## **Configuration Note**

AudioCodes One Voice<sup>™</sup> for Microsoft<sup>®</sup> Skype for Business

# **CloudBond 365<sup>™</sup> All Editions**

# Software Installation

Version 7.2.5





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### Notice

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### Abbreviations and Terminology

Each abbreviation, unless widely used, is spelled out in full when first used.

### **Related Documentation**

	Document Name
CloudBond 365 Deployment Guide	
Product Notice 0252 BIOS Update	

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### **Documentation Feedback**

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## 1 Introduction

This document describes how to install CloudBond 365 Software Version 7.2.5. It is intended primarily for AudioCodes staff and dealers, but may also be used as a guide for re-loading software onto existing AudioCodes hardware, such as for system recovery.

The Software Install Wizard described in the guide is capable of installing software for:

- CloudBond 365 Standard Box Edition
- CloudBond 365 Standard+ Box Edition
- CloudBond 365 Pro Box Edition
- CloudBond 365 Enterprise Box Edition
- CloudBond 365 Virtualized Edition

The Software Install Wizard can optionally install:

- Skype for Business Consolidated Edge Server on Branch / Paired Pool Deployment
- AudioCodes SBC software
- A Reverse Proxy Server

The Software Install Wizard can also deploy CloudBond 365 in two forms:

- Standalone Deployment
- Branch / Paired Pool Deployment

### **1.1 Software Installer**

The software installer consists of several components:

- A bootable USB drive containing a WinPE environment
- An ISO image of the CloudBond 365 Software
- A Software Configuration Wizard to gather data for installation
- An automated software installer to install the CloudBond 365 software to match a requested configuration

### **1.2 Configurations**

The Software installer and Configuration Wizard allow for installation of multiple configurations of the CloudBond 365 software.

The Software installer and Configuration Wizard allow the CloudBond 365 software to be installed onto a Bare Metal hardware platform, or onto one with Windows 2012 R2 operating system already installed.

The software installer supports only the approved AudioCodes hardware.

### **1.2.1** Hyper-V Host with Virtual Machines

The **Hyper-V Host with Virtual Machines** deployment model installs Hyper-V on the selected host machine, and the three CloudBond 365 Servers (Controller, Fe, and Edge) as three separate virtual machines within Hyper-V.

This option is suitable for CloudBond 365 Pro Box and Enterprise Box Editions. (e.g., AudioCodes HP Servers).





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### 1.2.2 Co-located Hyper-V / Domain Controller with Virtual Machines

The co-located Hyper-V / Domain Controller with Virtual Machines install the CloudBond 365 Controller (DC) and Hyper-V within the host machine, with the remaining CloudBond 365 Servers (FE and Edge) as Hyper-V virtual machines.

This option is suitable for CloudBond 365 Standard / Standard+ Box Editions (e.g. AudioCodes Mediant 800B OSN server).



#### Figure 1-2: Co-Located DC and Hyper-V

### 1.2.3 Standalone Deployment

A standalone deployment is typically used for the first CloudBond 365 system installed for a customer.





### 1.2.4 Branch / Paired Pool Deployment

A Branch / Paired Pool Appliance Deployment (BPA) is used where the customer already has an existing CloudBond 365 system deployed. A BPA deployment is used for the second and subsequent CloudBond 365 Deployments within the same customer environment.

There are many possible configurations and reasons for installing a BPA. Typically, it is to provide either:

- Continuous service to a Branch site with slow or unreliably WAN links. This is similar to a Skype for Business Survivable Branch Appliance, but with more features.
- Failover capability within the corporate site using Skype for Business Paired pools.



#### Figure 1-4: BPA Deployment



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## 2 Software Media

CloudBond 365 software is normally supplied on a specially prepared USB key. The key is bootable and must be inserted into the device as part of the installation procedure. It allows CloudBond 365 software to be installed onto the following:

- Bare Metal server hardware
- Windows 2012 R2 operating system already installed on the hardware



**Warning:** If booting from the USB key, all data will be wiped from the hardware device during installation. The software presents a warning and prompts for permission to continue before wiping data.

### 2.1 USB Drive

The USB Drive directory structure should be as shown in the image below. The drive contains:

- WinPE environment files
- Windows 2012 R2 directory
- ACS-7.2.x ISO image
- sbc\_X.X.X.zip file containing the AudioCodes Software SBC

The USB drive is formatted as NTFS and is bootable. Additionally, the label of the USB Drive **must be** 'ACSSetup'.

CSSetup (	H:) ►			✓  Sea	rch ACSSetup (H	(:)	
Burn	New	folder					(
	*	Name	Date modified	Туре	Size		
		\mu sk-sk	15/04/2015 5:25 PM	File folder			
		🌗 sI-si	15/04/2015 5:25 PM	File folder			
	=	퉬 sources	15/04/2015 5:25 PM	File folder			
		퉬 sr-latn-cs	15/04/2015 5:26 PM	File folder			
		퉬 sv-se	15/04/2015 5:26 PM	File folder			
		퉬 tr-tr	15/04/2015 5:26 PM	File folder			
		퉬 uk-ua	15/04/2015 5:26 PM	File folder			
		Windows2012R2	15/04/2015 5:31 PM	File folder			
		퉬 zh-cn	15/04/2015 5:26 PM	File folder			
		퉬 zh-hk	15/04/2015 5:26 PM	File folder			
		퉬 zh-tw	15/04/2015 5:26 PM	File folder			
		ACS-6.3.3-622-lync-RTM-sql-STD.iso	29/04/2015 9:14 AM	ISO File	5,851,766 KB		
		bootmgr	15/06/2013 6:39 PM	File	416 KB		
		bootmgr.efi	15/06/2013 7:26 PM	EFI File	1,568 KB		
	-	🔚 sbc_6.80A.234.004.zip	15/04/2015 9:22 AM	WinRAR ZIP archive	747,840 KB		

#### Figure 2-1: USB Drive Contents



**Warning:** Under no circumstances must any .ISO image, file or folder containing the letters 'sbc' be present besides the zip file, as shown in the figure above (the exact version might differ from the figure above).



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## 3 **Preparation**

The CloudBond 365 Software may only be loaded onto hardware certified by AudioCodes. This will primarily be:

- AudioCodes HP Server for CloudBond 365 Pro and Enterprise Box Editions
- AudioCodes Mediant 800B with OSN for the CloudBond 365 Standard / Standard+ Box Edition

The hardware device must be prepared for the new software prior to installation. The preparation steps include:

Ensuring no Ethernet cables are attached



**Warning:** If booting from the USB key, all data will be wiped from the device during installation. The software presents a warning and prompts for permission to continue before wiping data.

### 3.1 **Partitioning**

If performing a 'bare metal' installation, the following partitions will be automatically configured on the machine as part of the installation:

Drive	Label	File System	Size (GB)
С	Windows	NTFS	80
D	Data	NTFS	At least 215 + 5 for Session Border Controller + 55 for Reverse Proxy
E	Recovery	NTFS	15

#### **Table 3-1: Configured Partitions**

### 3.2 General Server Hardware

Do not connect any network cables during installation!!



