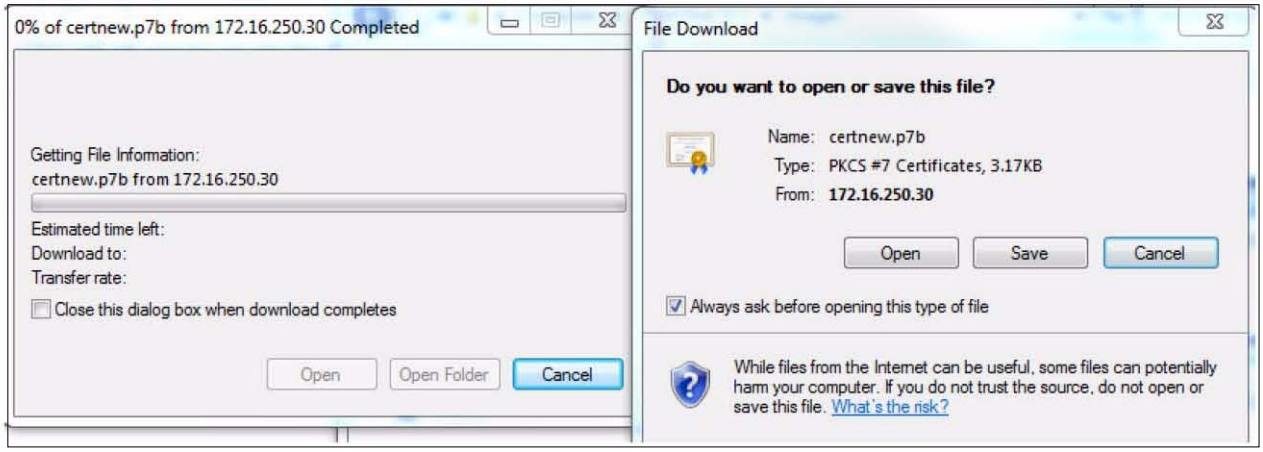
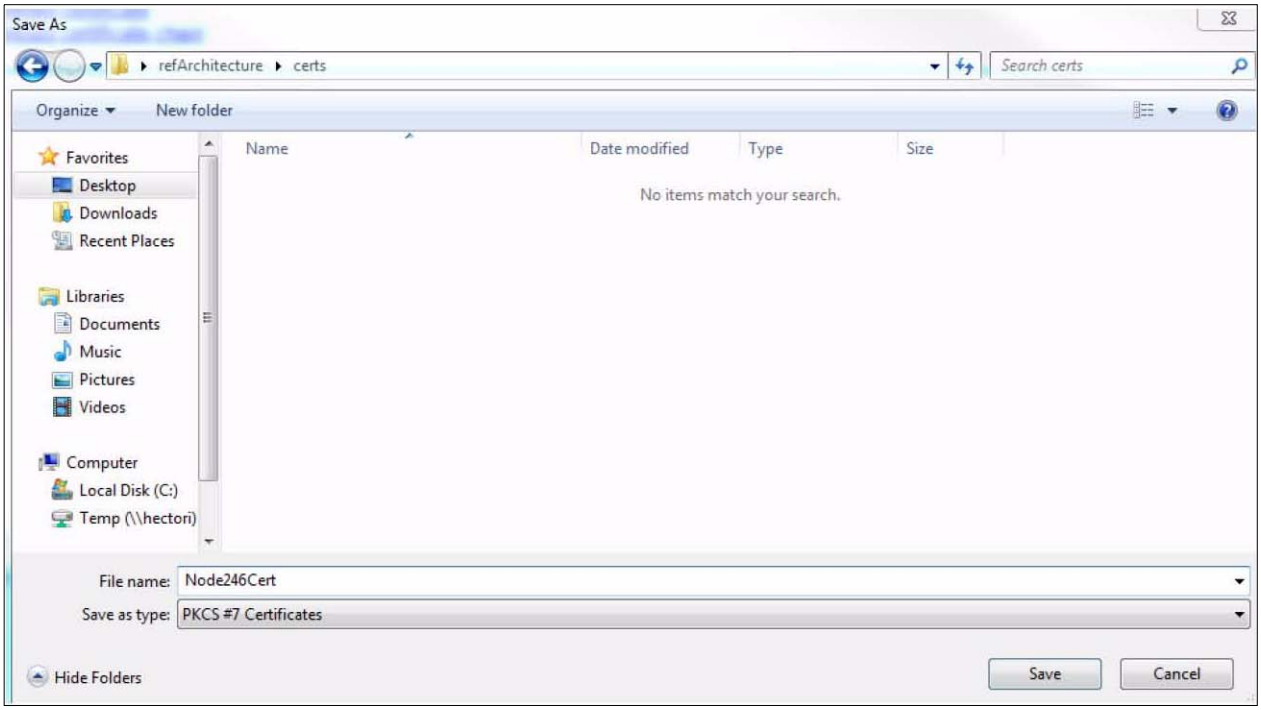


