AudioCodes Mediant 2000 Gateway

Deployment Guide

Thank you for your order for BT's One Voice SIP trunk UK. This Configuration document is provided as a source of guidance for the purpose of ensuring optimum performance when connecting the customer's CPE to the One Voice SIP service. This document and its contents are provided in confidence solely to enable the customer and their PBX maintainer to configure the CPE appropriately. Under no circumstances is this document or its contents to be shared with third parties.



Configuration Details to connect BT One Voice SIP trunk UK to – Audiocodes Mediant x000 (MxK) for MS Lync and TDM switches

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## 1 Document Information

### 1.1 Specific

NAME	ROLE
Design Pattern Type	Module
ACF Number	ACT 32507
Line of Business Owner	BTID
Product Family	ECEP CPE
Parent ACT	None
Child ACT	None

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### 1.4 Document History

NAME	Changes	Version
Original	Original	Issue 1.0
	Layout changes and minor corrections.	Issue 1.1

Note, the first iteration of a document should be Draft 1.0

Minor changes made to the document should increment by 0.1 (Dot revision i.e. 1.1 becomes 1.2). Major changes to the document should result in an uplift of the whole figure by 1 (i.e. 1.5 becomes 2) **No documentation** should reach its customer before peer review changes the document to an Issued status.

### **Executive summary**

This configuration guide describes how to deploy Audiocodes media gateways.

The document will show to configure and apply a basic configuration to the gateway. The use of templates and prepared files to standardise deployment and reduce install time is used.

The document will also describe a process to be used in the replacement of a faulty media gateway.

## 2 Assumptions and Risk

The AudioCodes media gateway is supported as part of the process for providing voice for Microsoft Lync. This is the new name assigned to the third generation of Microsoft Office Communication server. This process can also be used for Microsoft Exchange Unified Messaging and Microsoft Office Communication server.

The deployment of the gateway and connection to a Private Branch Exchange (PBX) or Public Switched Telephone Network (PSTN) should be carried out by an engineer familiar with the platform being connected to for the trunk service.

## 3 Basic deployment

### 3.1 Deployment Steps



### 3.2 Checklist

The following are needed before commencing installation

Item	Check
QSIG card for PBX or EuroISDN trunk	
RJ48C Cable from PBX to run to gateway or tool to make up.	
RJ45 crossover cable.	
PBX configuration information	
IP address and FQDN for media gateway and Microsoft endpoint	
Copy of media gateway files from Livelink.	
http://livelink.intra.bt.com/livelink/livelink.exe?func=ll&objld=12113472	
6&objAction=browse&sort=name	

### 3.3 Unpacking and mounting

- Open the carton and remove the packaging materials.
- Remove the media gateway.
- Check for any signs of damage during transit.
- Retain any documentation and CD's.
- Remove the two mounting brackets and attach to the media gateway.
- Mount the media gateway in a 19 "" rack. It is recommended that a shelf or supporting bracket should be used.



### 3.4 Cabling

The media gateway has two standard RJ45 Ethernet ports for connection to the customer's network. These two ports are twinned; use both ports to provide resilience. The PRI link to the media gateway should be cabled as shown.

- Permanently connect the device to a suitable earth with the protective earth screw on the rear connector panel, using 14-16 AWG wire.
- Connect the E1/T1 trunk interfaces. This is presented as an RJ48C. This pin out is shown.



Pair	Signal	Male	Male
	-	RJ48C	RJ48C
		Local	Remote
1	Receive	2	5
1	Receive	1	4
2	Transmit	5	2
2	Transmit	4	1

The cabling and of presentation of the PRI interface is the responsibility of the PBX or PSTN provider and is not included in the scope of this document.

- Install the Ethernet connection This connection is RJ45C
- Connect the power supply.

## 4 Basic Installation

This chart indicates the steps required to deploy an AudioCodes media gateway.



#### 4.1 Access to the gateway

The AudioCodes media gateway has an embedded web server that is used to manually assign an IP address to the device. Connect to the media gateway from a device with a suitable network connection or directly with a crossover cable.

The media gateway is factory shipped with a pre allocated IP address. Assign an IP address to the device being used to connect to the media gateway. It is recommended to use 10.1.10.11/16 to initially access the media gateway.

Default IP Address	10.1.10.10 Subnet 255.255.0.0
Default Login	Admin
Default Password	Admin

Enter the default IP address into a web browser window running a minimum of Internet Explorer 6.0 or Mozilla Firefox 2.0. Enter the user name and default passwords these are **case sensitive** and click okay.

Enter Netv	vork Password	×
?	This secure Web Site (at 10.44.65.178) requires you to log on.	
	Please type the User Name and Password that you use for Realm1.	
	User Name Coadmin  Password	
	Save this password in your password list	
	OK Cancel	

The home page icon is shown. The device can be navigated using the menus on the left hand side of the device.

	Trunk Status
192.168.100.59	Disable
255.255.255.0	Active - OK
192.168.100.1	O RALAlerm
5.40A.005.006	
SIP	UCS / LOF Alarm
	<ul> <li>AIS Alarm</li> </ul>
	OChannel Alarm
	132.100.100.39 255.255.255.0 192.168.100.1 5.40A.005.006 SIP

# 5 Configuration using EWS

Use this process when BootP cannot to be used.

### 5.1 Manual Configuration.

The media gateway is configured by uploading a configuration file containing most of the required settings. All the required files including firmware are from Livelink

http://livelink.intra.bt.com/livelink/livelink.exe?func=ll&objId=121134726&objAction=browse&sort=name

From the zip file extract the contents to a local folder. The files required are the board.ini, TP1610\_SIP\_5.40.xx.xx.cmp, Uk, dat and Uk .ini

Manually connect to the device using the procedure described in section 3.1.

- In the top level menu on the left hand side select Management
- In the file tree select Software Update and Software Upgrade Wizard.



• In the Software Upgrade Wizard select Start Software Upgrade. The upgrade window opens.

<i>[</i> http://192.168.100.59]	)/ - Software Update Wizard - Windows Internet Expl 💶 🔲 🗙
CMP file INI file CPT file VP file PRT file CAS file USRINF file	Load a CMIP file from your computer to the device C:\Program Files\AudioCodes\Boot Send File
	Previous Next Cancel Reset

- In the Software Update Wizard window select cmp file.
- Browse to the location where the downloaded files are located and select the TP1610 file.
- Select send file. The window updates as the file is loaded. A confirmation window is displayed when loaded.
- Select next.

🖉 http://192.168.100.59	/ - Software Update Wizard - Windows Internet Expl 📃 🗔 🗙
CMP file	Load an <i>ini</i> file from your computer to the device
INI file	C\/Program Files\/AudioCodes\/Bootl Browse Send File
CPT file	☑ Use existing configuration
VP file	The Device will revert to default configuration if no configuration is chosen
PRT file	
CAS file	
USBINE file	
FINISH	
	Previous Next Cancel Reset

- In the Software Update Wizard select ini file.
- Browse to the board ini file and select send file.
- Once the file is uploaded select next.

<i>[[</i> http://192.168.100.59	)/ - Software Update Wizard - Windows Internet Expl 🔳 🔳 🗙
CMP file INI file CPT file VP file PRT file CAS file USRINF file FINISH	Load a <b>CPT</b> file from your computer to the device C\Program Files\AudioCodes\Boot Browse Send File V Use existing file uk. dat Call Progress Tones File
	Previous Next Cancel Reset

- In the Software Update Wizard select cpt.file
- Browse to the folder and select the uk.dat file.
- Click to send the file. The file is uploaded.
- Select next for VP file
- Select next for PRT file.
- Select next for the CAS file.
- Select next for USRINF file.
- Select FINISH



• Select the reset button to reset the gateway.

The gateway loads the files and if necessary upgrades the firmware this can take several minutes to complete. When complete the following notification window is shown.

CMP Version ID:	5.40A.033
Call Progress Tone File Name:	uk.dat

### 5.2 Set Network settings

Assign the correct IP address and the address for the media gateway.