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## 4 Bare Metal Install

This section describes the process for installing the CloudBond 365 software without a preinstalled Operating System on the server hardware (also known as *Bare Metal Install*). The process boots into a Windows 2012 R2 Pre-installation Environment (WinPE) on the connected server hardware.



**Warning:** All data will be wiped from the hardware device during installation. The software presents a warning and prompts for permission to continue before wiping data.

The Installation program then partitions and formats the HDD storage of the hardware devices, installs Windows 2012 R2, and copies the contents of the USB key to the Recovery partition.

Once Windows 2012 is installed on the host, you can remove the USB Key, and continue with the installation as described in the next chapter.

### 4.1 Bare Metal Install – AudioCodes HP Server

This section describes how to install the software on the AudioCodes HP Server platform. The CloudBond 365 Pro and Enterprise Box Editions are shipped with the software preinstalled.

If installing on an AudioCodes Mediant 800, see Section 4.2 on page 22.

- 1. Insert the USB Drive in the front USB port.
- 2. Power on the server.
- 3. When the HP Splash screen appears, click F11 for Boot Menu.



#### Figure 4-1: HP Splash Screen

## AudioCodes

4. Select a manual One Time Boot to USB.

#### Figure 4-2: One Time Boot



5. After selecting the USB key to boot from, the WinPE Splash screen appears.



#### Figure 4-3: WinPE Splash Screen

6. After WinPE starts, you will see a command line window, asking if you wish to Continue with installation. Click <Enter>, or <Y> followed by <Enter>, to continue the installation process.

$\mathbf{T}$ induce $\mathbf{T}^{-}\mathbf{T}$ . Optimize with installation
---

G.4.	Administrator: X:\windows\system32\cmd.exe - startnet.cmd	3
X:\window	s\system32>wpeinit	^
X:\window	s\system32>ipconfig /renew	
Windows I	<sup>o</sup> Configuration	
No operat	ion can be performed on Ethernet 4 while it has its media disconnected.	
No operat	ion can be performed on Ethernet 3 while it has its media disconnected.	
No operat	ion can be performed on Ethernet 2 while it has its media disconnected.	
No operat	ion can be performed on Ethernet while it has its media disconnected.	
X:\window	<pre>system32&gt;powershell "Set-ExecutionPolicy 'Bypass'"</pre>	
X:\window	s\system32>powershell InitSetup.ps1	
Continue This inst continue? [Y] Yes	with installation Ilation will wipe all data from the hard disk, do you want to [N] No [?] Help (default is "Y"):	



Warning: All data will be wiped from the device during installation.

The installer software will now partition and format the HDD storage of the hardware platform, and copy the contents of the USB key to the recovery partition. The software will install Windows 2012 R2 as the operating system and may reboot several times.

(1 o	f 11es f 3030)		
Copyi I Lo	ng ACS-6.3.3-622-lync-RTM-sql -> E:\\ 0000000000000	-STD.iso	
DISKPARI DiskPart	> successfully assigned the dr	ive letter or mount point.	
DISKPARI DiskPart	> succeeded in creating the sp	ecified partition.	
DISKPARI 100 pe	> rcent completed		
DiskPart	successfully formatted the v	olume.	
DISKPARI DiskPart	> successfully assigned the dr	ive letter or mount point.	
DISKPART	>		¥

#### Figure 4-5: Copying files from USB to Recovery

Once Windows 2012 R2 has been installed, you may remove the USB key.

### 4.2 Bare Metal Install – Mediant 800 OSN

This section describes how to install or re-install the software on the AudioCodes Mediant 800 OSN platform. The CloudBond 365 Standard Box / Standard+ Box Edition is normally supplied with the software already installed.



**Warning:** You may need to upgrade the BIOS on older Mediant 800 OSN models before proceeding. See the latest Product Notice – AudioCodes CloudBond 365 BIOS Update. The minimum required BIOS version for Standard Box Edition is now American Megatrends Inc. 60104T00. The minimum required BIOS version for Standard+ Box Edition is now American Megatrends Inc. 51214T00.

#### > To perform a Bare Metal install:

- 1. Insert the USB Drive in the rear USB port.
- 2. Power on the server.
- 3. When the AMI BIOS Splash screen appears, click F2 for Setup Menu.



**Note:** The BIOS version is displayed on the splash screen. In the example below, the version is (41112T00), and requires updating.

#### Figure 4-6: AMI BIOS Splash Screen



4. Navigate to the Configuration page, and then ensure that SATA mode is set to AHCI.



Figure 4-7: SATA Mode

5. Navigate to the Boot page, and then ensure the internal HDD (usually PLEXTOR) is set as the first boot device.



Figure 4-8: M800 First boot device

6. Navigate to the Save & Exit page, and then select Save Changes and Exit; the Mediant 800 OSN reboots.

7. When the AMI BIOS Splash screen appears, click **F2** for the Setup Menu.





- 8. Navigate to the Save & Exit page. This time move the cursor down to Boot Override, and select the USB key. In the example below, the USB device appears as **MultipleCard Reader**.
- 9. Click Enter; the Mediant 800 OSN restarts.

Aptio Setup Utility — Copyright (C) 2011 Ar Main Configuration Boot Security Save & Exit Event	merican Megatrends, Inc. Logs
Save Changes and Reset Discard Changes and Reset	
Restore Defaults Boot Override UEFI: Built-in EFI Shell PLEXTOR PX-256MSPro MultipleCard Reader 1.00 SPI Flash Write Protect Application Control SPI Write Protect	
	++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2 14 1219 Conuright (E) 2011 Amer	rican Megatrends. The

Figure 4-10: M800 Boot Override



**Warning:** Failure to set the First Boot device and Boot Override correctly can result in the server performing an endless loop, constantly rebooting from USB (partitioning, formatting, and installing Windows each time.).

**10.** After restarting, the Mediant 800 OSN boots from the USB key (one time only) and the WinPE Splash screen appears:



#### Figure 4-11: WinPE Splash Screen

11. After WinPE starts, you will see a command line window, asking if you wish to Continue with installation. Click **Enter**, or **Y** followed by **Enter** to continue the installation process.







Warning: All data will be wiped from the device during installation.

**12.** The installer software will now partition and format the HDD storage of the hardware platform, and copy the contents of the USB key to the recovery partition. The software will install Windows 2012 R2 as the operating system and may reboot several times.

Figure 4-13: Copying Files from USB to Recovery



13. Once Windows 2012 R2 has been installed, you may remove the USB key.

## 5 Installing from Windows 2012 R2

If performing a Bare Metal installation by booting from the USB key, Windows 2012 R2 will be installed for you and the contents of the USB key copied to the Recovery partition.

Once the Windows 2012 R2 operating system has been installed, you can continue the software installation with the steps in the following sections.