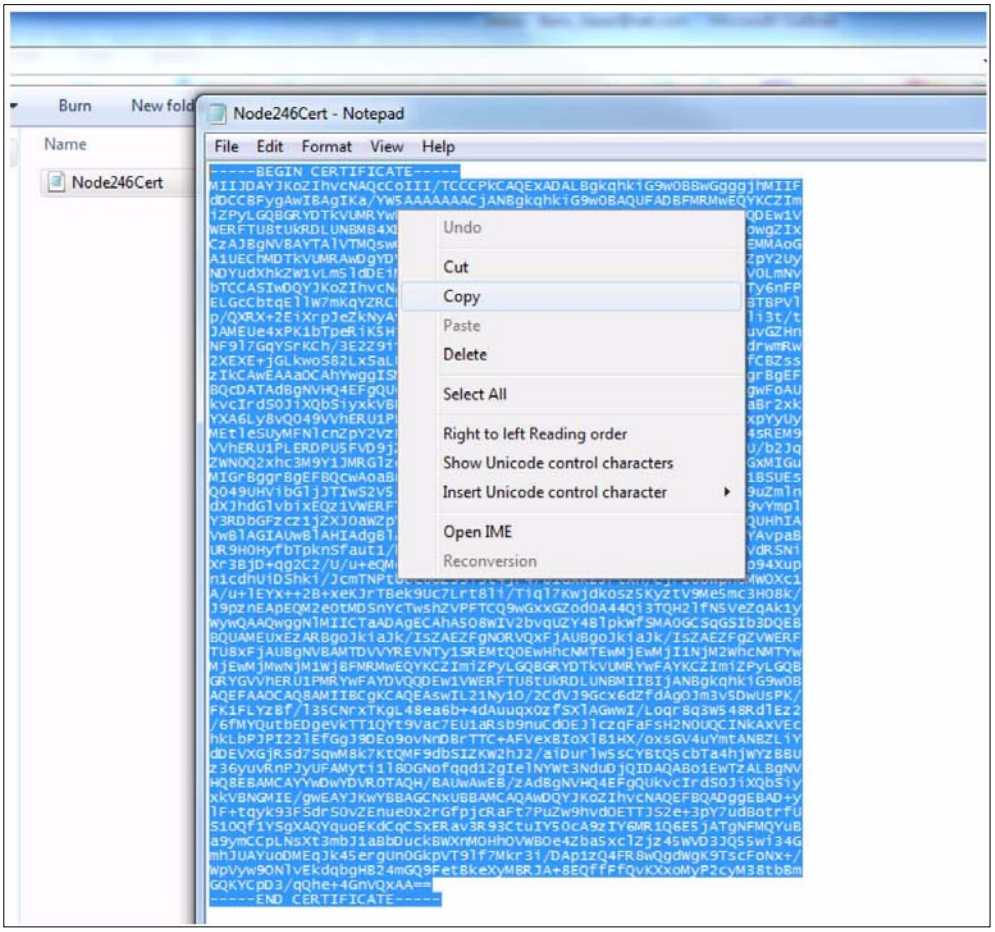
Figure 13. Saving Issued Certificate - 2



6. Browse to the **<name>.p7b** file location, select the file, perform a right-click, and open it with the **Notepad** program.