- In the top level menu on the left hand side select Configuration.
- In the file tree select Network Settings and IP Settings.
- Under Single IP configuration enter the Mediant 2000 IP address, subnet and gateway.
- Select submit.

AudioCodes	BT Media Gatew	ay 🧭 Submit 🧕 Burn	Device Actions 🔹 👩 Home	e 🕐 Help
Configuration Management & Statu Scenarios Search	s IP	Settings		
Basic Full Network Settings IP Settings Application Settings		Single IP Settings IP Address Subnet Mask Default Gateway Address	10.44.65.178 255.255.255.192 10.44.65.129	
IP Routing Table QoS Settings SCTP Settings Media Settings PSTN Settings		<ul> <li>Multiple Interface Settings</li> <li>Multiple Interface Table</li> </ul>	<b>B</b>	Submit
SS7 Configuration     Sigtran Configuration     Security Settings     Protocol Configuration     Advanced Applications     TDM Configuration				

- In the top title bar select Burn to save the configuration.
- In the top title bar select the drop down icon to the right of Device Actions and select Reset.

AudioCodes	BT Me	dia Gateway	Submit	O Burn	Device Actions	<ul> <li>Home</li> </ul>	() Help
Configuration Management Scenarios Search	Status & Diagnostics	Mainte	enance Actions				
O Basia ( Eull	0		▼ Reset Configu	ıration			-
· Basic · Full	O		Reset Board		Reset		
Detwork Settings			Burn To FLASH	I.	Yes	•	
IP Settings			Graceful Option	л	No	•	
Application Settings							
IP Routing Table			▼ LOCK / UNLOG	СК			
QoS Settings			Lock		LOCK		
SCTP Settings							
⊕@PSTN Settings							
■@SS7 Configuration							
Elimination Configuration	n						

• In the Maintenance Action window select Reset.

licrosoft	: Internet Explore	2r	×
?	Are you sure you	want to RESET the	Gateway?
	ОК	Cancel	

• In the confirmation window Select OK to reset the media gateway. Remember to switch to the new network settings to connect to the device.

### 5.3 Loading a Scenario

The scenario is contained within the group of files downloaded from:

http://livelink.intra.bt.com/livelink/livelink.exe?func=ll&objld=121134726&objAction=browse&sort=name

figuration Management & Diagnostics	BT Media Gateway Home Page	
cenarios Search		
Basic 🖲 Full 🔇		
Network Settings Media Settings PSTN Settings SS7 Configuration Sigtran Configuration		
Security Settings Protocol Configuration	Mirror O. T. I.	
Advanced Applications	General Information	Trunk Status
	IP Address Creat	te a new scenario. O Disable
	Subnet Mask	Active - OK
	Eirmware Version	OK O RAI Alarm
	Protocol Type	SIP O LOS / LOF Alarm
		AlS Alarm
		O DChannel Alarm
spario Name-		
enario Name:		

• In the bottom left hand of the browser window. select Get/Send Scenario File from the Scenario

Scenario Name:
Step Name:
SSLCertificateSR
Save & Finish Cancel Scenario
Geo sena scenario File

- In the Send Scenario file from your Computer to the Device window select Browse. Browse to the Secured Scenario.dat file which is contained within the folder of documents obtained from Livelink.
- Select Send File.
- Confirmation is given to show that the file has loaded correctly.
- In the top level menu on the left hand side select Scenarios for a second time, there is a prompt that a scenario has been loaded.

Microsoft	t Internet Explorer 🛛 🔀
1	Loading Scenario: CS2010 Secured Scenario.
	ОК

• The Scenario Name shows the Secured Scenario. This contains the key elements required to configure the media gateway.

BT Media	Gateway 🕢 Submit 🧕 Burn	Device Actions	() Help	Elog off
Configuration Management Status 8 Diagnostics Scenarios Search Basic C Full Scenario Name - CS2010 Secured Scenario 1 IPSettings 2 ApplicationSettings 3 SIPPDProxyReg 4 ProxySetsTable 5 DPNIPTOTelco 6 DPNTelcoToIP 7 SPNIPTOTelco 8 SSLCertificateSR 9 ChangePassword	IP Settings Single IP Settings IP Address Subnet Mask Default Gateway Address ✓ Multiple Interface Settings Multiple Interface Table	10.44.65.178 255.255.255.132 10.44.65.129	Previous Next	Submit
Edit Scenario Create Scenario Cancel Scenario Get/Send Scenario File Delete Scenario File				

Proceed to <u>Verify Deployment</u>

## 6 Verify deployment.

When an AudioCodes media gateway is deployed as part of a Microsoft managed solution. The onsite deployment must load the configuration files and establish the connection with the QSIG or Euro ISDN trunk. The commissioning team will complete the customer specific configuration required for the solution. Initial testing consists of checking that the PRI link is established, placing a call towards the gateway and checking for call presentation using Message Log.

### 6.1 PRI Status

If the link is configured correctly on the PBX or PSTN the active QSIG trunk will show an active icon.

• In the title menu at the top of the page select the home icon,

	The activ	e PRI	trunks	are	indicated
--	-----------	-------	--------	-----	-----------

Ē					_
	00	0	00	000	00
General Information				Т	runk Status
General Information	192.168.100.59			Т	runk Status Disable
General Information IP Address Subret Mask	192.168.100.59 255.255.255.0			T 0	runk Status Disable
General Information IP Address Subnet Mask Defaul Gateway Address	192.168.100.59 255.255.255.0 192.168.100.1			т 0	runk Status Disable Active - OK
General Information IP Address Subnet Mask Default Gateway Address Firmware Version	192.168.100.59 255.255.0 192.168.100.1 5.40A.005.006				runk Status Disable Active - OK RAI Alarm
General Information IP Address Subnet Mask Default Gateway Address Firmware Version Protocol Type	192.168.100.59 255.255.255.0 192.168.100.1 5.40A.005.006 SP				irunk Status Disable Active - OK RAI Alarm LOS / LOF Alarm
General Information IP Address Subnet Mask Default Gateway Address Firmware Version Protocol Type	192.168.100.59 255.255.255.0 192.168.100.1 5.40A.005.006 SIP				runk Status Disable Active - OK RAI Alarm LOS / LOF Alarm AIS Alarm

### 6.2 Trunk Status

To check the status of individual channels,

- In the top left hand menu select Status and Diagnostics.
- In the left hand tree menu expand Status and Diagnostic, Trunk Channel Stats

The channel status for the trunks is shown in the Trunk and Channel Status window.

Shinguration Management & Diagnostics	Trunks & Channels Status		
Sceparios Search	Trunks	Chann	nels
	Status 0 1 2 3 4 5	5 6 7 8 9 10 11 12 13 14 15 1	16 17 18 19 20 21 22 23 24 25 26 27 28 29 3
Basic 🔿 Full 🤇	) Trunk 1 👎 🗣 🗣 🗣 🦷	د اب ا	ن با
	Trunk 24	والبيدانية لبيدانية لبيدانية لبيدانية لبيدانية	ید اجد اجد اجد اجد اجد اجد اجد اجد اجد اج
Status & Diagnostics			
Ethernet Port Information			
Device Information			
Performance Statistics			
Active Alarms			
Trunks & Channels Status			
Gateway Statistics			
		Trupk	Chappel
		Disabled	Inactive 🐙
		Active - OK	Active 🐙
		RAI Alarm	SS7 🐙
		LOS / LOF Alarm	Non Voice
		AIS Alarm	ISDN Signaling

### Call Log

The media gateway has an in built log file for capturing real time call logs available. This can be used for problem investigation.

- From the top of the left hand menu select Status and Diagnostics.
- In the left hand tree select Status and Diagnostic, Message Log.
- Any calls through the gateway are shown in real time.
- Cut and paste information from this window to notepad to help analysis.
- Place a call over the QSIG/EuroISDN link to the gateway and check for presentation.