Before continuing, make sure:

- The HDD storage has been partitioned and formatted correctly
- The contents of the USB Key have been copied to the Recovery partition
- The date, time, and time zone are set correctly within Windows



**Note:** After Windows 2012 R2 is installed, drive letters for the various partitions are randomly assigned and may vary from those in the following screenshots. The CloudBond software installer standardizes the drive letters during installation.



**Warning:** Failure to set the date, time, and time zone correctly prior to software installation will result in issues which may only become apparent sometime after installation.



**Warning:** If you choose to install a Branch / Paired Pool Appliance deployment type, you will need to prepare the existing CloudBond 365 environment before installing the additional BPA server. These steps are detailed in Section 8 on page 47. Do not start the Configuration Wizard before completing these steps.

To commence the remaining installation steps, mount the ISO image from the Recovery partition and start the Configuration Wizard, as described below.

### 5.1 **Recovery Partition**

The Recovery partition should have a copy of selected contents from the USB key. The Recovery partition contains the following:

- Windows 2012 R2 directory
- ACS-7.0.x ISO image
- sbc\_x.x.x zip file containing the AudioCodes Software SBC

The directory structure of the 'Recovery' Partition should appear as in the image below.

👝 l 💽 🛄 = l	Disc Image Tools		Recovery	(E:)	_	□ X
File Home Share	View Manage					~ <b>?</b>
🔄 🕘 🔻 🕇 🚍 🕨 TH	nis PC 🕨 Recovery (E:)			♥ 🖒 Search Red	covery (E:)	Q
🔆 Favorites	Name		Date modified	Туре	Size	
Desktop	Windows2012R2		1/14/2016 2:53 AM	File folder		
🚺 Downloads	@ ACS-7.0.0.5-796-skype-R	TM-sql-STD.iso	1/13/2016 8:08 PM	Disc Image File	8,392,380 KB	
🔛 Recent places	🔒 sbc_6.80A.234.004.zip		1/14/2016 2:53 AM	Compressed (zipp	1,167,823 KB	
This PC  C on DESKTOP-PR1F  D on DESKTOP-PR1F  Documents Downloads Music Fictures Videos Windows (C:) Data (D:) Recovery (E:)  Network						
3 items   1 item selected	8.00 GB					:== ==

#### Figure 5-1: USB Drive Contents



**Warning:** Under no circumstances, should there be any files or folders containing the letters 'sbc' present besides the zip file as shown in the image (the exact version might differ from the image).

If the Configuration Wizard has been previously run, you may find the following additional files in the root of the recovery partition:

- configuration.xml
- Host.xml
- identities.txt

### 5.2 Mounting the ISO Image

If you have not already done so, remove the USB key from the system.

- 1. Open the Windows File Explorer.
- 2. Open the Recovery partition (double click).

#### Figure 5-2: Open the Recovery partition

💭 I 🕞 📗 = I	This	PC	_ 🗆 X
File Computer V	ïew		v (?)
🔄 🔄 🔹 🛉 🌉 🕨 T	his PC 🔸	✓ ♂ Search This P	م ٢
🔆 Favorites	▲ Folders (6)		
Desktop Downloads	Desktop	Documents	
🖳 This PC	Downloads	Music	
🕌 Desktop 📄 Documents 〕 Downloads	Pictures	Videos	
Music	Devices and drives (3)		
<ul> <li>Pictures</li> <li>Videos</li> <li>Windows (C:)</li> </ul>	Windows (C:) 23.9 GB free of 48.8 GB	Data (D:) 21.9 GB free of 155 GB	
👝 Data (D:) 🔊 Recovery (E:)	Recovery (E:)		
🙀 Network			
9 items			8== 🔳

- **3.** Locate the ACS-7.x.x ISO image.
- 4. Mount the image by double clicking, or right-click and select mount.

Figure 5-3: Mounting the ISO image

👝 l ⊋ 🚹 = l		Disc Image Tools			Recover	y (E:)	_	X
File Home Share	View	Manage						~ <b>?</b>
🔄 💿 🔻 🕇 📾 🕨 Th	s PC 🕨 Rec	:overy (E:) ►				♥ 🖒 Search	Recovery (E:)	9
🔆 Favorites	Name	•			Date modified	Туре	Size	
🔲 Desktop	📗 Wind	ows2012R2			1/14/2016 2:53 AM	File folder		
🗼 Downloads	ACS-	7.0.0.5-796-skype-	•	Maura	* 43 /304 0 0 00 0	Disc Image File	8,392,380 KB	
🔛 Recent places	🌗 sbc_6	.80A.234.004.zip	4	Openwith		Compressed (zipp.	1,167,823 KB	
<ul> <li>This PC</li> <li>Desktop</li> <li>Documents</li> <li>Downloads</li> <li>Music</li> <li>Pictures</li> <li>Videos</li> <li>Windows (C:)</li> <li>Data (D:)</li> </ul>				Restore previ Send to Cut Copy Create shorte Delete Rename Properties	ous versions	-		
Network	.00 GB							

- 5. The ISO image will be mounted and assigned an available drive letter.
- 6. Windows File Explorer will automatically open a window showing the contents of the mounted ISO image.

### 5.3 Starting the Configuration Wizard



Warning: Do not start the Configuration Wizard before reading the following chapter regarding Deployment Types.

- 1. Locate the Setup application within the mounted ISO image.
- 2. Double Click, or right click and select open, to start the Configuration Wizard.

1 🕞 👔 = 1		Application T	ools		DVD Drive (F:) A	CS-R7005	726	_	
File Home Sha	re View	Manage							~ <b>(</b> )
€ ⊚ - ↑ 🖗 •	This PC 🕨 DV	D Drive (F:) AC	S-R700	05726 🕨		~ ¢	Search [	OVD Drive (F:) ACS	-R7 🔎
ጵ Favorites	Name	*			Date modified	Туре		Size	
E Desktop	퉬 bin				1/13/2016 5:23 PM	File folde	er		
🚺 Downloads	📗 HP				1/13/2016 5:23 PM	File folde	er		
🔚 Recent places	🐌 Html				1/13/2016 5:23 PM	File folde	er		
	🌗 Image	es			1/13/2016 5:25 PM	File folde	er		
p This PC	🌗 Skype	RTM			1/13/2016 5:25 PM	File folde	er		
膧 Desktop	source	es			1/13/2016 5:25 PM	File folde	er		
Documents	鷆 Third	Party			1/13/2016 5:26 PM	File folde	er		
鷆 Downloads	🌗 Upda	tes			1/13/2016 5:26 PM	File folde	er		
🚺 Music	퉬 Utils				1/13/2016 5:27 PM	File folde	er		
📔 Pictures	🌗 WebA	pplications			1/13/2016 5:24 PM	File folde	er		
闄 Videos	퉬 Wind	owsServices			1/13/2016 5:24 PM	File folde	er		
🏜 Windows (C:)	💷 Mana	gementSuite.e	xe		1/13/2016 5:19 PM	Applicat	ion	62 KB	
👝 Data (D:)	🦲 Mana	gementSuite.e	xe.cor	nfig	1/13/2016 5:19 PM	CONFIG	File	1 KB	
Recovery (E:)	🐨 Setup	.exe		_	1/12/2016 5-10 DM	Applicat	ion	3,883 KB	
💮 DVD Drive (F:) ACS	-F 📃 Setup	.exe.config		Open		CONFIG	File	1 KB	
			1	Run as administ	trator				
📬 Network				Troubleshoot co	ompatibility				
				Pin to Start					
				Send to	+				
				Сору					
15 items 1 item select	ed 3.79 MB			Create shortcut					800

#### Figure 5-4: Starting the Configuration Wizard

## 6 Software Configuration Wizard

The Software Configuration Wizard will guide you through the options available for installing the CloudBond 365 software product.