7. Select the entire content, perform a right-click, and select **Copy** option, as shown in Figure 14.

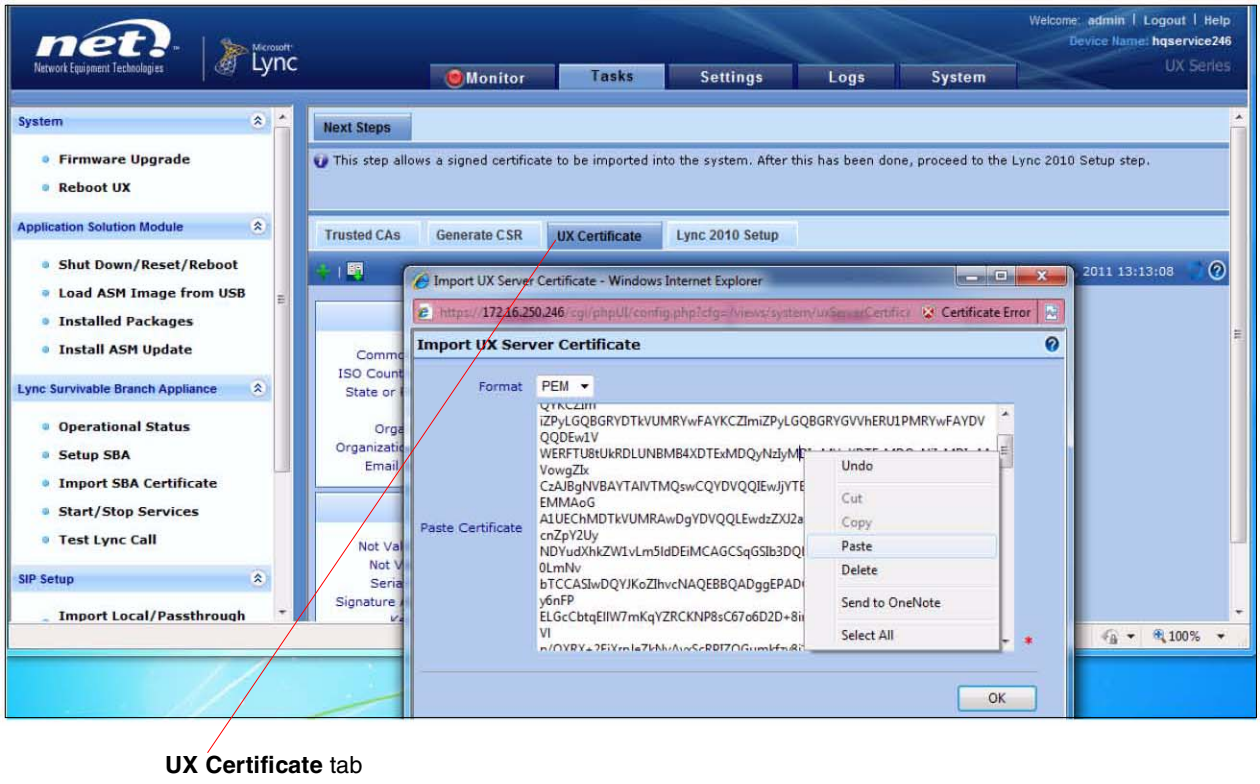
Figure 14. Copy Issued Certificate



4.1.5 Importing UX Certificate

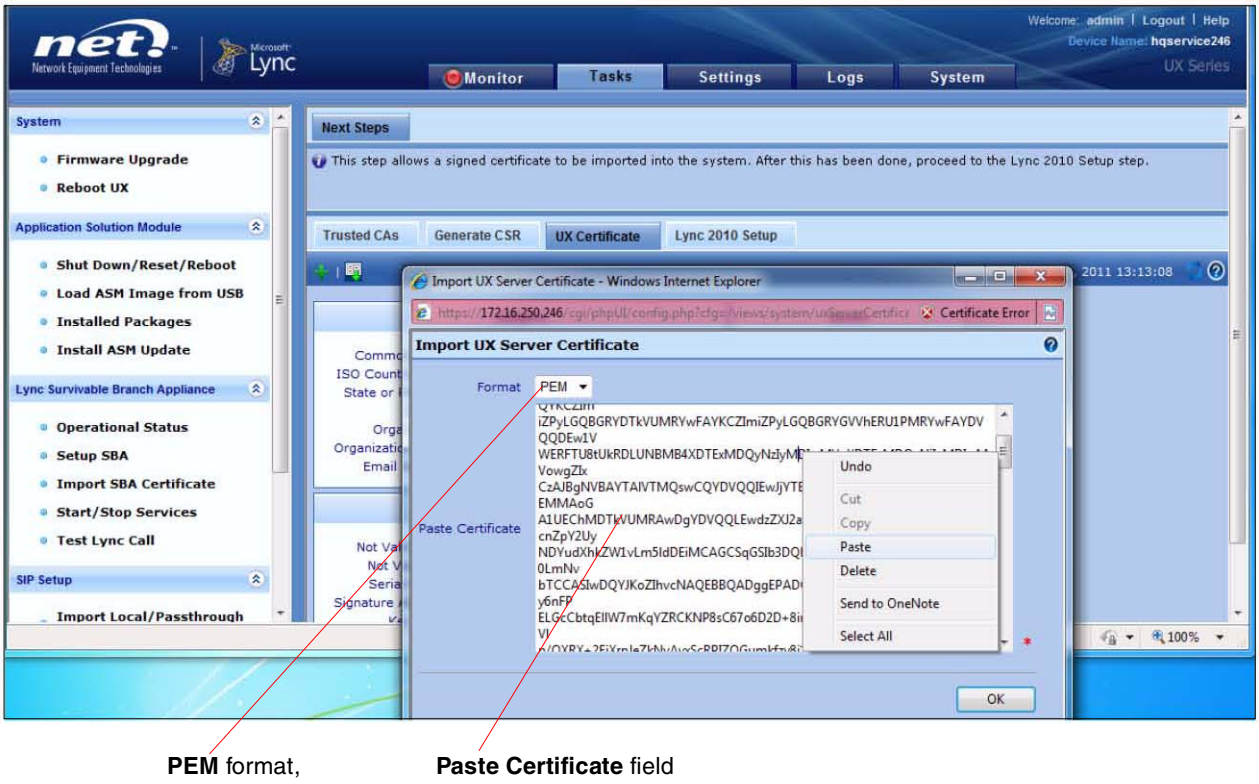
1. In the **Lync 2010 Setup** screen, click the **UX Certificate** tab in the right pane. See Figure 15.
2. Click **Import Certificate "+"** button, as shown in Figure 15.

Figure 15. Importing Issued Certificate - 1



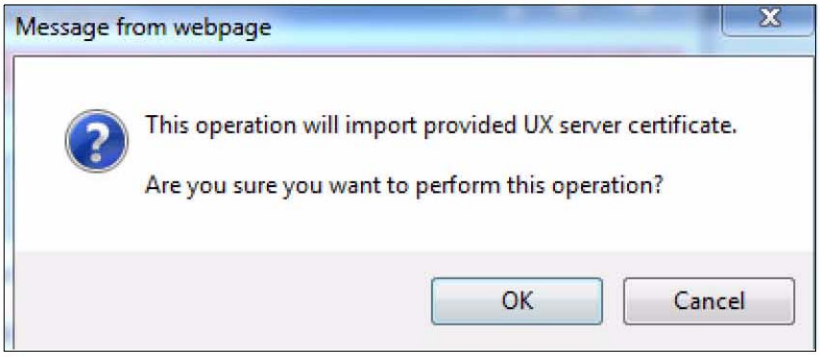
3. Select **PEM** format, paste the certificate content into the **Paste Certificate** field, and click the **OK** button, as shown in Figure 16.