AudioCodes Mediar	nt 2000 🖉 Submit 🙆 Burn Device Actions 🔻 👘 Home 🔞 Help 😁 Log off
Configuration Management Status Scenarios Search	CSEQ: 1 INVITE CALL-ID: 19474140511132008144160192.168.100.59 VIA: SIP/2.0/TCP 192.168.100.59;branch=z9hG4bKac1947425399;alias CONTENT-LENGTH: 0
Status & Diagnostics     Status & Diagnostics     Message Log     Ethernet Port Information     Device Information     Performance Statistics     Active Alarms     Trunks & Channels Status     Gateway Statistics     IP to Tel Calls Count     Tel to IP Calls Count	<pre>l1d:14h:4m:16s ( lgr_flow) (506 )     (SIPTU#87)100 State:Inviting(19474 l1d:14h:4m:16s ( sip_stack) (507 ) SIPCall(#87) changes state from Inviting to l1d:14h:4m:16s SIP/2.0 302 Moved Temporarily FROM: <sip:10190192.168.100.59>;tag=lc1947414923 T0: <sip:75020192.168.100.59>;tag=lc1947414923 CSEC: 1 INVITE CALL-ID: 19474140511132008144160192.168.100.59 VIA: SIP/2.07CP 192.168.100.59;branch=29hG4bKac1947425399;alias CONTACT: <sip:75020192.168.100.73:5065;user=phone;transport=tcp> CONTENT-LENGTH: 0 SERVER: RTCC/3.0.0.0</sip:75020192.168.100.73:5065;user=phone;transport=tcp></sip:75020192.168.100.59></sip:10190192.168.100.59></pre>
Call Routing Status	<pre>lid:14h:4m:16s ( lgr_flow)(510 )   (SIPTWAP7)302 State:Proceeding(194 lid:14h:4m:16s ( lgr_flow)(511 ) Outgoing SIP Message to 192.168.110.73 lid:14h:4m:16s ACK sip:75020192.168.100.73;user=phone SIP/2.0 Via: SIP/2.0/TCP 192.168.100.59;branch=29hG4bKac1947425399;alias Max-Forwards: 70 From: <sip:10190192.168.100.59;tag=1c1947414923 <sip:75020192.168.110.73;user="phone" to:="">;tag=cd20d5c6f1 Call-ID: 19474140511132008144160192.168.100.59 CSeq: 1 ACM Contact: <sip:10190192.168.100.59;transport=tcp> Supported: em,timer,replaces,path,resource-priority Allow: REGISTER,OPTIONS,INVITE,ACK,CANCEL,BYE,NOTIFY,PRACK,REFER,INFO,SUBSCRIBE,UPDATE USer-Agent: Audiocodes-Sip-Gateway-Mediant 2000/v.5.40A.005.006 Contact: &lt;0</sip:10190192.168.100.59;transport=tcp></sip:10190192.168.100.59;tag=1c1947414923></pre>

For more detailed tracing Syslog can be used refer to the AudioCodes documentation for further information (copy on CD).

## 7 Certificates

### 7.1 Load Certificates for secure working.

The media gateway needs to be trusted by Microsoft Lync. The gateway name and identity is exchanged with the Certification Authority. During the installation the Microsoft Lync servers also are secured by certificates with the Certification Authority. Both devices have valid certificates issued from the CA and allow secure communication between them.

The process is in a number of stages. The Media gateway creates a self-signed request. This is manually taken to the Certification Authority. The self-signed request is validated and a key is generated to be loaded onto the media gateway.

The media gateway needs the Root certificate from the Certification Authority loaded. This lets the media gateway trust any servers trusted by the Certification Authority including Microsoft Lync.



BT Media Codes	Gateway 🖉 Submit 🧕 Burn Device Actions 🔻 💼 Home 🕘 Help 🔶 Log off
Configuration Management Status Scenarios Search Basic • Full Configuration Name - C52010 Secured Scenario 1 PSettings 2 ApplicationSettings 3 SIPPDProxyReg 4 ProxySetsTable 5 DPNIPTOTelco 6 DPNTelcoToIP 7 SPNIPTOTelco 8 SSLCertificateSR 9 ChangePassword	Certificates  Press the button "Generate self-signed" to create a self-signed certificate using the subject name provided above. Important: this is a lengthy operation, during this time the device will be out of service. After the operation is complete, save configuration and reset the device.  Generate self-signed  Certificate Files Send "Server Certificate" file from your computer to the device Browse Send File Send "Trusted Root Certificate Store" file from your computer to the device Browse Send file  Vervious Vervious Vervious

#### Self Signed Certificate – Media Gateway

- In the Subject Name field enter the name of the media gateway.
- In the Certificates window select Generate CSR

BT Media	Gateway 🧭 Submit 🙆 Burn Device Actions 🔻 🚯 Home 🔞 Help 🐑 Log off
Configuration Management Status & Diagnostics	Certificates
Scenarios	
C Basic © Full	Certificate Signing Request
Scenario Name - CS2010 Secured	Subject Name gwm2kcol.futuresii.loca
1 DIPSettings	Generate CSR

• The CSR request is generated.

AudioCodes BT Medi	a Gateway 🖉 Submit 💿 Burn Device Actions 🔻 👘 Home 🔞 Help 😁 I	Log off
Configuration Management Status Scenarios Search Basic © Full © Scenario 1 IPSettings 2 ApplicationSettings 3 SIPPDProxyReg 4 ProxySetsTable 5 DPNIPTOTelco 6 DPNTelcoToIP 7 SPNIPTOTelco 8 SSLCertificateSR 9 ChangePassword	Certificates Generate CSR Copy the certificate signing request and send it to your Certification Authority for signingBEGIN CERTIFICATE REQUEST MIIEYJCExAIDADAJMSBWHWTDVQQDExhad20ya2NWbCSadXRLawZsaWkubG9jYWww g2BvbDQYKNoZIhvcMAQEBCDAJYOANICAAOBAMDHKTae24d0HbkrBqypRBNeUpE SNJ5FeaAN93X/VgBusWkqK4A05G1DSc4NN5pB7Stk6Ch1dPmzAZ5roVwDB31g6vTE ppUBhDM2gcecQ1XoobpJYTf6vupCoLS1B010dyzas72CVuj12chj317JXpscvrc1 8y18g10t46Hi800BAgHBAAGgADAMBgkqhkiG9wDBA0QFAA0BgdpjxByS3mkH16 VHjbhw06T+Y/rCza3Ny12c5K2IqJOLAgRbr50G5ahbXdVNu4pVvJj8XiSNUU Bup99UjUKQVBa6ypnLyVSJAThsFenTaCCNgHb+p611zsWKfMa6Vra0H05H01quxL MIT210eTFVINUXJ&seket1/xNYON#=BND CERTIFICATE REQUEST	¥
	Previous	s Next

• Select all the text from the key generated. Copy the text and save to a text editor such as notepad.



• Save the file. A manual process is required to load into the CA.

#### Self Signed Certificate – Certifcation Authority

This will need to be carried out by a person responsible for the CA.

- Launch a web browser to connect to the CA and enter the correct credentials.
- From the Welcome window select Request a Certificate.

2 C52010 AD - 10.44.66.226 - Remote Desktop
🖉 Microsoft Active Directory Certificate Services - Windows Internet Explorer provided by the BT IBB Team using OneBuild
🏠 Favorites 🛛 🙀 🖉 Web Slice Gallery 🔹
Alicrosoft Active Directory Certificate Services
Microsoft Active Directory Certificate Services Root-FuturesII-R3CAD01-CA
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 ver 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 (C
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
- From the Request a Cartificate window select Advance partificate request

From the Request a Certificate window select Advance certificate request.

Amicrosoft Active Directory Certificate Services - Windows Internet Explorer provided by the BT IBB Team using OneBuild	
S ♥  Attp://10.44.66.226/certsrv/certrqus.asp	<b>•</b>
🙀 Favorites 🛛 🙀 😰 Web Slice Gallery 🔹	
C Microsoft Active Directory Certificate Services	
Microsoft Active Directory Certificate Services Root-FuturesII-R3CAD01-CA Request a Certificate	
Select the certificate type: <u>User Certificate</u>	
Or, submit an advanced certificate request.	