When completed, the Wizard will store your configuration choices in a configuration file on the local HDD storage, in both the Recovery partition, and the c:\acs\installtmp directory.

Each time the Configuration Wizard is started, it will search for an existing configuration file. If one is located, the Configuration Wizard will proceed straight to the final summary page in readiness to perform the software installation.

### 6.1 Deployment Type

Shortly after starting the configuration wizard, you must choose from two deployment types:

- Standalone
- Branch / Paired Pool Appliance (BPA)

The two deployment types have completely different installation results, and are detailed in separate sections.



**Warning:** Once a Deployment Type is chosen, it is not possible to change the Deployment Type without restarting the Configuration Wizard.

### 6.1.1 Standalone Deployment Type



**Note:** A Standalone Deployment creates the first CloudBond 365 system for a customer.

A Standalone deployment type is for a standalone, CloudBond 365 Skype for Business deployment.

This is generally the first Skype for Business install for a site, and uses the Resource Forest model. It will automatically install a Domain Controller (DC) with the CloudBond 365 Management Suite (SysAdmin), Front-End server, and Edge Server, all within the Resource Forest.

The customer can then either operate the CloudBond 365 system by itself in standalone mode, or, follow the *AudioCodes CloudBond 365 Deployment Guide* to join the Resource Forest to their existing Domain using a forest trust.

If performing a Standalone Deployment Type, continue with the Section 7 on page 33.

### 6.1.2 Branch / Paired Pool Deployment Type



**Note:** A Branch / Paired Pool deployment can only be added to an existing CloudBond 365 system or any other Microsoft Skype for Business customer deployment.

A Branch / Paired Pool Appliance deployment type is for adding a CloudBond 365 Skype for Business device to an existing CloudBond 365 or Microsoft Skype for Business environment. It will create an additional SysAdmin Management Server, which can optionally be deployed as an additional full domain controller for resiliency / branch authentication and an FE server within the existing Skype for Business Topology. Optionally other components, like consolidated Edge server, SBC and Reverse Proxy can also be installed in the BPA depending on the hardware used.

If performing a Branch / Paired Pool Deployment Type, skip to Section 8 on page 47.

## 7 Standalone Deployment Type

A Standalone deployment type is for a standalone, CloudBond 365 Skype for Business deployment.

This is generally the first Skype for Business installation for a site and will automatically install a Domain Controller (DC) with the CloudBond 365 Management Suite, a Front-End server and an Edge Server in the Resource Forest model.

The customer can then either operate the CloudBond 365 system in standalone mode by itself, or, follow the *AudioCodes CloudBond 365 Deployment Guide* to join the Resource Forest to their existing Domain using a forest trust.

### 7.1 License Agreement

If you are running the Configuration Wizard for the first time, or an existing configuration file is not found, a license agreement page is presented. You must agree to the license terms before proceeding with the software installation.

This page offers a short copy write text, a link to the full license agreement, and a QR code which contains said link. Click I Agree to continue setup, or Exit to abort.

	s -	
C	oudBond 365™ Universal Installer ₩	
	efore continuing, make sure that the time and timezone for this computer are accurate	
	End-User License Agreement	~
	This computer program is protected by copyright law and international treaties. Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law.	
	For the full license terms, please visit	
	http://www.audiocodes.com/objects/HTML/iorder/AudioCodes-CloudBond-365-End-User-License-Agreement.pdf	
		~

Figure 7-1: License Agreement

### 7.2 Hardware Check

The Configuration Wizard will first verify the hardware platform that it is running on. The hardware detected will influence the options presented within the Configuration Wizard. When the system running the setup does not meet the hardware requirements, the following message is shown.

	-		
e		<b>I</b> >	- 🗆 ×
	suite		
DEPLOYMENT TYPE			
	COMPUTER SAYS NO!		
	Your system does not meet the hardware requirements for this installation		
	ok		

Figure 7-2: Hardware Check

### 7.3 Deployment Type

You must choose the Standalone deployment type, for the first CloudBond 365 system for a customer.

This page also shows which hardware level was detected.

		s ×
€ CloudBond 365™ Univ terms configuration	versal Installer	
DEPLOYMENT TYPE	Please choose the type o	of installation
	<ul> <li>Standalone</li> <li>Branched/Paired Poo</li> </ul>	l Appliance
	Hardware Detected: Standard (16Gb)	
	Warning: After pressing Next. You cannot alter the Instal	llation Type without restarting Setup
	Previous	Next

Figure 7-3: Choosing Deployment Type

### 7.4 Deployment Model

There are currently three Deployment Models on the Configuration Wizard to choose from:

- Virtual Edition
- Hyper-V Host with Virtual Machines
- Co-Located Hyper-V / Domain Controller with Virtual Machines

If you're not installing the Virtual Edition, you can optionally install:

- Session Border Controller (SBC)
- Reverse Proxy Server (RP)

#### Note:

 The hardware detected by the Configuration Wizard determines which Deployment Models are available, e.g., on a Mediant 800 OSN with 16/32GB RAM, only the Co-Located Hyper-V / Domain Controller with Virtual Machines is offered.



- The Skype for Business Consolidated Edge server is mandatory for a Standalone Deployment Type, but optional for a BPA Deployment Type.
- The optional SBC and RP are not available on CloudBond 365 Standard Box Edition (Mediant 800 OSN).
- If both the SBC and RP additional machines are checked, the Front-End Server will start with reduced memory to accommodate the two extra machines.

### 7.4.1 Virtual Edition

The Virtual Edition allows you to install the CloudBond 365 application onto your own (virtual) hardware. The installer must run the installation file on three individual Windows Server 2012 R2 Operating System environments, in this order:

- 1. On the server that'll be hosting the CloudBond 365 management server
- 2. On the server that'll be hosting the CloudBond 365 FrontEnd server
- 3. On the server that'll be hosting the CloudBond 365 Edge server

#### 7.4.1.1 Virtual Machine Specification

When CloudBond 365 is deployed as Virtualized Edition, you need to prepare the following Virtualized environment. Its minimum specification is shown in the table below. Virtualization is supported on Hyper-V or VMware.