Figure 16. Importing Issued Certificate - 2



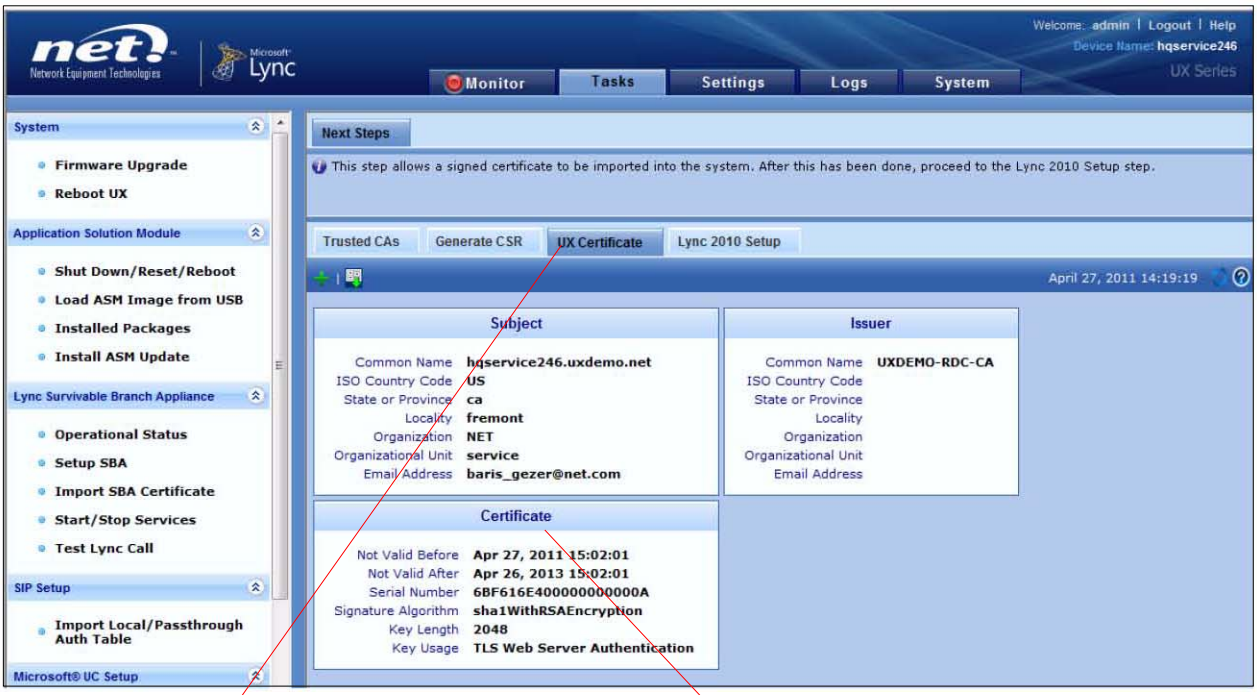
4. At this point, a **Message from webpage** popup window from the UX Web UI page will appear (see Figure 17). Click **OK** to continue.

Figure 17. Importing Issued Certificate - 3



5. Now the **UX Certificate** tab should display the newly imported UX certificate as shown in Figure 18.

Figure 18. Importing Issued Certificate - 4



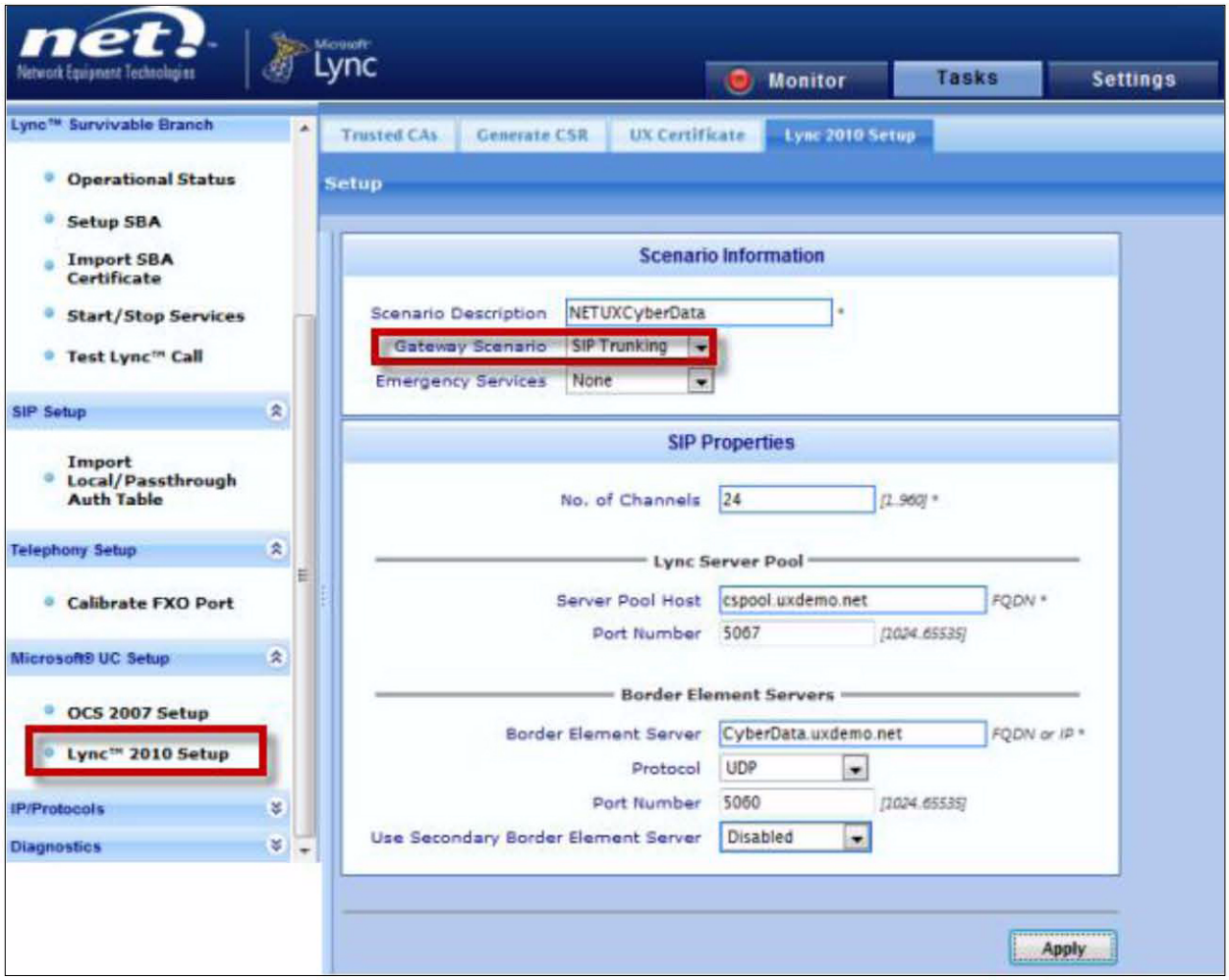
4.1.6 The Lync 2010 Setup Tab

1. In the **Lync 2010 Setup** screen, select th**e Lync 2010 Setup** tab in the right pane.
2. Fill in the information for your deployment scenario as shown in Figure 19 and click **OK**.

