

NET UX Series with Microsoft Lync 2010 and CyberData VoIP Devices

Configuration Note

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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.



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 VolP 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

Network Technologies	Ċ			Welcome: admin Logout Help Device Name: hqservice246 UX Series
Secup 30A Import SBA Certificate Start/Stop Services Test Lync Call	Monitor Next Steps	ertificate for your Trusted Certificate	Logs System	sign your certificate as well as that of
SIP Setup Import Local/Passthrough Auth Table	Trusted CAs Generate CSR UX Trusted CA Certificate Table	Certificate Lync 2010 Setup		April 27, 2011 13:13:08 🗳 🖉
Microsoft® UC Setup	Total 0 Certifie	cate Rows Issuer Start Validity	Expiration	Key Length
UCS 2007 Setup Urnc 2010 Setup IP/Protocols Diagnostics *		Table is en	npty	
	Lync 2010 Setup link		Tasks tab	

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:

Network Equipment Technologies 🦉 Lyne	C	Tasks	Sottings	Long	Svetom	UX Serie
	Wonite	1 daka	settings	LUys	Jystein	
Import SBA Certificate	Next Steps					
Start/Stop ServicesTest Lync Call	 This first step allows you to in any peers. 	nport a certificate for you	ir Trusted Certificate	Authority (CA). A	Trusted CA will sign your (certificate as well as th
Setup 🛞	Trusted CAs Generate CSF	R UX Certificate	Lync 2010 Setup			
 Import Local/Passthrough Auth Table 	Trusted CA Certificate Tab	le			April	27, 2011 14:00:09 🤇
	🙀 🕎 🗶 🛛 Total	1 Certificate Row				
rosoft® UC Setup	Common Name	Issuer	s	tart Validity	Expiration	Key Length
• OCS 2007 Setup	> D MUXDEMO-RDC-CA	UXDEMO-RE	DC-CA F	eb 10, 2011	Feb 10, 2016	2048
Lync 2010 Setup						

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

net. Se Microsoft	Welcome, admin 1 Logout 1 Help Device Name: hgservice246
Network Equipment Technologies & Lync	Monitor Tasks Settings Logs System UX Series
System 🙁	Next Steps
 Firmware Upgrade Reboot UX 	This step provides you with a Certificate Signing Request (CSR), which is the first step in getting a certificate. After you get your CSR, have it signed by a Certificate Authority (CA), then proceed to the next step and import the signed certificate.
Application Solution Module	Trusted CAs Generate CSR UX Certificate Lync 2010 Setup
 Shut Down/Reset/Reboot Load ASM Image from USB 	Generate Certificate Signing Request
 Installed Packages Install ASM Update 	Common Name hqservice246.uxdemo.net Hostname or FQDN *
Lync Survivable Branch Appliance	Subject Alternative Name DNS Host/FQDN > 64 bytes
 Operational Status Setup SBA Import SBA Certificate Start/Stop Services 	Email Address bars_gezer@net.com ISO Country Code United States State/Province ca Locality fremont e.g.: City
Test Lync Call	Organizational Unit service e.g.: Company Organizational Unit service
SIP Setup	Key Length 2048 bits 👻
 Import Local/Passthrough Auth Table 	
Microsoft® UC Setup	/ ОК
 OCS 2007 Setup Lync 2010 Setup 	
Generate CS	SR tab Click OK