• From the Advanced Certifcate Request window select Submit a certifcate request by using a base 64 encoded.

Alicrosoft Active Directory Certificate Services - Windows Internet Explorer provided by the BT IBB Team usig	ng OneBuild
	•
👷 Favorites 🛛 🍰 🙋 Web Slice Gallery 👻	
C Microsoft Active Directory Certificate Services	
Microsoft Active Directory Certificate Services Root-FuturesII-R3CAD01-CA	
Advanced Certificate Request	

The policy of the CA determines the types of certificates you can request. Click one of the following options to:

Create and submit a request to this CA.

Submit a certificate request by using a base-64-encoded CMC or PKCS #10 file, or submit a renewal request by using a base.

- Select Create and Submit a request to this CA.
- Copy the Certifcate request from the gateway into the Base-64 file on the webpage.
- In the certificate template select Web
- Click submit.

<b>Microsoft</b> Active D	irectory Certificate Services Sub-FuturesII-R3CAD02-CA	<u>Home</u>	
Submit a Certifica	te Request or Renewal Request		
To submit a saved generated by an ex	request to the CA, paste a base-64-encoded CMC or PKCS #10 certificate request or PKCS #7 renewal request dernal source (such as a Web server) in the Saved Request box.		
Saved Request:			
Base-64-encoded certificate request (CMC or PKCS #10 or PKCS #7):	SHO6fLMykyww/BO6fzfg0sOiTABROIUSNrLhANOG 6hP5CoG7v5xNyRioSqOUQe72QryMfoSHtdmP7VeH d+fE6EwggmGRc2ZCqQnBkj+NtJtvvq4= END CERTIFICATE REQUEST		
Certificate Template:			
	Web Server		
Additional Attributes:			
Attributes:			
	Submit >		

The certifcate is generated and needs to be saved to subsequently install on the media gateway.

- From the Certifcate Issued window chose to save as a Base 64 Encoded.
- Click the Download Certificate link.
- In the File Download –Security Warning window select Save
- In the Save As window assingn a file name such as media gateway.cer cert.
- In the Save As Type leave unchanged as Security Certificate.

Microsoft Active Directory Certificate Services - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address 🖉 http://10.44.66.227/certsrv/certfnsh.asp
Microsoft Active Directory Certificate Services Sub-FuturesII-R3CAD02-CA
Certificate Issued
The certificate you requested was issued to you.
C DER encoded or . 🖸 Base 64 encoded
Download certificate chain Download certificate chain

The CA certificate is also required to be downloaded and added to the media gateway.

#### Nelcome

Jse 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 ancrypt messages, and, depending upon the type of certificate you request, perform other security tasks.

rou 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

Microsoft Active Directory Certificate Services -- Sub-FuturesII-R3CAD02

- Select the Download a CA Certificate, certificate chain or CRL.
- Select encoding method Base 64.
- In the Encoding Method select Base 64.
- In the Download a CA Certificate, Certificate Chain or CRL select download CA certificate.

File Edit View Favorites Tools Help	_
Address 🔄 http://10.44.66.227/certsrv/certcarc.asp	🔁 Go 🛛 Links
Microsoft Active Directory Certificate Services Sub-FuturesII-R3CAD02-CA	<u>Home</u>
Download a CA Certificate, Certificate Chain, or CRL	
To trust certificates issued from this certification authority, install this CA certificate chain.	
To download a CA certificate, certificate chain, or CRL, select the certificate and encoding method.	
CA certificate: Current [Sub-FuturesII-R3CAD02-CA]	
Encoding method:	
C DER © Base 64	
Download CA certificate Download CA certificate chain Download latest base CRL Download latest delta CRL	

- In the File Download Security warning dialog box select Save.
- In the Save As window assign a file name such as certnew.cer.
- Manual move the certificate ready to import into the media gateway.

#### Import Self Signed and CA Certificate - media gateway

The self-signed certificate generated by the CA and CA Certificate both need to be imported into the media gateway.

🗿 AudioCodes - Microsoft Internet Explorer		
File Edit View Favorites Tools Help		
Address 🙋 http://10.44.65.178/		- →
BT Media Gatewa	ay 🖉 Submit 🔘 Burn Device Actions 💌 🚯 Home 🔞 Help	Eog off
Configuration Management Status 8 Diagnostics Central Status	tificates	
C Basic @ Full	Generate self-signed	<b>_</b>
Scenario Name - C\$2010 Secured Scenario 1 IPSettings 2 ApplicationSettings	Certificate Files Send "Server Certificate" file from your computer to the device M\Documents and Settings\8029522 Browse	

- In the Certificates window of the media gateway.
- In the Send "Server Certificate" file from your computer to the device.Browse to the certificate created and saved as media gateway.cer
- Click on Send File to import the certificate.
- In the Send "Trusted Root Certificate Store" file from your computer to the device window. Browse to the root certificate created and saved as certnew.cer.
- Click on Send File to import the certificate.

The media gateway does not allow for the current certificates to be checked. The media gateway overwrite the exisiting certificates with any new certificate that is applied.

## 8 Customer Configuration Euro ISDN

The sample Board.ini file contains most of the settings required to deploy the media gateway when connecting directly to a Euro-ISDN interface. To help in configuration of the gateway a scenario can be used. This helps navigates to the prompts required to be changed. If the scenario is not loaded the browser can be used to navigate to the required prompts.

#### **Advanced Network Settings**

The initial scenario tasks look at setting the media gateway with the correct network settings. You require the following information:

Information Required	Customer Information	Example Information
IP, Subnet and Default Gateway		10.44.65.177
Address		255.255.255.192
		10.44.65.129
NTP server address.		10.44.65.137
DNS server address.		10.44.65.137
FQDN for the Microsoft Lync front		r3mcsvse01.futuresii.local
end server.		
FQDN name for the media gateway.		gwm2kcol.futures.bt.local
This requires creation of an A		
record within the DNS server to be		
created.		

#### **IP Settings**

Configuration Management Status & Diagnostics	IP Settings		
Scenarios Search			
C	Single IP Settings		
Basic (* Full	IP Address	10.44.65.178	
Scenario Name - CS2010 Secured	Subnet Mask	255.255.255.192	
1 IPSettings	Default Gateway Address	10.44.65.129	
2 ApplicationSettings			
3 SIPPDProxyReg	Multiple Interface Table		
4 🗋 ProxySetsTable			
5 DPNIPToTelco			
6 DPNTelcoToIP			
7 🗋 SPNIPToTelco			
8 📄 SSLCertificateSR			
9 🗋 ChangePassword		Previous Next	Submit

- Modify and insert the required IP Address, Subnet Mask and Default Gateway Address.
- Click Submit.
- These prompts can be set from Configuration, Network Settings, Ip Settings.

#### Application Settings

AudioCodes	BT Media Gateway	Submit 🧕 Burn	Device Actions	Home (	() Help	Eog off
Configuration Management Status Scenarios Search	s Applic	ation Settings				
C Basic © Full	0	<ul> <li>NTP Settings</li> <li>NTP Server IP Address</li> </ul>	10.44.65.137			-
Scenario Name - CS2010 Secured Scenario 1 DPSettings		NTP UTC Offset NTP Updated Interval	Hours: 0 Hours: 24	Minutes: 0 Minutes: 0		
2 ApplicationSettings 3 SIPPDProxyReg		<ul> <li>Day Light Saving Time</li> <li>Dav Light Saving Time</li> <li>DNS Settings</li> </ul>	Enable	Ţ	1	
4 DPNIPToTelco		DNS Primary Server IP DNS Secondary Server IP	10.44.65.137 10.44.66.226			
		<ul> <li>STUN Settings</li> </ul>				

- Modify and insert the required NTP Server Address.
- Modify and insert the required DNS Server Address.
- Click Submit.
- These prompts can be set from Configuration, Network Settings, Application Settings.