Server	Use	OS***	CPU (Virtual Core)	RAM* in GB	HDD in GB	NIC**
1	Domain Controller & Management	Win 2012 R2	4/4/4	4/8/8	80	1
2	Front End	Win 2012 R2	6/12/16	10/20/24	80	1
3	Edge	Win 2012 R2	4/6/6	8/16/16	50	2

#### Table 7-1: Minimum Specification of the Virtualized Environment

\* RAM assigned according to number of users: 500/2000/5000

\*\* NIC can be shared

\*\*\* Windows Server 2012 R2 must be licensed



DEPLOYMENT TYPE	Deploy as: Hyper-V Host with	Virtual Machines	-
DEPLOYMENT MODEL	Virtual Edition	virtual machines	
	machines Hyper-V Host with	Virtual Machines	
	<ul> <li>Fully Aut Colocated Hyper-V</li> <li>Supports preparation of a Sessi</li> <li>Supports preparation of a Reve</li> </ul>	//Domain Controller with Virtual Machines on Border Controller machine rse Proxy machine	
	Servers to Install		
	Servers to Install Management Server	SBC	
	Servers to Install Management Server Front-End Server	SBC Reverse Proxy	
	Servers to Install Management Server Front-End Server Edge Server	SBC Reverse Proxy	

#### Figure 7-4: Deployment Model – Virtual Edition

### 7.4.2 Hyper-V Host with Virtual Machines

The Hyper-V Host with Virtual Machines installs Hyper-V on the selected host machine, and the three CloudBond 365 Servers (Controller, FE, and Edge) as three separate virtual machines within Hyper-V.

You may also choose to add an SBC server and Reverse Proxy server.

This option is suitable for CloudBond 365 Pro, and CloudBond 365 Enterprise. (e.g., AudioCodes HP Servers)
CIOUGBONG 365 C	Iniversal Installer		
TERMS CONFIGURATION			
DEDLOVMENT TYPE			
DEPLOYMENT MODEL	Deploy as: Hyper-V Host with	Virtual Machines	•
	This deple Hyper-V Host with	Virtual Machines	
	machines Colocated Hyper-V	/Domain Controller with Virtual Machines	5
	Servers to Install		
	A Management Server	SBC	
	V Internagement Server		
	Front-End Server	Reverse Proxy	
	<ul> <li>Management Server</li> <li>Front-End Server</li> <li>Edge Server</li> </ul>	Reverse Proxy	

Figure 7-5: Deployment Model - Pro and Enterprise

### 7.4.3 Co-located Hyper-V / Domain Controller with Virtual Machines

The Co-Located Hyper-V / Domain Controller with Virtual Machines installs the CloudBond 365 Controller (DC) and Hyper-V within the host machine, with the remaining CloudBond 365 Servers (FE and Edge) as Hyper-V virtual machines.

This option is suitable for CloudBond 365 Standard Box Edition (e.g., AudioCodes Mediant 800B OSN server).

DEPLOYMENT MODEL	Deploy as: Colocated Hyper-\	//Domain Controller with Virtual Machines 🛛 👻
	- Fully automated installation - Colocation allows for lower han - If chosen on a high-end machi	rdware requirements ne, allows for additional machines
	Servers to Install	
	Management Server	SBC
	✓ Front-End Server	Reverse Proxy
	Edge Server	

Figure 7-6: Deployment Model - Mediant 800

## 7.5 Credentials for Standalone Deployment

If performing a Standalone Deployment, you will be asked to confirm or change the login credentials for the CloudBond 365 Administrator.

The credential page requires you to enter the credentials of an Administrator account to verify you have the required permissions to continue the installation process.

If the configuration is being entered for a Bare Metal install, the entered username and password will be created.

If running the installer from pre-installed Windows2012 R2, the entered credentials must already be present on the system.

Click Validate to verify the information you entered is correct.

TERMS CONFIGURATION	niversa installer		
DEPLOYMENT TYPE DEPLOYMENT MODEL CREDENTIALS	During the installation credentials of such ar account has all the ne Username: Password: Confirm Password: User is Admin:	Administrator credentials will b account below. Use the check b ccessary permissions Administrator	e needed, please enter the sutton to confirm that the
		Validate	

#### Figure 7-7: Credentials

## 7.6 Domain Information (Standalone Deployment)

If you selected a Standalone Deployment Type, you will be prompted to confirm or change the new Domain information, including NetBIOS domain name, the Domain FQDN, and the default SIP Domain within Skype for Business. You may leave these values at their default settings, or modify them as required.

TERMS CONFIGURATION	inversor installer				
DEPLOYMENT TYPE DEPLOYMENT MODEL CREDENTIALS DOMAIN INFORMATION	Domain Inforr	nation			
	NetBIOS Domain Domain FQDN SIP Domain Modify Settings	cloudbond365 cloudbond365.com cloudbond365.com			
	Previous		N	ext	

#### Figure 7-8: Standalone Deployment Domain

#### Figure 7-9: Modifying Domain Details

DEPLC CRED	ADD DOMAIN IN	FORMATION		
DOM	NetBIOS Domain	cloudbond365		
	Domain FQDN SIP Domain	cloudbond365.com		
			OK cancel	

# 7.7 Domain Controller

If you selected a Standalone Deployment Type, you will be asked to verify or change the Management Server information. The wizard will automatically create a new Forest and Domain controller with the information specified, and install the SysAdmin suite and Archiving and Monitoring database on the controller.

Management	Server	
Computer Name	UC-DC	Change settings
Internal Interface		
IP Address	192.168.0.100	
Subnet Address	255.255.255.0	
Default Gateway	192.168.0.100	
	Management Computer Name Internal Interface IP Address Subnet Address Default Gateway	Management ServerComputer NameUC-DCInternal InterfaceIP AddressIP Address192.168.0.100Subnet Address255.255.255.0Default Gateway192.168.0.100

Figure 7-10: Specify the DC (Standalone)

#### Figure 7-11: Changing the Controller Settings

MANAGEMENT	SERVER		
c c			
Computer Name	UC-DC		
Internal Interfac	e		
IP Address	192.168.0.100		
Subnet Address	255.255.255.0		
Default Gateway	192.168.0.100		
		OK	cancel

# 7.8 Front-End Server

For all deployment types, you will be asked to confirm or change the details for the Front-End server.

			<b>s</b> - •
CloudBond 365™ U	niversal Installer		
TERMS CONFIGURATION			
DEPLOYMENT TYPE	Front End So	nor	
DEPLOYMENT MODEL	FIONT-LINU SE	iver	
DOMAIN INFORMATION			
MANAGEMENT SERVER	Computer Name	UC-FE	Change settings
FRONT-END SERVER			
	Internal Interface		
	IP Address	192.168.0.101	
	Previous		Next

Figure 7-12: Front-End server

#### Figure 7-13: Changing the FE settings

F	RONT-END SERV	ER		
	Computer Name	UC-FE		
	Internal Interface IP Address	192.168.0.101		
			ок	cancel

# 7.9 Edge Server

For Standalone Deployment Type, you will be asked to confirm or change the details of the Edge Server.