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

Network Equipment Technologies	Lync		Monitor	Tasks	Settings		Logs	System		
System	۲	Trusted CAs	Generate CSR	UX Certificate	Lync 2010 Se	tup				
Firmware Upgrade		Generate Cer	tificate Signing	Request						
Reboot UX		-		C. L.L. of Dirac					1	
polication Solution Module	*			Subject Distin	guished Name					
			Common Name	hqservice246.uxden	no.net		Hostname	or FQDN *		
Shut Down/Reset/Reboot		Subject Alter	native Name DNS				Host/FQDI	l > 64 bytes		
Load ASM Image from USB			Email Address	baris_gezer@net.co	m					
 Installed Packages Installed ACM Undete 		I	SO Country Code	United States	•					
 Install ASM Opdate 			State/Province	ca						
ync Survivable Branch Appliance	۲		Locality	fremont		e.g.: City				
Operational Status			Organization	NET		e.g.: Con	npany			
Setup SBA		o	rganizational Unit	service		e.g.: Dep	artment			
Import SBA Certificate			Key Length	2048 bits 🔹						
Start/Stop Services				Po	cult					
Test Lync Call		An Ant		Ne	suit					
IP Setup	*	Copy CSR BEGIN CE	RTIFICATE REQUEST					*		
Import Local /Parethrough		MIIDIDCCAgg MSIwIAXIKo7	CAQAwgZbdDAeBgN	VBAMTF2hxc2Vydm c19n7XnlckBu7XQuV	jZTI0Ni51eGRIbW8 29tMOswCOVDV0	BubmV0				
Auth Table		UzELMAkGA1	JECBMCY2ExEDAOB	gNVBAcTB2ZyZW1vb	nQxDDAKB	Undo				
licrosoft® UC Setup	۲	AJy9d964LZdd	nYTy6nFPELGcCbtql	EllW7mKqYZRCKNP8	c67o6D2D	Cut				
0CS 2007 Setup		tC9/rrExGmhQ	+vub18Pvip/QXRX+. hyli3t/UAMEUe4xPt	CLbTpeRiK5Hi7TU/Ic1	cDoGIECdal	Сору				
 Lync 2010 Setup 		e7ECGjdBuFu D9CLm9+eN6	VRuvGZHnNF917Gq tUwRdrwmRw2XEXE	YSrKCh/3E2Z9rf5CYke +jGLkwoS82LxSaLEX0	nlBi9FUgOc kFj2fXyUSt	Paste				
	_	EMikynF7K/h+ BAiwAD/LBg/	/HrfCBZsszlkCAwEA WHQ8EBAMCBeAwl	AaBIMEYGCSqGSIb3I HQYDVR0IBBYwFAYB	QEIDJESME (wybbquh	Delete				
P/Protocols	*	MADG SqGSIL	3DQEBBQUAA4IBAQ 72wMNvi8hRa9NaX9)BKiiYl5nallS/+moJyl IXhg/JLfYG+C51o/rPr	OnIMqs30NI pgSREhE8izc	Send to One	eNote			
lagnostics	Ŷ	pV≁L56YnfuZ6	ijJs9hrKuADiqzc8TUN	MKvU1SCJBX0fnGdOf	alK3Ja5Japil	Select All		+		
nies the selection to the Clinboard						6	Internet Pro	tected Mode: On	4	◄ ₹ 100%

4.1.4 Requesting the Certificate in Active Directory Certificate Service

- 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

	-
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File Edit View Favorites Tools Help	
👷 Favorites 🛛 🎪 🔣 Wilki 😰 ISDN Debug log. 🔊 Node248 🔌 MS CRM 🏆 JiRA 🐥 TestLink. 😰 Software Download 🏆 BG-Customer-Issues 🔊 DDTS 👻 My-CustomerBugs 🔊 Node246	-
😢 🔹 🐹 UX configuration for Depl 🏄 Microsoft Dynamics CRM 🏾 🥭 UX2000: hqservice246 🛛 🖉 Microsoft Active Direc 🗙 🎽 🛪 🗟 🔹 🖾 🗰 👻 Page 💌 Safety 💌 Tools 🕶 🕼	? ~ "
× Find: Previous Next 📝 Options 🗸	
Microsoft Active Directory Certificate Services UXDEMO-RDC-CA	ne
Welcome	
Use this Web site to request a certificate for your Web browser, e-mail client, or other program. By using a certificate, you can verify your identity to people you communicate with over the Web, sign and encrypt messages, and, depending upon the type of certificate you request, perform other security tasks.	
You can also use this Web site to download a certificate authority (CA) certificate, certificate chain, or certificate revocation list (CRL), or to view the status of a pending request.	
For more information about Active Directory Certificate Services, see Active Directory Certificate Services Documentation.	
Select a task:	
Request a certificate	
View the status of a pending certificate request	
Download a CA certificate, certificate chain, or CRL	
	-

Request a certificate link

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

Figure 8. Requesting Certificate in AD - 2

Wilcrosoft Active Directory Certailcate Service	es - Windows Internet Explorer		🗆 🗙
G 💭 🗢 🔁 172.16.250.30		👻 😵 Kartificate Eiror 🔤 🏟 🗱 🔽 Bing	<i>p</i> -
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🔡 👻 🔀 UX configuration for Depl 🏄 M	icrosoft Dynamics CRM 🛛 🍘 UX2000: hqservice246	Microsoft Active Direc × Arrow Safety ▼ Safety ▼	Tools - 🔞 - 🖄
X Find:	Previous Next 📝 Options 🗸	·	
Request a Certificate Select the certificate type: User Certificate	MUES - UNDEMURDU-UN		Home

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.