#### **SIP Proxy Settings**

nfiguration Management Status & Diagnostics	Proxy & Registration	Basic	ParameterList 🔺
cenarios Search	▼		
Basic 🖲 Full	Use Default Proxy	Yes	
	Proxy Set Table		
enario Name - CS2010 Secured	Proxy Name	r3mcsvse01.futuresii.local	
	Redundancy Mode	Homing	
	Proxy IP List Refresh Time	60	
Applicationsettings	Enable Fallback to Routing Table	Disable	
SIPPDProxyReg	Prefer Routing Table	No	
ProxySetsTable	ReBegister On Connection Failure	Disable	
DPNIPToTelco			
DPNTelcoToIP	Gateway Name	gwmzkcol.tutures.bt.iocai	
	Gateway Registration Name		
	Previous Next	Register Un-Register	
ChangePassword		Submit	

- Modify and insert the FQDN of the Microsoft Lync server in the Proxy name field.
- Modify and insert the DNS name assigned to the gateway in the Gateway name field..
- Click Submit.
- These prompts can be set from Configuration, Protocol Configuration- Proxies, Registration, IP Groups Proxy and Registration.

#### **ProxySetsTable**

SAudioCodes BT Media	a Gateway 🕢 Submit 🧕 Burn	Device Actions	💼 Home ( 🙆 Help	Eog off
Configuration Management Status Scenarios Search Basic <sup>©</sup> Full Scenario Name - CS2010 Secured Scenario Name - CS2010 Secured 1 IPSettings 2 ApplicationSettings 3 SIPPDProxyReg 4 ProxySetsTable 5 DPNIPToTelco 6 DPNTelcoToIP 7 SPNIPTOTelco 8 SSLCertificateSR 9 ChangePassword	Proxy Sets Table  Proxy Set ID  I r3mcsvs  2  3  4  5	0 Proxy Address Transp Type se01 futuresii.local TLS	v port v v v v v v	s Next Submit

- Check proxy set ID 0 is selected.
- Modify and insert the FQDN of the Microsoft Lync server in the Proxy Address field.
- Check the Transport Type is set to TLS.
- Click on Submit.
- These prompts can be set from Configuration, Protocol Configuration- Proxies, Registration, IP Groups Proxy Sets Table.

#### **Routing and Manipulation Information**

The sample scenario is created for a customer using the following numbering scheme.



The allocated PSTN range is 02074011980-1989. The DDI number delivered to the gateway 011980 this is manipulated by the gateway to +442074011980 for presentation to Microsoft Lync.

When a Communicator endpoint makes a call, in this example to 01277328959, Microsoft Lync normalises the number to +441277328959. Microsoft Lync then determines permissions and route to make the call and if allowed passes the call to the gateway. The gateway removes the +44 and inserts 0 to allow the call to be presented to the PSTN.

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#### **Dialled Prefix IP to Tel** 💿 Burn Device Actions ( Home (2) Help BT Media Gateway ╾ Log off 🖌 Submit • AudioCodes Destination Phone Number Manipulation Table for IP -> Tel Calls Configuration Management Status & Diagnostics Note: Select row index to modify the relevant row Search Scenarios Add Γ ○ Basic ④ Full 0 Scenario Name - CS2010 Secured Scenario Stripped Dig Right Destination Prefix Source Prefix Source IP Address Stripped Digits From Left Index 1 📄 IPSettings 1 C 2 🗋 ApplicationSettings 2 O 3 🗋 SIPPDProxyReg 0 3 +44 4 📄 ProxySetsTable 40 5 DPNIPToTelco 6 🗋 DPNTelcoToIP 7 📄 SPNIPToTelco • 8 🗋 SSLCertificateSR 9 📄 ChangePassword Pres Next ious

The standard routing should be correct for most UK customers connecting the media gateway directly to the PSTN via Euro ISDN.

The standard scenario also manipulates the formats received from Microsoft Lync for international and service numbers. Local calls are normalised to the full e164 number so do not need further manipulation.

- Check the settings can be applied to this customer.
- These these prompts can be set from Configuration, Protocol Configuration- Mainpulation Tables Dest Number IP to Tel.

AudioCodes BT Me	edia Gateway 🛛 🖉 Su	bmit 🧿 Burn	Device Actions	Home 🙆 Hel	D Sog off
Configuration Management Status & Diagnostics	Destination Phone Nu	umber Manipulation Table	e for Tel -> IP Calls		
Scenarios Search	Note: Select row inde	x to modify the relevant	row.		Basic Parameter List 🔺
C Basic @ Full	3 Add				
Scenario Name - CS2010 Secured Scenario	Destination Prefix	Source Prefix	Stripped Digits From Left	Stripped Digits From Right	Prefix to Add
1 PSettings		×	D D	0	+442074
2 ApplicationSettings					
3 SIPPDProxyReg					
> SEL CartificateSP	•				Þ
a ChangePaceword					
g Changerassword					Previous Next

The standard scenario contains an example that builds a six digit DDI number into an E164 format number by adding the required prefix.

- Modify the Prefix to Add settings to contain the required site prefix.
- Select Apply to modify the changes.
- These prompts can be set from Configuration, Protocol Configuration- Mainpulation Tables Dest Number Tel to IP.

Multiple DDI ranges could be accomodated with additional enties. The Destiantion Prefix can be expanded to cover the required range.

**Dial Prefix Tel to IP** 

#### Source CLID IP – to Tel

🖆 AudioCodes - Microsoft Internet Explorer						
File Edit View Favorites Tools Help						
Address 🖉 http://10.44.65.178/					💌 🄁 Go	Lir
BT Med	lia Gateway 🛛 🖉 Sul	bmit 🧿 Burn	Device Actions	🚯 Home 🔞 Help	D Sog off	
Configuration Management Status 8 Diagnostics Scenarios Search C Basic C Full	Source Phone Number Note: Select row inde 3 Add	er Manipulation Table for II ix to modify the relevant ro	P -> Tel Calls W.			
Scenario Name - US2010 Secured Scenario	Destination Prefix	Source Prefix	Stripped Digits From Left	Stripped Digits From Right	Prefix to Add	
1 DSettings		×	3	0	0	
2 ApplicationSettings 3 SIPPDProxyReg 4 ProxySetsTable 5 DPNIPToTelco 6 DPNTelcoToIP 7 SPNIPToTelco 8 SSLCertificateSR 9 ChangePassword	4	,		-	Previous Next	

The standard configuration should be correct for most customers connecting the media gateway directly to the PSTN. If changes are required these will need to be made on the individual lines and submitted.

The source number of the person making the call is passed from Microsoft Lync to the gateway in the format +442074011980. This is changed to the UK format of of 02074011980 to allow the CLID to be presented to the called party.

 These prompts can be set from Configuration, Protocol Configuration- Mainpulation Tables – Source Number IP to Tel

	BT 😧 AudioCodes	BT Media Gateway	Submi	t 🧿 Burn		Device Actions 🔻	)	💼 Home 🛛 🙆 Help	-	Log off
ſ	Configuration Management Status & Diag	s gnostics	) IP Routing						asio Baram	atarlist .
	Scenarios Search			•	Pouting	Today				
	Scenario Name - CS2010 Sect	ured			Tel To If	P Routing Mode			Route ca	ils before i
	2 ApplicationSettings	Src. Group	Src. Trunk D Group ID	Dest. Phone Pr	refix	Source Phone Prefix	- >	Dest. IP Address		Port
	4 ProxySetsTable		*		*			r3brcs∨fe01.futuresii.loc≀	5067	
							-			
	8 TelToIPRouting									
	9 SSLCertificateSR 10 ChangePassword							Previous	Next	Submit

Tel to IP Routing

- Modify and insert the FQDN of the Microsoft Lync server in the Dest Ip Address field.
- Check port 5067 is defined.
- Click Submit.
- These prompts can be set from Configuration, Protocol Configuration- Proxies, Routing Tables, Tel to IP Routing.