			(s) - D
€) CloudBond 365™ U	niversal Installer		
TERMS CONFIGURATION			
DEPLOYMENT TYPE	Edgo Sorvor		
DEPLOYMENT MODEL	Luge Server		
CREDENTIALS			
MANAGEMENT SERVER	Computer Name	UC-Edge	Change settings
FRONT-END SERVER		-	change settings.
EDGE SERVER	Internal Interface		
	IP Address	192.168.0.103	
	External Interface		
	IP Address	192.168.254.103	
	Subnet Address	255.255.255.0	
	Default Gateway	192.168.254.254	
	Previous		Next

Figure 7-14: Edge Server (Standalone)



c	Computer Name				
C	compater name	UC-Edge			
¢	Internal Interface				
P	IP Address	192.168.0.103			s
F	2221010 1271220100 - 82				
	External Interface				
	IP Address	192.168.254.103			
	Subnet Address	255.255.255.0			
	Default Gateway	192.168.254.254			
			OK	cancel	



**Note:** To prevent complex networking scenarios during installation, the wizard only allows for a single public Edge IP Address and requires the Edge internal leg to be on the same subnet as the other servers installed. If different deployment scenarios are needed, it is just a small change to be made in Skype for Business Topology Builder after the installation wizard has finished.

For more information see *LTRT-26443* CloudBond 365 Certificates Configuration Note Ver. 7.0 Section 6.1.4 Edge Services and *LTRT-26531* Connecting the CloudBond 365 Edge Server to a Full DMZ Deployment Configuration Note.

# 7.10 Session Border Controller

This option installs the AudioCodes SBC software on the nominated server. See the *AudioCodes Mediant Virtual Edition SBC Installation Manual* for more information.

DOMAIN INFORMATION			
MANAGEMENT SERVER FRONT-END SERVER	Name	Gateway	Change settings
EDGE SERVER SESSION BORDER CONTROL	Internal Interface IP Address Subnet Address	192.168.0.1 255.255.255.0	

Figure 7-16: SBC Settings



**Note:** The optional SBC is not available on CloudBond 365 Standard / Standard+ Box Edition (Mediant 800 OSN).

#### Figure 7-17: Changing the SBC settings

	SESSION BORDE	R CONTROLLER	
	<sub>Name</sub> Internal Interface	Gateway	
*	IP Address	192.168.0.1	
	Subitit Address	255.255.255.0	
			OK cancel



**Note:** There are many possible network configurations for the SBC. You may need to modify the Hyper-V network adapter requirements after software installation to meet your requirements.

## 7.11 Reverse Proxy Server

This option creates a Windows 2012 R2 virtual machine suitable for use as a Reverse Proxy using Internet Information Server and Application Request Routing (IIS + ARR). Further details on this Reverse Proxy solution can be found in the *AudioCodes CloudBond 365 Reverse Proxy using IIS & ARR* document.

TERMS CONFIGURATION			
DEPLOYMENT TYPE DEPLOYMENT MODEL CREDENTIALS	Reverse Proxy		
DOMAIN INFORMATION MANAGEMENT SERVER	Computer Name	UC-RP	Change settings.
EDGE SERVER	Internal Interface		
SESSION BORDER CONTROL	IP Address	192.168.0.104	
REVERSE PROXY			
	External Interface		
	IP Address	192.168.254.104	
	Subnet Address	255.255.255.0	
	Default Gateway	192.168.254.254	
	Previous		Nevt

#### Figure 7-18: Reverse Proxy Settings



**Note:** The optional RP is not available on CloudBond 365 Standard Box Edition (Mediant 800 OSN), or if the Branch / Paired Pool deployment type is chosen.

#### Figure 7-19: Changing the RP Settings

c c	Computer Name	UC-RP		
5	Internal Interface			
1	IP Address	192.168.0.104		
e	External Interface			
	IP Address	192.168.254.104		
	Subnet Address	255.255.255.0		
	Default Gateway	192.168.254.254		
			OK	cancel



**Note:** There are many possible network configurations for the RP. You may need to modify the Hyper-V network adapter requirements after software installation to meet your requirements.

## 7.12 Summary

The Summary page shows details of the selections made during the Wizard, as well as various pre-checks performed on the hardware.

If all information meets requirements, an Install button will appear below.

The summary page allows you to manually save the entered configuration by clicking on the Save Configuration button. This will prompt you for a location to save the file.

Click the **Install** button to begin the Software Install process only once the checks show **Pass**. The OS Check specifically will sometimes need more time to be validated. The rotating wheel above the **Install** Button gives a time indication when the next validation check will be performed.

TERMS CONFIGURATION		
DEPLOYMENT TYPE DEPLOYMENT MODEL CREDENTIALS	Sumn	nary - Host
DOMAIN INFORMATION MANAGEMENT SERVER FRONT-END SERVER EDGE SERVER	Diskspace Check OS Check	Pass Pass
SUMMARY	Management Server	•
	ComputerName	UC-DC
	Internal Interface IP Address Subnet Address Default Gateway	192.168.0.100 255.255.255.0 192.168.0.100
	Front-End Server	×
		Next Check in 🔳
	Save Configuration	Install

Figure 7-20: Wizard Summary

# 8 Branch / Paired Pool Deployment Type

A Branch / Paired Pool Appliance (BPA) deployment type is for adding a CloudBond 365 Skype for Business device to an existing CloudBond 365 or Microsoft Skype for Business deployment. It will create a Management Server with the SysAdmin suite, which can optionally be enabled as an additional DC. It will also install an FE server within the existing Skype for Business Topology, and optionally install an additional Edge server.

If you choose to install a Branch / Paired Pool Appliance deployment type, you will need to prepare some items before starting the configuration wizard.

During the Configuration Wizard, the software must be able to contact the existing CloudBond 365 installation, and specifically the existing domain controller. You must ensure that the Host IP address, gateway, and DNS settings are correct before proceeding.

**Note:** If multiple Active Directory Sites exist within the environment, make sure that the correct IP Subnet information is configured to prevent installation failures. Active Directory assigns a domain controller for domain-based actions by checking the IP Subnet information and if a wrong domain controller is assigned (in a different subnet) you might experience Active Directory replication issues.



In such a case, one domain controller will know about the computer object that is currently being installed, but another domain controller does not know that computer object yet. Actions like *join domain* or *promote to domain controller* will fail due to the fact that the computer object is not found, or there are no logon servers to process the logon request.

By default, all domain controllers will replicate every 15 minutes within an Active Directory site and every 180 minutes between sites. More information on Active Directory replication can be found at: https://technet.microsoft.com/en-us/library/cc961788.aspx.

- In addition to setting the correct IP information, an Ethernet cable must be connected to the front GE1 port of the Mediant 800 gateway, or to the Corporate LAN NIC of the HP Server when using Pro / Enterprise hardware.
- The configuration wizard will also ask you to supply a copy of the existing Topology as a zip file, created using the Export-csConfiguration command. It is a much smoother process if this Topology file is prepared ahead of time.

# 8.1 Planning Your BPA

There are many possible configuration combinations for CloudBond 365 BPA Deployments, depending upon network layout, WAN links, and desired outcomes.