Hicrosoft Active Directory Certificate	iervices - Windows Internet Explorer		- • ×
O = 2 172.16.250.30		👻 😵 Centricatz Error 🔛 🍫 💥 📴 Bing	٩
File Edit View Favorites Tools	Help		
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🔠 🔹 🐹 UX configuration for Depl	🙀 Microsoft Dynamics CRM 🛛 🌈 UX2000: hqservice240	6 🏉 Microsoft Active Direc 🗙 🍈 🔹 🖾 🔹 👼	▪ Page ▪ Safety ▪ Tools ▪ 🔞 ▪
× Find:	Previous Next 📝 Option	ns 💌	
Microsoft Active Directory Certificat Advanced Certificate Reque	e Services – UXDEMO-RDC-CA st		Home
The policy of the CA determine	s the types of certificates you can request. C	Click one of the following options to:	
Create and submit a reques	t to this CA	3 -	
Submit a certificate request	by using a base-64-encoded CMC or PKC	S #10 file, or submit a renewal request by using a base-6	4-encoded PKCS #7 file.

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

Hicrosoft Active Directory Certificate Services - Windows Internet Explorer	
C 2 https://172.16.250.30/century/century/	👻 Certificate Error 🔯 🍫 🔀 📴 Bing 🖉 👻
File Edit View Favorites Tools Help	
👷 Favorites 🛛 🏤 🔀 WiKi 🙋 ISDN Debug log 😰 Node248 🏄 MS CRM 🦌	🖓 JiRA 🐥 TestLink 🛂 Software Download 👻 BG-Customer-Issues 🝙 DDTS 👻 My-CustomerBugs 🔊 Node246
😁 🔹 🐹 UX configuration for Depl 🏄 Microsoft Dynamics CRM 🛛 🏉 UX200	00: hqservice246 🏾 🏉 Microsoft Active Direc 🗙 👌 🔻 🖾 👻 🖃 🖷 👻 Page 👻 Safety 👻 Tools 👻 🔞 👻
X Find: Previous Next	t 📝 Options 👻
Microsoft Active Directory Certificate Services - UXDEMO-RDC-CA	Home
Submit a Certificate Request or Renewal Request	
Source (such as a Web server) in the Saved Request box. Saved Request i92m+/i9NV072wMNy18hRg9NgX9Xhq/JLfYG+C51 Base-64-encoded pYPL56Yhfu26jJs9hrKuADiqzc6TUMKvU1SCJB (CMC or fyCskcHLLhXxvENaRqXYdDf8habi/W510bNXR PKCS #10 or //46eYGRh55GHRcd19C+D+18/yWsL29Gm5h0q PKCS #7):END CERTIFICATE REQUEST (Undo Cut Copy Paste Delete Cuddo D-Nds
Web Server •	Select All
Additional Attributes:	
Attributes:	-
Paste copied content into Select W	eb Server Click Submit
the Saved Request field	

- 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

Microsoft Active Directory Certificate Services - Windo	vs Internet Explorer		
2 172.16.250.30		🔹 🛞 CetificateError 🔣 🍫 🐹 🔽 Bing	ρ.
File Edit View Favorites Tools Help			
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🔠 👻 UX configuration for Depl 加 Microsoft Dy	namics CRM 🏾 🌈 UX2000: hqservice246	🏉 Microsoft Active Direc 🗴 🎒 🔹 🗟 🔹 🖃 🖶 🕈 Pa	ige 🔹 Safety 👻 Tools 👻 🔞 👻
🗶 Find:	Previous Next 📝 Options 🕶	1	
Certificate Issued			Itolite
The certificate you requested was issued to DER encoded or Base 6- Download certificate Download certificate chain	you. 4 encoded		

Click Download certificate chain

Select Base 64 encoded

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

% of certnew.p7b from 172.16.250.30 Completed	File Download
Getting File Information: certnew.p7b from 172.16.250.30	Do you want to open or save this file? Name: certnew.p7b Type: PKCS #7 Certificates, 3.17KB From: 172.16.250.30
Estimated time left: Download to: Transfer rate:	Open Save Cancel
Close this dialog box when download completes	Always ask before opening this type of file
Open Open Folder Cancel	While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or save this file. What's the risk?