## 9 Customer Configuration QSIG

The sample Board.ini file contains most of the settings required to deploy the media gateway when connecting directly to a legacy PBX via a QSIG interface. To help in configuration of the gateway a scenario can be used. This helps navigate to the prompts to be changed. If the scenario is not loaded the browser can be used to change the required prompts.

### 9.1 Advanced Network Settings

The initial scenario tasks look at setting the media gateway with the correct network settings. You require the following information:

Information Required	Customer Information	Example Information
IP, Subnet and Default Gateway		10.44.65.177
Address		255.255.255.192
		10.44.65.129
NTP server address.		10.44.65.137
DNS server address.		10.44.65.137
FQDN for the Microsoft Lync front		r3mcsvse01.futuresii.local
end server.		
FQDN name for the media gateway.		gwm2kcol.futures.bt.local
This requires creation of an A		
record within the DNS server to be		
created.		

#### **IP Settings**

Configuration Management Status & Diagnostics	IP Settings		
Scenarios Search			
	Single IP Settings		
C Basic (* Full	IP Address	10.44.65.178	
Scenario Name - CS2010 Secured	Subnet Mask	255.255.255.192	
I PSettings	Default Gateway Address	10.44.65.129	
2 ApplicationSettings			
3 🗋 SIPPDProxyReg	Multiple Interface Table		
4 🗋 ProxySetsTable			
5 DPNIPToTelco			
6 DPNTelcoToIP			
7 SPNIPToTelco			
8 🗋 SSLCertificateSR			
9 🗋 ChangePassword		Previous Next	Submit

- Modify and insert the required IP Address, Subnet Mask and Default Gateway Address.
- Click Submit.
- These prompts can be set from Configuration, Network Settings, Ip Settings.

#### Application Settings

AudioCodes	Aedia Gateway 🛛 🖉 Submit 🧕 Burn	Device Actions 🔹 💼 Home 📀 Help	Cog off
Configuration Management Status 8 Diagnostics Scenarios Search	Application Settings		
C Basic C Full	NTP Settings     NTP Server IP Address     NTP UTC Offset	10.44.65.137 Hours: 0 Minutes: 0	
1 IPSettings	NTP Updated Interval	Hours: 24 Minutes: 0	
2 ApplicationSettings 3 SIPPDProxyReg	✓ Day Light Saving Time Day Light Saving Time ✓ DNS Settings	Enable	
4 📄 ProxySetsTable 5 🗋 DPNIPToTelco	<ul> <li>DNS Primary Server IP</li> <li>DNS Secondary Server IP</li> </ul>	10.44.65.137 10.44.66.226	
	<ul> <li>STUN Settings</li> </ul>		

- Modify and insert the required NTP Server Address.
- Modify and insert the required DNS Server Address.
- Click Submit.
- These prompts can be set from Configuration, Network Settings, Application Settings.

#### **SIP Proxy Settings**

nfiguration Management Status & Diagnostics	Proxy & Registration	Basic	ParameterList 🔺
cenarios Search	▼		
Basic 🖲 Full	Use Default Proxy	Yes	
	Proxy Set Table		
enario Name - CS2010 Secured	Proxy Name	r3mcsvse01.futuresii.local	
	Redundancy Mode	Homing	
	Proxy IP List Refresh Time	60	
Applicationsettings	Enable Fallback to Routing Table	Disable	
SIPPDProxyReg	Prefer Routing Table	No	
ProxySetsTable	ReBegister On Connection Failure	Disable	
DPNIPToTelco			
DPNTelcoToIP	Gateway Name	gwmzkcol.tutures.bt.iocai	
	Gateway Registration Name		
	Previous Next	Register Un-Register	
ChangePassword		Submit	

- Modify and insert the FQDN of the Microsoft Lync server in the Proxy name field.
- Modify and insert the DNS name assigned to the gateway in the Gateway name field..
- Click Submit.
- These prompts can be set from Configuration, Protocol Configuration- Proxies, Registration, IP Groups Proxy and Registration.

#### **ProxySetsTable**

Configuration     Management     Status 8 Diagnostics       Scenarios     Search       Basic ° Full       Scenario Name - CS2010 Secured Scenario       1     IPSettings       2     ApplicationSettings       3     SIPPDProxyReg       4     Table
6 DPNTelcoTOIP 7 SPNIPToTelco 8 SSLCertificateSR 9 ChangePassword

- Check proxy set ID 0 is selected.
- Modify and insert the FQDN of the Microsoft Lync server in the Proxy Address field.
- Check the Transport Type is set to TLS.
- Click on Submit.
- These prompts can be set from Configuration, Protocol Configuration- Proxies, Registration, IP Groups Proxy Sets Table.

#### **Routing and Manipulation Information**

The sample scenario is created for a customer using the following numbering scheme.



The allocated PSTN range is 02074011980-1989. The DDI number delivered to the PBX is 011980. The PBX is configured to pass this to the gateway via a QSIG route using 750 as a steering code followed by 011980. The gateway removes the 750 and inserts +442074, converting the number to +442074011980 for presentation to Microsoft Lync.

When a Lync endpoint makes a call, in this example to 01277328959, Microsoft Lync normalises the number to +441277328959. Microsoft Lync then determines permissions and route to make the call and if allowed passes the call to the gateway. The gateway removes the +44 and inserts 90 to allow the call to be presented to the PBX via the QSIG link. The PBX removes the leading 9 and places the call on a trunk to the PSTN.

Dialled Prefix IP to Tel							
AudioCodes BT	Media Gatev	<b>ray 🕢</b> Submit 🧕	Burn Devi	ce Actions 🔹 🔞 H	ome (	Help	Elog off
Configuration Management Status & Diagnostics	Des	tination Phone Number Ma	nipulation Table for IP -> "	Tel Calls			
Scenarios Search				_		-	
C Basic 🤆 Full		Add	Insert Delete		Apply		
Scenario Name - CS2010 Secured 1 IPSettings	Index	Destination Prefix	Source Prefix	Source IP Address	Stripped Digits From	d Stripped Digits From	Prefix to Add
2 ApplicationSettings	1 0	1	×	×	Left	Right 0	
3 SIPPOPROXIVES	2 0	9	X	X	0		
	3 C	+44	×	×	3		90
6 DPNTelcoToIP	4 @	+	×	×	1	0	900
7 SPNIPToTelco							
8 🗋 TelToIPRouting	•						
9 🗋 SSLCertificateSR							

The standard routing should be correct for most customers connecting the media gateway to a PBX that requires level 9 for access to the PSTN.

The standard scenario also manipulates the formats received from Microsoft Lync for international and service numbers. Local calls are normalised to the full e164 number so does not need further manipulation.

- Check the settings can be applied to this customer.
- If connecting to a PBX the required PSTN access code will need to be inserted.
- If not running the scenario, these prompts can be set from Configuration, Protocol Configuration-Mainpulation Tables – Dest Number IP to Tel.

#### **Dial Prefix Tel to IP**

	BT Media Gateway	Submit 🧕 Burn	Device Actions	Home (	🕘 Help 🛛 🖢 Log off
Configuration Management Stati Scenarios Search C Basic	us agnostics Destination Note: Selec	Phone Number Manipulation Table f trow index to modify the relevant ro	for Tel -> IP Calls W.		
Scenario Name - CS2010 Se 1 PSettings 2 ApplicationSettings 3 SIPPDProxyReg 4 ProxySetsTable 5 DPNIPTOTElco 6 DPNTElcoTOIP 7 SPNIPTOTElco	scured Index Source Index Trunk	Source ( IP ) Group 1 1 *	Source Prefix	Stripped Stripped Digits Digits From From Left Right 3 0	Prefix to Add

The standard scenario contains an example that removed a 3 digit steering code from the PBX and then builds the remaining six digit DDI number into an E164 format number by adding the required prefix.

- Modify the Prefix to Add settings to contain the required site prefix.
- Select Apply to modify the changes.
- If not running the scenario, these prompts can be set from Configuration, Protocol Configuration-Mainpulation Tables – Dest Number Tel to IP.