Configurations can vary from the relatively simple, such as a Management Server with local FE at a branch location, to a Full DC with paired pool FE and alternate Edge connector at a remote site.

Exact details for each configuration are not covered in this guide. See the *Microsoft Skype for Business Planning information* for further details.

For a BPA install to be successful, you should plan ahead, at a minimum allowing for new server names and IP addresses for the Management Server and FE. If planning an additional Edge Server, consideration must be given to many aspects of Skype for Business External connectivity, including internet domain names, public geographic based DNS servers, hardware load balancers, federation requirements, etc.

#### Notes:



- The default server names and IP addresses presented by the Wizard are the same as those used for a Standalone Deployment Type. Rarely are these values suitable for a BPA deployment. You should be prepared to enter new values for Server Names and IP addresses, according to your planned configuration.
- As the BPA will be joined into an existing Active Directory forest topology, the server running the CloudBond 365 Hyper-V host will need to have a DNS IP address assigned that is capable of resolving a domain controller for the domain to which the BPA will need to be joined. The same DNS will need to be used in the Wizard on the Management Server Configuration page.

## 8.2 **Preparing the Topology**

Within the existing CloudBond 365 Topology, there will be a single site defined, containing the existing FE and Edge Servers.

To add a BPA system, it is necessary to add another FE server, and optionally, an Edge server definition within the Topology.

You may also wish to add the new servers to the existing Site, or create a new Site.



**Note:** Skype for Business Topology Sites are not related to AD Sites and Services, or to MS Exchange Sites. You may optionally wish to update your AD Sites and Services to match Skype for Business Sites for consistency.

## 8.2.1 Editing the Topology

To prepare the Topology file:

- 1. Logon to the existing CloudBond 365 Controller (or Skype for Business FE Server).
- 2. Open Topology Builder.
- 3. Download the current topology (and save it when it prompts you to).

10	Lync Server 2013, Topology Builder	-	x
File Action Help	Define a new deployment from the Actions pane		
<ul> <li>Welcome documen</li> <li>Down Retrie existin</li> <li>Open Open</li> <li>Open Open</li> <li>New 1</li> <li>Creatu defini</li> </ul>	to Topology Builder     to Topology Builder. Select the source of the Lync Server topology     t.     load Topology from existing deployment     ve a copy of the current topology from the Central Management     and save it as a local file. Use this option if you are editing an     ig deployment.     Topology from a local file     an existing Topology Builder file. Use this option if you have work     gress.     Fopology     a blank topology and save it to a local file. Use this option for     ng new deployments from scratch.     OK Cancel		

#### Figure 8-1: Downloading Existing Topology

## 8.2.2 Adding a New Site (Optional)

Adding a new site to the Skype for Business topology is optional. You must add a new FE server to the existing topology, but that FE server may be within an existing site, or within a newsite.

Typically, you would add a new site for a "Branch" install, but add to an existing site for a central Paired Pool.



**Note:** The Skype for Business Topology uses "Branch Sites" for definition of Survivable Branch Appliances (SBAs). A BPA is not a SBA, and is defined within a Central Site, not within the Branch Sites area.

#### To Add a new site:

1. Right-click the 'Lync Server' node and select 'New Central Site'.

23 Lyr	nc Server 2013, Topology	Builder 📃 🗖	x
File Action Help  A Byte Lync Server	Site	•	^
ACS-2013     CS-2013     D     Lync Server 2010     D     Lync Server 2013     D     Shared Components     Branch sites	Name: Description: City: State/Province: Country/Region Code:	ACS-2013 ACS 2013 Default Almere Flevoland The Netherlands	
	Call Admission Control set	UC-FE.ac-onebox.com	- =
	Site federation route assig	nment 🔺	_
	SIP federation:	UC-Edge.ac-onebox.com (ACS-2013) (Edge)	
	XMPP federation:	UC-Edge.ac-onebox.com (ACS-2013) (Edge)	
	Persistent Chat setting	•	
	Default Persistent Chat	Disabled	~

#### Figure 8-2: Existing Topology

Figure 8-3: Adding New Central Site



2. Give the new site a name (and optionally a description).

16	Define New Central Site	x
	Identify the site	
Give you	r site a name and a description.	
Name: *		
Site2		
Descript	on:	
Branch	Site	
		_
Help	Back Next Cancel	

#### Figure 8-4: Defining a Central Site

3. Enter the City, State/Province and Country/Region Code details.

U
Define New Central Site
Specify site details
Provide additional location details for your site.
State/Province:
Country/Region Code:
Help Back Next Cancel

#### Figure 8-5: Defining a Central Site

4. Leave the Open the New Front End Wizard.... check-box selected and then click Finish.

16	Define New Central Site				
	Central site was successfully defined				
You have successfully completed the New Topology wizard. Before you publish the topology, you must define at least one Front End pool. If you are ready to do that now, select the check box below, and then click Finish.					
🗹 Open	the New Front End Wizard when this wizard closes				
To close the wizard, click Finish.					
	Back Finish Cancel				

#### Figure 8-6: Defining a Central Site

## 8.2.3 Adding a New Front-End Server

You must add a new Front-End server to the existing topology. As CloudBond 365 uses Skype for Business Standard Edition FE Servers, this means adding a new FE Pool to a site.

If you did not define a new site, you can add a new FE Pool by navigating to Lync Server 2013  $\rightarrow$  Standard Edition Front End Servers within an existing site, right clicking, and selecting New Front End Pool.

Figure 8-7: Creating New FE Pool

10 C	Lync Server 2013, Topology Builder
File Action Help	
<ul> <li>▲ Lync Server</li> <li>▲</li></ul>	The properties for this item are not available for editing.
Lync Server 2013     Standard Edition Front End Server     Standard Edition Front End Server     Direct     Topology     Media     Help     Persistem crise pools	re ••••••••••••••••••••••••••••••••••••
<ul> <li>Edge pools</li> <li>Trusted application servers</li> <li>Shared Components</li> <li>Branch sites</li> </ul>	

#### Figure 8-8: Creating New FE Pool

6	Define New Front End Pool	x
	Define the New Front End pool	
This wiz Before y Do Ho Wh Ufy When y	ard helps you to create and configure a Front End pool for your site. You begin, ensure that you have the following information: You plan to use the Front End pool for conferencing or voice? We much scalability will you need now or in the future? at is the FQDN for the pool and for each computer in the pool? You are using conferencing, what is the external web address? You are ready to proceed, click Next.	
Help	Back Next Cancel	

#### To define the new FE server:

- 1. Define a new front-end server FQDN (example: uc-fe2.ac-onebox.com).
- 2. Make sure that the **Standard Edition Server** option is selected.