GENERAL ALERT	Make sure that the **Gateway Scenario** you select is **SIP Trunking**.

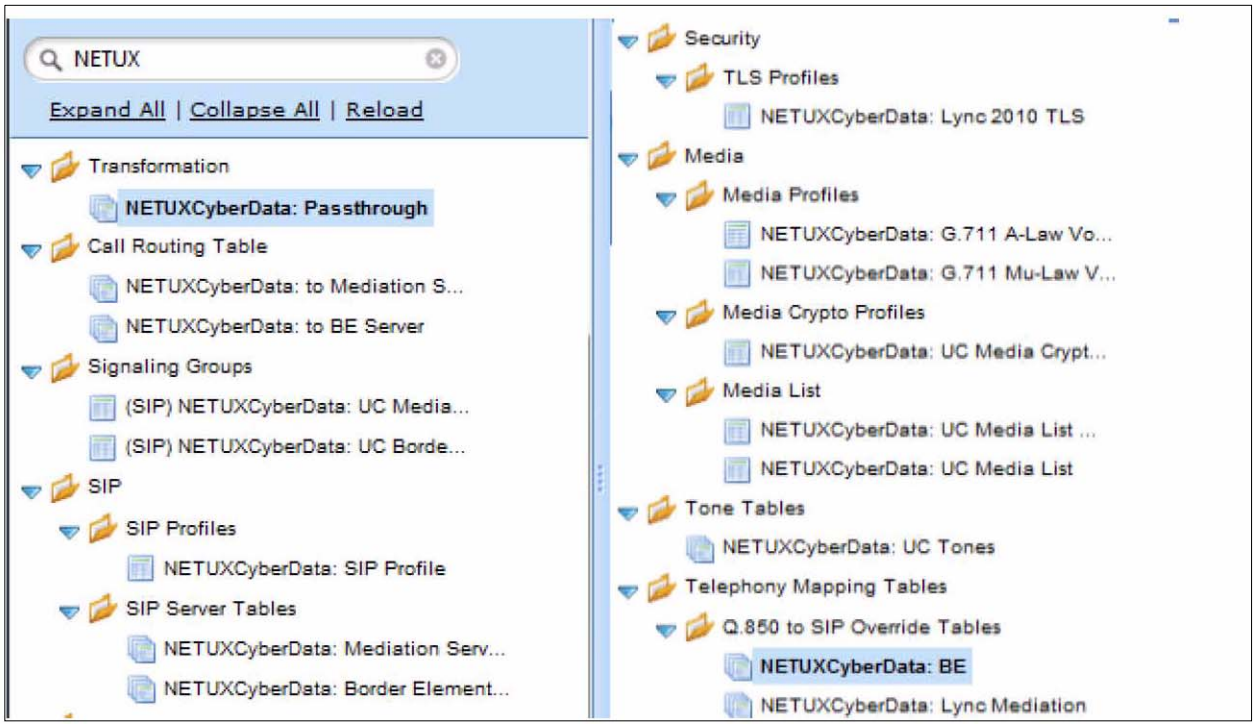
GENERAL ALERT	The Border Element Server configuration for the scenario described in this document refers to the CyberData VoIP device. You will need to configure the IP/ FQDN, Protocol and Port of the CyberData device in this section.

Figure 19. Lync 2010 Setup



3. The wizard creates the necessary configuration fields in UX as shown in Figure 20.

Figure 20. Wizard Generated Configuration Elements



GENERAL ALERT	The wizard creates configuration for minimum required settings with a pass-through dial-plan. If you wish to change the dial-plan, you can do so in the transformation table created by the wizard to fit your dial-plan requirements.

4.2 Configuring UX To Allow Microsoft Lync 2010 to Communicate With multiple CyberData VoIP Devices

In the previous section, we configured NET UX to allow communication between Microsoft Lync 2010 and a single CyberData VoIP device.

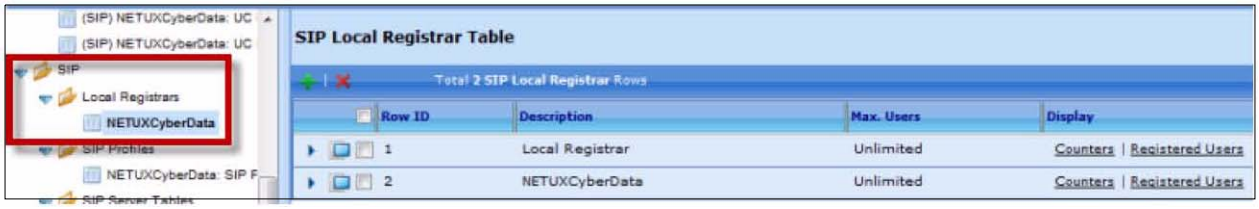
In this section we will modify the UX configuration created by the wizard to allow communication between Lync and multiple CyberData VoIP devices.

GENERAL ALERT	It is recommended to complete this configuration step even if you want UX to communicate with just a single CyberData VoIP device as it will make it easy for you to add more CyberData devices in the future.

4.2.1 Create A SIP Registrar Table For CyberData VoIP Devices

Navigate to **SIP Local Registrars** and the **Add a SIP Local Registrar** table as shown in Figure 21.