Multiple DDI ranges can be accomodated with additional enties. The Destiantion Prefix can be expanded to cover the required range.

#### Source CLID IP – to Tel

🗿 AudioCodes - Microsoft Internet Explorer						_
File Edit View Favorites Tools Help						
Address 餐 http://10.44.65.178/					💌 🄁 Go	Lir
BT Med	ia Gateway 🛛 🖉 Suk	omit 🧿 Burn	Device Actions	🚯 Home 🔞 Help	De 🖢 Log off	
Configuration Management Status Soenarios Search C Basic C Full	Source Phone Number Note: Select row inde 3 Add	er Manipulation Table for x to modify the relevant r	IP -> Tel Calls ow.			
Scenario Scenario	Destination Prefix	Source Prefix	Stripped Digits From Left	Stripped Digits From Right	Prefix to Add	
2 ApplicationSettings 3 SIPPDProxyReg 4 ProxySetsTable 5 DPNITPToTelco 6 DPNTElcoToIP 7 SPNIPToTelco 8 SSLCertificateSR 9 ChangePassword	4	<u>,</u>	J3	Ju Li	Previous Next	E L

The standard configuration should be correct for most customers. The E164 number format is converted by th gateway into a format required by most PBX platforms for passing onto the PSTN.

The Source number of the person making the call is passed from Microsoft Lync to the gateway in the format +442074011980. This is changed to the format of 02074011980 to allow the CLID to be presented to the called party.

• If not running the scenario, these prompts can be set from Configuration, Protocol Configuration-Mainpulation Tables – Source Number IP to Tel

BT & AudioCodes BT Me	dia Gateway 🕢 Submit 🤇	Burn Device Actions	🔹 🔞 Home 🛛 🙆 Help	Eog off
Configuration Management & Diagnostics Scenarios Search Basic & Full & Scenario Name - CS2010 Secured 1 IPSettings 2 ApplicationSettings 3 SIPPDProxyReg 4 ProxySetsTable 5 DPNIPToTelco 6 DPNTelcoToIP 7 SPNIPTOTelco 8 TelToIPRouting 9 SSLCertificateSR 10 ChangePassword	Src.     Src. Trunk       >GroupID     Dest       1     *	Phone Prefix Source Phone Prefi	X > Dest. IP Address 73brcsvfe01.futuresii.locd	Basic Parameter List

Tel to IP Routing

- Modify and insert the FQDN of the Microsoft Lync server in the Dest Ip Address field.
- Check port 5067 is defined.
- Click Submit.
- If not running the scenario, these prompts can be set from Configuration, Protocol Configuration-Proxies, Routing Tables, Tel to IP Routing.

## 10 Security

#### Change gateway default password.

The media gateway username of Admin and password of Admin need to be changed. The recommended user name should be locadmin. The default password should be set to the same as that used for other servers provided as part of the managed solution.

AudioCodes - Microsoft Internet Explorer			
File Edit View Favorites Tools Help			
Address 🙋 http://10.44.65.178/			<b>_</b>
BT Media Gatewa	ny 🥑 Submit 🧿 Burn	Device Actions   Hom	e 🔞 Help 🔶 Log off
Configuration Management Status & Diagnostics Scenarios Search C Basic C Full Scenario 1 Dispettings	B User Accounts Current Logged User: locadmin Current Logged User: locadmin Current Logged User: locadm User Name Access Level	in Iocadmin Security Administrate 💌	Change User Name
2 ApplicationSettings		ange the password	
3 SIPPDProxyReg	Current Password		
4 ProxySetsTable	New Password		
5 DPNIPToTelco	Confirm New Password		Change Password
			<b>_</b>

- In the Web User Accounts window under Account Data for User Admin, select Change User Name.
- Replace the Admin account name with locadmin.
- Select Submit.
- Login in with the new account name with the original password.
- In the Web User Accounts window under Fill in the following 3 field to change the password.
- Enter the current password.
- Enter and confirm the new password.
- Select Submit.
- Login with the new account name and new password.

## 11 Backup of Configuration and Restore

The media gateway will contain a modified Board.ini file that will contain the differences for this customer. A copy should be taken and stored with other customer related information. The certificate files are also customer specific. If the gateway is changed out then the new certificates will be required to be added to the media gateway.

#### Back up media gateway configuration.

- In the top left hand menu select Management.
- In the left hand tree expand Software Update and select Configuration File.
- In the Configuration File window select "Save INI File" from this device to your computer"
- Browse to a suitable folder to save the configuration file.

Configuration Management Status & Diagnostics	Configuration File
Basic C Full     Management Configuration     Software Update     Load Auxiliary Files     Software Update Key     Software Upgrade Wizard     Configuration File	Save the INI file to the PC Save INI File Load the INI file to the device Browse Load INI File The device will perform a reset after sending the INI file

#### Restoring the media gateway.

The restoration process of the media gateway is the same as the process used to initially install the device.

- Replace a physical unit reconnect all cables and relevant modules.
- Obtain a copy of the configuration files from Livelink.
- Obtain a copy of the customer specific board.ini file.
- Follow the BootP or Embedded web server installation procedure described.
- Contact the commissioning team to retest using the numbers listed at the end of this document.

## 12 Upgrade

The media gateway firmware may need to be upgraded periodically. The latest version of firmware is posted at <a href="http://livelink.intra.bt.com/livelink/livelink.exe?func=ll&objld=121134726&objAction=browse&sort=name">http://livelink.intra.bt.com/livelink/livelink.exe?func=ll&objld=121134726&objAction=browse&sort=name</a>

To upgrade the firmware

- In the top left hand menu select Management.
- In the left hand tree select Software Update and Select the Software Upgrade Wizard.
- In the Software Upgrade Wizard select Start Software Upgrade.



A warning message is shown, once an upgrade is requested the device will automatically reset.

- Click on any other tab to navigate away from this page if selected inadvertently.
- If you wish to continue click the "Start Software Upgrade".

CMP file INI file CPT file VP file PRT file CAS file USRINF file FINISH	Load a CMP	file from you	r comput	er to the c Browse	levice
		Previous	Next	Cancel	Reset

• In the load a CMP file window select Browse.

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- Navigate to the firmware to be installed this is CMP file.
- Click on send file.

The file is loaded and the option given to load additional files.

- Click on next until the upgrade is complete.
- The device will reset with the new configuration.

## 13 References

External References used.

Reference designs	Audiocodes LTRT-10005 Interoperability List v2.4.pdf
	AudioCodes LTRT-26003 Mediant 1000 & 2000 & MS OCS 2007 Quick Guide Ver 6.0.doc
	AudioCodes LTRT-18202 Enhanced Media Gateway and SBA.
	AudioCodes LTRT -68809 SIP User's Manual 6.0

# 14 Glossary

AD	Active Directory
CA	Certification Authority issues and validates certificates.
GC	Global Catalogue
M1K	AudioCodes Mediant 1000 gateway
M2K	AudioCodes Mediant 2000 gateway
Microsoft Lync	Third generation of Microsoft Office Communication Server.
Media Bypass	Allows the voice path to be extended directly from a communicator
	client to a gateway without using a mediation server.
Mediation Server	Provides monitoring and protocol conversion from the Microsoft
	codec RTAudio, to the G711 protocol.
MS	Microsoft
PBX	Private Branch Exchange descriptive term for a telephone phone
	system.
PSTN	Public Switched Telephone Network
SIP	Session Initiated Protocol used to establish and clear down calls.
UCC	Unified Communications and Collaboration
VOIP	Voice over IP protocol.

Expand / Change as required for your area and technologies.

## 15 Appendix A – BootP Configuration.

BootP is the preferred method to use to configure the media gateway. This will apply most of the required configuration in a single step. If the use of BootP is not possible the manual process can be used, this is described in the <u>section 6</u>.