Figure 12. Saving Issued Certificate - 1

Figure 13. Saving Issued Certificate - 2

Save As	-						23
C v k ref	Architecture 🕨 certs					Search certs	Q
Organize 🕶 Ne	w folder						III • 🔞
 ★ Favorites ■ Desktop ↓ Downloads ③ Recent Places ⇒ Libraries ⇒ Documents → Music ■ Pictures ■ Videos Image: Computer ≦ Local Disk (C; ⊊ Temp (\\hect) 	Name E ori)	*	Date modified No items m	Type natch your search.	Size		
File name:	Node246Cert						•
Save as type:	PKCS #7 Certificates						+
Hide Folders						Save	Cancel

- 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.

urn New fold	Node246Cert - Notepad
ie	File Edit Format View Help
me Node246Cert	Node246Cert - Notepad File Edit Format View Help Image: Strate - Notepad Image: Strate - Notepad Image: Strate - Notepad Miliport Noz Thyckna Charles - Notepad Image: Strate - Notepad Image: Strate - Notepad Miliport Noz Thyckna Charles - Notepad Image: Strate - Notepad Image: Strate - Notepad Miliport Noz Thyckna Charles - Notepad Image: Strate - Notepad Image: Strate - Notepad Miliport Not Thy North Notepad Image: Strate - Notepad Image: Strate - Notepad Notucking Strate - Notepad Image: Strate - Notepad Image: Strate - Notepad Notucking Strate - Notepad Image: Strate - Notepad Image: Strate - Notepad Notucking Strate - Notepad Image: Strate - Notepad Image: Strate - Notepad Notucking Strate - Notepad Image: Strate - Notepad Image: Strate - Notepad Notepad Image: Strate - Notepad Image: Strate - Notepad Image: Strate - Notepad Notepad Image: Strate - Notepad Image: Strate - Notepad Image: Strate - Notepad Image: Strate - Notepad Notepad Image: Strate - Notepad Image: Strate - Notepad Image: Strate - Notepad Image: Strate - Notepad Image: Strate-

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

Network Equipment Technologies	Monitor	Tasks Settings	Welco Logs System	me: admin Logout Help Device Name: hqservice246 UX Series
System Firmware Upgrade Reboot UX Application Solution Module True	is step allows a signed certific	ate to be imported into the system. After this I	has been done, proceed to the Lync 20:	10 Setup step.
Shut Down/Reset/Reboot Load ASM Image from USB Installed Packages Install ASM Update	Comme Import UX Server	Certificate - Windows Internet Explorer i0246/sgl/phpt//config.php?efg=/views/system/i ver Certificate	userserCentrice & Certificate Error	2011 13:13:08
Lync Survivable Branch Appliance 🔅 IS © Operational Status © Setup SBA	O Count State or i Orga ganizatio Email	PEM QTNCzimi ZPyLGQBGRYDTkVUMRYwFAYKCZImiZPyLGQBG QQDEw1V WERFTU8tuRDLUNBMB4XDTExMDQyNzlyMP* VowgZk	GRYGVVhERUIPMRYwFAYDV	
Import SBA Certificate Start/Stop Services Test Lync Call	Not Va Not V Socia	CzAłBąNVBAYTAIVTMQswCQYDVQQIEwJjVTE EMMAGG ALUEChMDTkVUMRAwDgYDVQQLEwdzZXI2a cnZpY2Uy NDYudXhRZWIVLmSIdDEIMCAGCSqGSIb3DQ 0LmNv HTCCAELDQVIKc7ILwNAGEBP0ADpcEDAD	Cut Copy Paste Delete	
_ Import Local/Passthrough + Sig		DTCCASIMUQTIKGZINYCNAQEBBQADggEPAD y6nFP ELGCCbtqEIIW7mKqYZRCKNP8sC67o6D2D+8ii VI n/QYBY+25iYmIa7khk/knsceR0170Gumkfm&i	Send to OneNote Select All	-
			ОК	