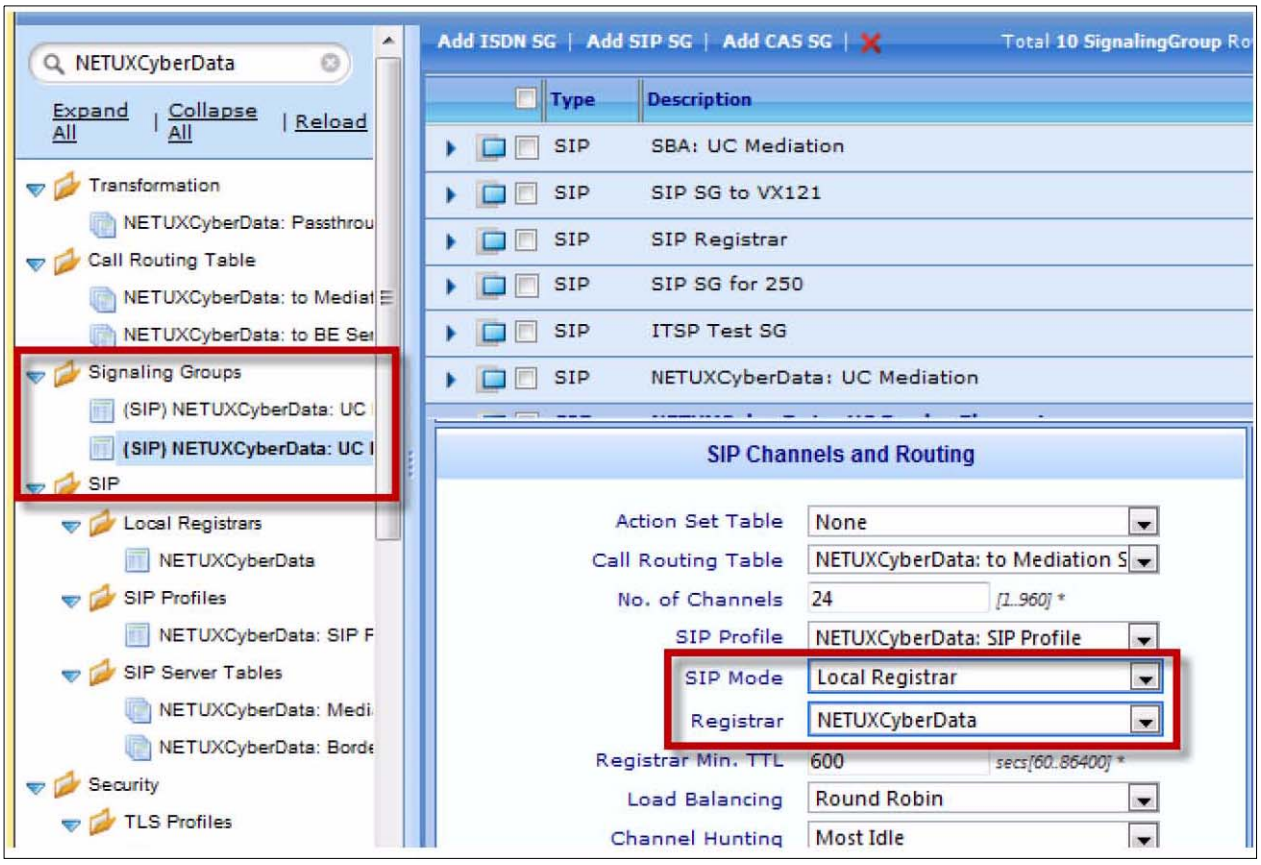
Figure 21. Create A SIP Registrar Table For CyberData VoIP Device



4.2.2 Modify SIP Signaling Group For CyberData VoIP Devices

1. Find the SIP signaling group created by the wizard for CyberData VoIP devices. It can be identified by the keyword **UC Border Element** in the SIP signaling group name.

Figure 22. Modifying SIP Signaling Group For CyberData VoIP Intercom



2. As shown in Figure 22, change the SIP mode to **Local Registrar**. Also, select the Registrar that we created for CyberData VoIP devices as shown in Figure 22.

3. In the same signaling group, add the IP/FQDN of any remaining CyberData VoIP devices that you intend to register with UX as shown in Figure 23.