All the required files needed to deploy using Boot P are posted on Livelink at this location

http://livelink.intra.bt.com/livelink/livelink.exe?func=ll&objId=121134726&objAction=browse&sort=name

They are available in a single downloadable file. This includes a copy of the BootP software. A copy of BootP is also provided on the installation CD supplied with the media gateway.

Due to many routers not passing BootP it is recommended that you run from a device within the same network segment. If this is not possible use a PC connected directly to the media gateway using a crossover cable connected to Ethernet port 1.

### 15.1 Installing Boot P

Open the BootP 2.1.0.12, or greater, executable. Double click on setup.exe

Welcome to the BootP Setup program. This program will BootP on your computer.	install
It is strongly recommended that you exit all Windows prog before running this Setup program.	jrams
Lick Lancel to guit Setup and then close any programs y running. Click Next to continue with the Setup program.	iou have
WARNING: This program is protected by copyright law ar international treaties.	nd
Unauthorized reproduction or distribution of this program, portion of it, may result in severe civil and criminal penaltie will be prosecuted to the maximum extent possible under I	orany es, and Iaw.
InstallShieldCar	incel

- In the Welcome window select next,
- In the Read Me Information window select next.
- In the Choose Destination Location window, accept the default location select next.
- In the Select Program Folder window select next.

Start Copying Files	×
Start Copying Files	Setup has enough information to start copying the program files. If you want to review or change any settings, click Back. If you are satisfied with the settings, click Next to begin copying files. Current Settings: Setup Type: Complete Target Epider
InstallShield	C:\Program Files\AudioCodes\BootP User Information Name: Acl Company:
	< <u>Back</u> Cancel

• In the Start Copying Files window select next.

When the program has finished installing, select finish completing the installation.

### 15.2 Configuring BootP

Check that the following files downloaded from Livelink are copied into the :\program files\AudioCodes\BootP\data

BoardQSIG.ini BoardEuroISDN.ini TP1610\_SIP\_F6.00A.xx.xx.cmp Uk.dat Uk.ini Secured scenario.dat BTACLogo.gif

Launch the Boot P application from Program Files, BootP, BootP.exe

#### Configure preferences:

- Select Edit
- Select Preferences

AudioCodes BootP / TFTP Server		_	
<u>File Services Edit H</u> elp			
II 😰 👿 🖋 👻	•	1	
Client Date	Preferences		
	BootP Server ARP Manipulation Enabled Reply Type C Broadcast C Unicast ARP Type C Dynamic C Static Number of Timed Replies: 0	TFTP Server	
		Timeout: 5 Maximum Retransmissions: 10	
		<u> </u>	

- Check that the interface shows the IP address of the server running BootP (it may show the local host value 127.0.0.1)
- Use the browse icon next to the directory path to navigate to the folder where the board.ini, TMP1610,uk.dat and uk.ini files are located. It is recommended to use Program Files\Audiocodes\BootP\Data. Check that the path is has updated, it can also be set manually.
- Click okay which closes the preferences tab.

#### Create a new template.

• In the AudioCodes BOOT P TFTP server window select Services and then select Templates. If the error message "Error opening TFTP directory " is received, click okay and go back and check that the path in the template created previously is correct.

<ul> <li>In the Templates window select the green new template icor</li> </ul>	٦.
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AudioCodes BootP / TFTP Serv	ver 🛛		_ O ×
<u>File Services Edit H</u> elp			
II 🗐 🗑 🥒	Templates	X	
Client Date	<b>1</b>		
	Template Name		
	Site Template	Template Name Site Template	
		IP 10 1 10 10	
		Subnet 255 255 0 0	
		Gateway 10 1 10 1	
		Server IP 10 1 10 11	
		Boot File TP1610_SIP_F5.40A.017.0	
		INI File BOARD.ini	
			11.

- Enter the template IP address range to be offered. If configuring locally enter the defaults values as shown.
- In the drop down box to the right of the Boot File select the P1610\_SIP\_F6.0a.xx.xx.cmp file.
- In the drop down box to the right of the INI File select required BOARD.ini file. Use BoardQSIG for QSIG connections or BoardEuroISDN for EuroISDN connections.
- Select OK closing the Templates window.

#### **Creating a Client**

• In the AudioCodes BOOT P TFTP server window select Services and then select Clients.

Client Configuration				×
<b>`</b> 107 <b>`</b> =	3			
MAC	Name	IP	Client MAC 00-90-8F-16-B4-D6	
00-90-8F-16-84-C3 00-90-8F-16-84-CD		10.44.72.3 10.1.10.10	Client Name	
			Template Site Template	
			IP 10 1 10 10	
			Subnet 255 255 0 0	
			Gateway 10 1 10 1	•
			TFTP Server IP         10         1         10         11	◄
			CMP Version: 5.40A.017.004 29/05/08 23:12:2	7
			Boot File TP1610_SIP_F5.40A.017.004.cm	•
			INI File BOARD.ini	•
			Flash Burn (-fb) Edit INI	
			<u>OK</u> <u>Apply</u> Apply & <u>B</u> e	eset

- Enter the MAC address of the media gateway in the Client MAC field. It is written on the front of the gateway.
- In the drop down box to right of Templates select the template previously created.
- All the fields will be populated with the exception of the IP address. The IP address to be assigned to the device needs be added. In this example the default address has been used.
- Check the flash burn option is selected.
- Select Apply.

#### Check gateway can be detected.

• In the Client Configuration window select the icon on the right icon to test for connection.

		<b>?</b>							
Client	Date	Time	Status	New IP / File	Client Na	me	Client I	nfo	
D-90-8F-16-B4 D-90-8F-16-B4	-C3 19/11/2008 -C3 19/11/2008	17:45:26 17:45:26	Client Found Client Found	10.44.72.3 10.44.72.3					
	Client Configuratio	าก							X
	ter (et	<b>1</b>							
	MAC	Name	IP		Client MAC	00-90-	8F-16-B4-	23	◄
	00-90-8F-16-B4-0	23 CD	10.44.72 10.1.10.1	.3 0	Client Name				
					Template	Site T	emplate	•	-
					IP	10	44	72 3	
					Subnet	255	255	0 0	
					Gateway	10	1	10 1	
_					TFTP Server IF	<b>1</b> 0	1	10 11	
					CMP Version:	5.40A.01	7.004 29	/05/08 23:12	:27
					Boot File TP1	610_SIP	_F5.40A.0	17.004.cm 💌	
					INI File BOA	ARD.ini		Y	
						Flash Bu	ım (-fb)	Edit INI	1
									-
					<u>0</u> K	1		Apply &	<u>R</u> eset

- When the test icon is selected the BootP software checks it can reach the MAC address. Client found should appear in the status window. If this doesn't appear check for network errors.
- Close the client window.

#### Uploading files to the gateway

- In the AudioCodes Boot/TFTP Server, select the line containing the MAC address of the media gateway.
- Right click on the line and select reset.

🚹 AudioCodes Bo	otP / TFTP Server			
<u>File S</u> ervices <u>E</u> dit	<u>H</u> elp			
	<u>)</u>	*		
Client	Date	Time	Status	1*
192.168.100.59	19/11/2008	17:53:06	100% OK	(
192.168.100.59	19/11/2008	17:53:06	100% OK	(
192.168.100.59	19/11/2008	17:53:05	100% OK	(
192.168.100.59	19/11/2008	17:52:34	100% OK	(
00-90-8F-16-B4-CC	19/11/2008	17:52:32	Client Found	-

- The gateway will restart. It will then upload the files from the BootP application to the gateway.
- Close the BootP application.

## 16 Appendix B – Support Numbers.

The media gateway interfaces between Microsoft Lync and a PRI trunk connecting to the PSTN or PBX. The following numbers can be used for help with in configuration of the media gateway. These numbers are for UK deployments and will be updated for International launch.

Avaya Support	0208 633 1010
Nortel Support	0800 371779
Cisco Support	01977 591706
Second Line Helpdesk	
BATS Incident Management	
Switch diagnostic team	0800 731 5109
Technical Support team	0800 371 779