UX Certificate tab

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

net. > Heroudt					vyeico	Device Name: hqservic	ce2
Network Equipment Technologies UPIC		Monitor	Tasks Settings	Logs Sy	stem	UX S	ene
ystem 🔹 🍝	Next Steps	1					
 Firmware Upgrade Reboot UX 	🕡 This step all	ows a signed certifi	cate to be imported into the system. After	r this has been done, proce	ed to the Lync 20	10 Setup step.	
oplication Solution Module	Trusted CAs	Generate CSR	UX Certificate Lync 2010 Setup				
Shut Down/Reset/Reboot	+1.	Timport IIX Serve	Certificate - Windows Internet Evolorer	-	×	2011 13:13:08	6
Load ASM Image from USB		e https://172.16.2	50.246/cal/abal Il/confin.abal/cfa=/views/or	tern/uSecarCentics DC C	ertificate Error		
Installed Packages		Import IIV Cor					
Install ASM Update	Commo	Import ux Ser	ver certificate		U		
c Survivable Branch Appliance 🛞	State or	Format	PEM -				
Operational Status	Orga		iZPyLGQBGRYDTkVUMRYwFAYKCZImiZPy	LGQBGRYGVVhERU1PMRYwF	AYDV *		
Setup SBA	Organizatio		WERFTU8tUkRDLUNBMB4XDTExMDQyNzIy	Mp	E	1	
Import SBA Certificate	Email		VowgZIx CzAJBgNVBAYTAIVTMQswCQYDVQQIEwJj	VTE	- T		
Start/Stop Services			EMMAoG A1UEChMDTkVUMRAwDgYDVQQLEwdzZX	U2a Conv			
Test Lync Call	Not Var	Paste Certificate	cnZpY2Uy NDYudXhkZW1vl m5ldDEiMCAGCSnGSlb3l	Paste			
Setup	Net V		0LmNv	Delete			
	Signature (yonFP	Send to OneNote			
Import Local/Passthrough	~ ~		ELGCCbtqEllW/mKqYZRCKNP8sC67o6D2D-	Select All	- L .	A • R 100%	
			A/OYRY+2FiYmle7bhiAirScRDI7OGumbfr	n/Rit			
					ОК		
	1						

Figure 16. Importing Issued Certificate - 2

PEM format,

Paste Certificate field

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 the 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.

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



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.

	Monitor Tasks Setting						
ync ¹⁸ Survivable Branch	Trusted CAs Generate CSR UX Certificate Lync 2019 Setup						
Operational Status	Setup						
Setup SBA							
Import SBA Certificate	Scenario Information						
Start/Stop Services	Scenario Description NETUXCyberData *						
● Test Lync™ Call	Gateway Scenario SIP Trunking 🔫						
	Emergency Services None						
IP Setup	SID Droportion						
Import	air Piopeiliea						
Auth Table	No, of Channels 24 [2.960] *						
elephony Setup	Lync Server Pool						
Calibrate FXO Port	Server Pool Host cspool.uxdemo.net FODN *						
	Port Number 5067 [2024.65535]						
licrosoft9 UC Setup 🔅							
OCS 2007 Setup	Border Element Servers						
Lunc 2 2010 Colum	Border Element Server CyberData.uxdemo.net FQDN or IP *						
Lync 2010 Setup	Protocol UDP						
/Protocols \$	Port Number 5060 [1024.65535]						
liagnostics × -	Use Secondary Border Element Server Disabled 💌						

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



The wizard creates configuration for minimum required settings with a passthrough 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.



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.

(SIP) NETUXCyberData: UC SIP Local Registrar Table (SIP) NETUXCyberData: UC Total 2 SIP Local Registrar Row: Local Registran Row ID Description Max. Users Display NETUXCyberD > [] 1 Local Registrar Unlimited Counters | Registered Users NETUXCyberData: SIP F) D 2 NETUXCyberData Unlimited Counters | Registered Users

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.

Q NETUXCyberData	Add ISDN SG Add SIP SG Add CAS SG 🗙 Total 10 SignalingGroup Ro				
Expand Collapse Reload	Type Description				
All I All I Keload	SIP SBA: UC Mediation				
V Dransformation	SIP SIP SIP SG to VX121				
NETUXCyberData: Passthrou) 🔲 🖳 SIP SIP Registrar				
Call Routing Table	SIP SG for 250				
NETUXCyberData: to Mediat =	SIP ITSP Test SG				
Signaling Groups	SID NETLIXCyberData: UC Mediation				
(SIP) NETUXCyberData: UC					
(SIP) NETUXCyberData: UC I	SIP Channels and Routing				
🤝 🏠 SIP					
🤝 💋 Local Registrars	Action Set Table None 💌				
NETUXCyberData	Call Routing Table NETUXCyberData: to Mediation S				
V SIP Profiles	No. of Channels 24 [2960] *				
NETUXCyberData: SIP F	SIP Profile NETUXCyberData: SIP Profile 💌				
View SIP Server Tables	SIP Mode Local Registrar				
I NETUXCyberData: Medi	Registrar NETUXCyberData				
NETUXCyberData: Borde	Registrar Min. TTL 600 secs[60.86400] *				
V Security	Load Balancing Round Robin 💌				
VILS Profiles	Channel Hunting Most Idle				