Figure 23. Adding More CyberData VoIP Devices

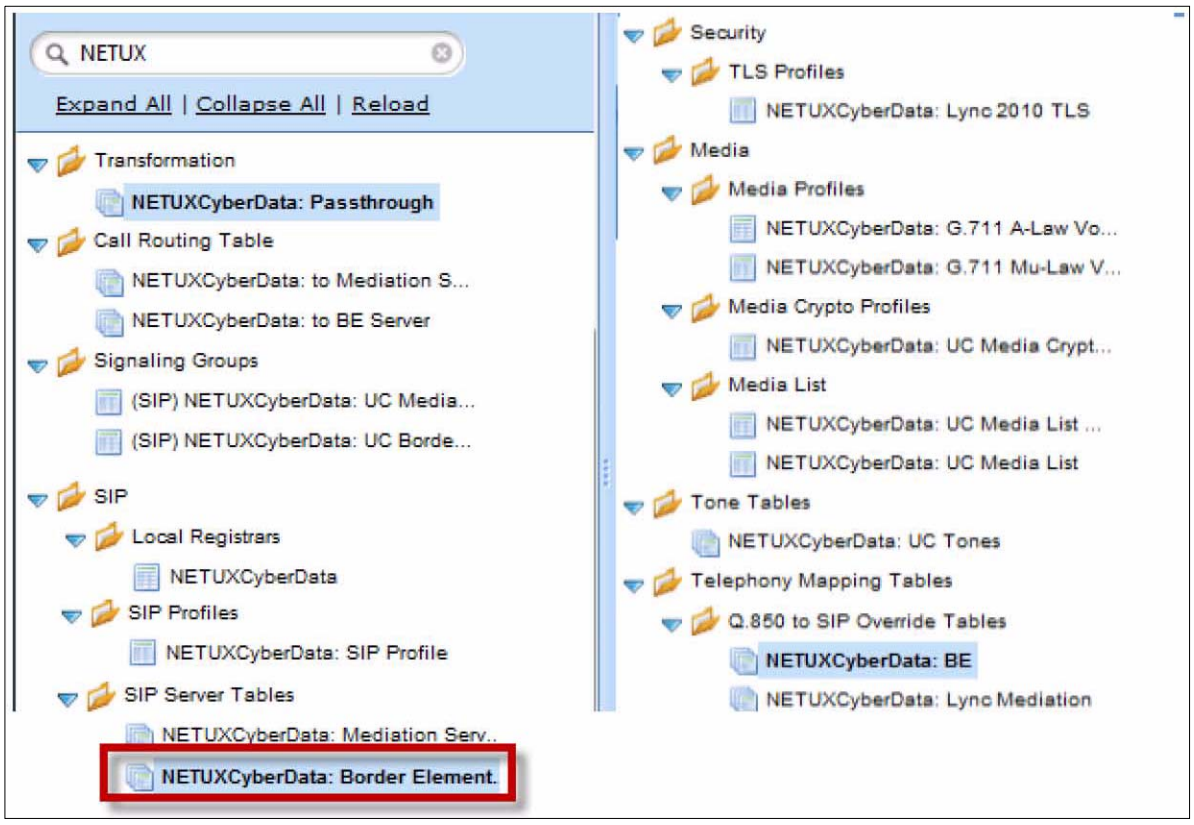
4.3 Removing Wizard Created Configuration That May Not Needed For This Scenario (Optional)

GENERAL ALERT	This configuration step is optional and should only be performed if steps in section 4.2 have been performed.

The SIP server table for Border Element created by the configuration wizard is not needed as we use the Registrar table for sending calls to CyberData VoIP devices. This configuration element is harmless if left there and can be removed if you choose to do so.

Remove the configuration item highlighted in Figure 24.

Figure 24. Remove Configuration Item Not Needed For The Current Scenario



5 CyberData VoIP Device Configuration

Once NET UX Configuration is complete, it is ready to accept SIP REGISTER requests from CyberData VoIP devices. In this section, we will configure the CyberData VoIP device to register with UX and start making/receiving calls (an Intercom is shown as an example in the following figures).

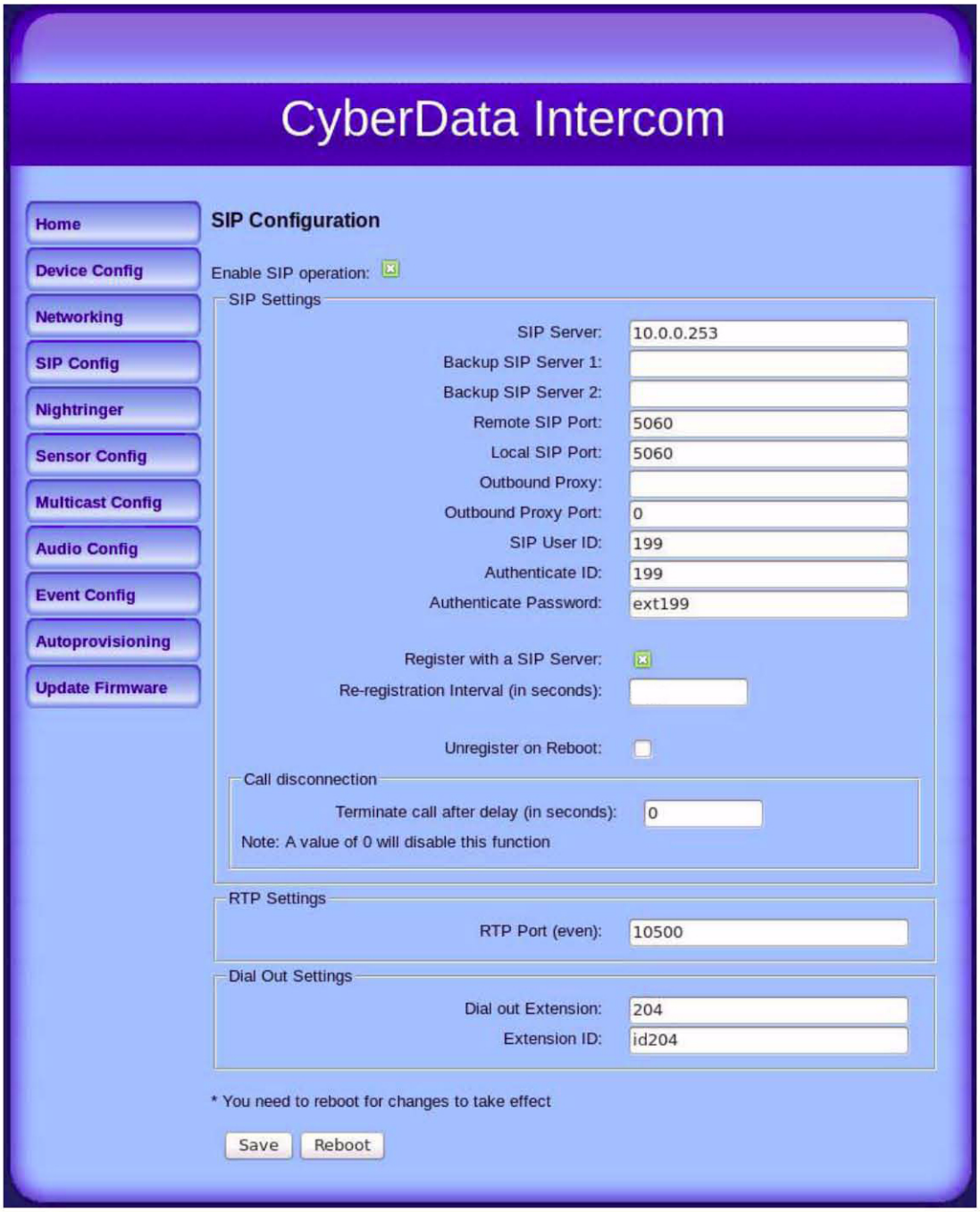
5.1 SIP Configuration

1. Login to the device's web interface. Default credentials are admin/admin
2. Click on **SIP Config** on the left side of the screen.
3. On the **SIP Config** page, select the check boxes for E**nable SIP operation** and **Register with a SIP Server**. See Figure 25.
4. Enter the **SIP Server** IP address and the **SIP User ID**. See Figure 25.
5. Change the re-registration interval to 600 or to a number larger than the **Registrar Min TTL Value**. See Figure 22.
6. If the CyberData device has a Call Button (Intercom, Push-to-Talk Speaker, etc.), enter the extension number that you want the device to dial into the **Dial out Extension** field. See Figure 25.

Note If the CyberData Device does not have a Call Button, the dial out settings section of the web page will not be there.

7. After making changes, click **Save** and **Reboot** for the configuration to take effect.

Figure 25. CyberData VoIP Device SIP Configuration



6 Test Configuration

In this section, we will perform basic configuration verification testing.

6.1 Verify Device Registration

Once the CyberData VoIP device has registered with the NET UX Series of devices, you can verify the registration by navigating to the **REGISTRAR TABLE** in the **UX Configuration** as shown in Figure 26.

Figure 26. Verifying Registered Users/Devices

6.2 Make a Test Call

After verifying the registration of CyberData device with NET UX, make a test call by dialing the CyberData Device's extension from Lync.

Depending on the type of CyberData device that you are testing, one of the following results in Table 1 will indicate that configuration has been completed successfully:

Table 1. Test Call Result After Successful Configuration

CyberData Device Type	Test Call Result After Successful Configuration
If the CyberData device has a microphone	Once the call is established between the device and Lync, the audio can be heard at both end-points.
If the CyberData device does not have a microphone	Once the call is established between the device and Lync, the audio can be heard at the CyberData device.
If the CyberData device is a SIP Strobe	Once the call is established between the device and Lync, the SIP Strobe will flash.

7 Product Documentation and References

NET UX Documentation can be found at the following website:

https://support.net.com/display/UXDOC/Home

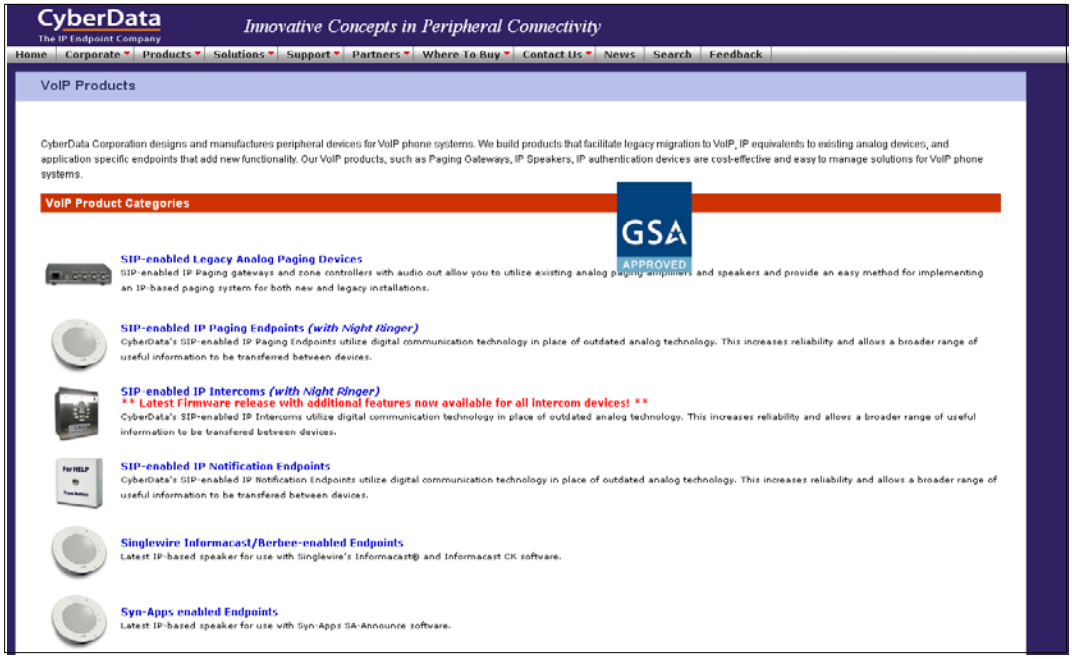
CyberData VoIP device documentation can be found by completing the following steps:

1. Go to the following VoIP product website:

http://www.cyberdata.net/products/voip/index.html

2. On the VoIP product website, click on the VoIP product category that pertains to your CyberData device. See Figure 27.

Figure 27. VoIP Product Website



3. Click on the VoIP product page that pertains to your CyberData device.

4. On the VoIP product page for your CyberData device, click on the **Documentation** tab. See Figure 28.

Figure 28. Documentation Tab