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

🛫 🌽 Signaling Groups		Lis	ten Ports		Federated IP	FQDN	
(SIP) NETUXCyberData: UC	🛫 (🗶 - Total 1 row			🔹 i 🕱 Total 1 row			
The second secon	Port	Protocol	TLS Profile ID		IP/FQDN	Netmask	
💎 🌽 Local Registrars	5060	UDP	N/A		🕑 CyberData.uxdemo.net	255.255.255.255	
VETUXCyberData					IntercomDevice1.uxdemo.net	255.255.255.255	

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



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 Enable **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. (CvberData	VoIP	Device	SIP	Configuration
	e j Noi Dala			••••	Jungananon

6		
	CyberData Inter	rcom
Home	SIP Configuration	
Device Config	Enable SIP operation:	
Networking	SIP Settings	
	SIP Server:	10.0.0.253
SIP Config	Backup SIP Server 1:	
Nightringer	Backup SIP Server 2:	
	Remote SIP Port:	5060
Sensor Config	Local SIP Port	5060
Multicast Config	Outbound Proxy.	
	SID Liser ID:	100
Audio Config	Authenticate ID:	199
Event Config	Authenticate Password	avt199
	Automicale Passivolu.	ext199
Autoprovisioning	Register with a SIP Server:	
Update Firmware	Re-registration Interval (in seconds):	
	Unregister on Reboot:	
	Call disconnection	
	Terminate call after delay (in seconds):	0
	Note: A value of 0 will disable this function	
	RTP Settings	
	RTP Port (even):	10500
	Dial Out Sattings	
	- Dial Out Settings	
	Dial out Extension:	204
	Extension ID:	10204
	t Versioned to reduce the abarran to take officer	
	 You need to reboot for changes to take effect 	
	Save Reboot	

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.

(SIP) NETUXCyberData: UC (SIP) NETUXCyberData: UC	SIP Local Registrar	Table				
SIP	🔶 🕴 Total 2 SIP Local Registrar Rows					
NETUXCyberData	Row ID	Description	Max. Users	Display		
w SIP Prohies)	Local Registrar	Unlimited	Counters Registered Users		
NETUXCyberData: SIP F-	2	NETUXCyberData	Unlimited	Counters Registered Users		

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 T. Test Call Result Alter Successful Configuration	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

The IP Endpoint	Innovative Concepts in Peripheral Connectivity
Home Corporat	te * Products * Solutions * Support * Partners * Where Ta Buy * Contact Us * News Search Feedback
VolP Produ	ucts
CyberData Corp application spec systems.	poration designs and manufactures peripheral devices for VoIP phone systems. We build products that facilitate legacy migration to VoIP, IP equivalents to existing analog devices, and ecific endpoints that add new functionality. Our VoIP products, such as Paging Oateways, IP Speakers, IP authentication devices are cost-effective and easy to manage solutions for VoIP phone
VolP Produc	ist Categories
	SIP-enabled Legacy Analog Paging Devices DP-enabled IP Paging gateways and sone controllers with audio out allow you to utilize axisting analog paying any engineers and speakers and provide an easy method for implementing an IP-based paging system for both new and legacy installations.
	SIP-enabled IP Paging Endpoints (with Night Ringer) CyberData's SIP-enabled IP Paging Endpoints utilize digital communication technology in place of outdated analog technology. This increases reliability and allows a broader range of useful information to be transferred between devices.
	SIP-enabled IP Intercoms (with Night Ringer) ** Latest Firmware release with additional features now available for all intercom devices! ** Cyderostix's SiP-enabled D Intercoms utilize adjuta communication technology in place of outdated analog technology. This increases reliability and allows a broader range of useful information to be transfered between devices.
For HELP ® Roak base	SIP-enabled IP Notification Endpoints CyberOtat's SIP-enabled IP Notification Endpoints utilize digital communication technology in place of outdated analog technology. This increases reliability and allows a broader range of useful information to be transfered between devices.
	Singlewire Informacasl/Berbee-enabled Endpoints Latest IP-based speaker for use with Singlewire's Informacast@ and Informacast CK software.
	Syn-Apps enabled Endpoints Latest IP-based speaker for use with Syn Apps SA-Announce software.

- 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