#### Figure 8-9: FE Server FQDN

id i	Define New Front End Pool	x
	Define the Front End pool FQDN	
You	u may deploy your Front End Server as either an Enterprise Edition pool or a Standard Edition server. DN: *	
uc	-fe2.ac-onebox.com	
0	Enterprise Edition Front End Pool An Enterprise Edition Front End pool can contain as many as 20 computers for large scale deployments that require load balancing or high availability. The SQL Server instance that hosts the user store and the apolication store for this pool must be on a conset or pool that is guine Microsof	÷
	SQL Server.	//1
۲	Standard Edition Server	
	A Standard Edition server is a single computer for smaller deployments that do not require high availability. The SQL Server instance that hosts the user store and the application store for this Standard Edition server is an instance of SQL Server Express Edition, which is automatically installed.	
	Help Back Next Cancel	

**3.** Select the features you want to use on this Front-End Server (we usually select all. Call Admission Control requires separate sites)

#### Figure 8-10: FE Server Features

Define New Front End Pool
Select features
Instant messaging and presence are always enabled. Select the additional features that you want this Front End pool to handle.
✓ Conferencing (includes audio, video, and application sharing)
☑ Dial-in (PSTN) conferencing
✓ Enterprise Voice
Call Admission Control
Call admission control (CAC) is an optional component that manages the bandwidth used by unified communications traffic within the deployment. Only one Front End pool per site can enable CAC.
✓ Archiving
To enable Exchange Server integration, use Lync Server Control Panel.
Monitoring (CDR and QoE metrics)
Help Back Next Cancel

4. Leave the 'Collocate Mediation Server' check box enabled.

Define New Front End Pool
Select collocated server roles
The Mediation Server can be collocated on a Front End pool. Collocation requires fewer computers, but in larger deployments a stand-alone Mediation pool can provide better voice quality and greater scalability.
Select which server roles and services you want to collocate on this Front End pool.
✓ Collocate Mediation Server
You can collocate the Mediation Server on the Front End Server if your IP/PSTN gateway or your IP- PBX supports media bypass and if Enterprise Voice is not mission-critical for your organization.
Help Back Next Cancel

#### Figure 8-11: FE and Mediation Server

5. Leave the 'Enable and Edge pool to be used...' check box enabled.

#### Figure 8-12: FE and Edge

6	Define New Front End Pool
	Associate server roles with this Front End pool
Some fe with the	eatures are carried out by other server roles. You can enable those features by associating them Front End pool that you are creating now.
	one an eage poor to be used by the media component of this from the poor.
Help	Back Next Cancel



6. Leave the SQL Server store page as it is (it cannot be edited anyway).

#### x Define New Front End Pool ю Define the SQL Server store For a Standard Edition Front End pool, user information must be stored locally. SQL Server Express Edition will be installed automatically. SQL Server store: New... uc-fe2.ac-onebox.com\rtc Enable SQL Server store mirroring Mirroring SQL Server store: -New... Use SQL Server mirroring witness to enable automatic failover -New... Help Back Next Cancel

Figure 8-13: FE SQL Store

7. Leave the file store on default settings.

Figure 8-14: FE Local Store

10	Define New Front End Pool	x		
	Define the file store			
Select a End Ser be crea	Select an existing file store, or define a new one, to be used by the server. For this Standard Edition Front End Server, the file store can be collocated, or it can be on another single-server pool. The file store must be created manually before you can install it.			
Def File	ine a new file store. server FQDN: *			
uc	-fe2.ac-onebox.com			
File	share: *			
sh	are			
Help	Back Next Cancel			

8. Define an 'External Base URL' (example: ews2.contoso.com).

Define New Front End Pool	x
Specify the Web Services URL	
You can specify an alternate fully qualified domain name (FQDN) for the external side of the Web Services. For a Standard Edition Front End Server, the internal FQDN is fixed.	
Override internal Web Services pool FQDN	
Internal Base URL:	-
uc-fe3.ac-onebox.com	
External Base URL:*	
ews2.contoso.com	
Help Back Next Car	icel

#### Figure 8-15: FE External Web Access

9. Clear the 'Associate pool with an Office Web Apps Server' check box.

#### Figure 8-16: FE OWA server

18	Define New Front End Pool		
	Select an Office Web Apps Server		
Associate this Front End pool with an Office Web Apps Server to enable users to share and view PowerPoint presentations during meetings with enhancements including animations, slide transitions, embedded video, and the ability for users to independently navigate slides. If no Office Web Apps Server has been defined, click New.			
	▼ New		
Not Sen	e: We strongly recommend that you deploy Office Web Apps Server. Without an Office Web Apps ver, PowerPoint presentation sharing capabilities are not available during meetings.		
Help	Back Next Cancel		

# AudioCodes

**10.** Either use the Archiving SQL Store already defined or define a new one (we usually use the existing one).

Define New Front End Pool
Define the Archiving SQL Server store
Archiving SQL Server store:
UC-DC.ac-onebox.com\Default
Enable SQL Server store mirroring
Archiving SQL Server store mirror:
▼ New
Use SQL Server mirroring witness to enable automatic failover
▼ New
Help Back Next Cancel

#### Figure 8-17: Archiving SQL Server

**11.** Same for the Monitoring SQL Server Store.



16	Define New Front End Pool	x
	Define the Monitoring SQL Server store	
Monitori UC-DC	ing SQL Server store: ac-onebox.com\Default   New	
Enab	le SQL Server store mirroring itoring SQL Server store mirror: Jse SQL Server mirroring witness to enable automatic failover	
Help	Back Next Cancel	

**12.** Select the Edge pool to be used (Select the existing Edge Server, or click **New** to start the wizard for defining a new Edge Server).

Define New Front End Pool	x
Select an Edge Server	
Select an Edge pool to be used by media components on this Front End Pool. If no Edge pool has b defined, click New.	een
Edge pool:	
UC-Edge.ac-onebox.com ACS-2013 🔻 New	
Help Back Finish Can	cel

Figure 8-19: Assigning Edge to FE

13. Click Finish.

## 8.3 Defining an Edge Server

You can optionally add a new Edge server to the existing topology.

If you did not define a new Edge Pool when defining the FE Server, you can add a new Edge Pool by navigating to Lync Server 2013 > Edge Pools within an existing site, right clicking, and selecting New Edge Pool.

#### Figure 8-20: Defining a New Edge Pool

28 Ly	rnc Server 2013, Topology Builder
File Action Help	
Lync Server     Lync Server 2010     Lync Server 2010     Lync Server 2013     Lync Serv	The properties for this item are not available for editing.
Contraction     Contracti	•

Figure 8-21: Defining a New Edge Pool

16	Define New Edge Pool	x
	Define the New Edge Pool	
Specify E	dge pool configuration and supported services.	
Before ye	ou begin, ensure that you have made the following decisions and have the necessary informati	on:
• How	which scalability do you need? Will this be a single-server or multi-server pool?	
• Do y Con	you want to use the same or different FQDNs and IP addresses for the Access Edge, Web ferencing Edge, and A/V Edge services?	
• Will	this Edge pool be used for federation?	
<ul> <li>Fully</li> </ul>	y qualified domain names	
Port	is for the pool and IP addresses, both internal and external, for the servers	
When yo	ou are ready to proceed, click Next.	
Help	Back Next Cancel	Act

#### > To define the New Edge Server:

1. Specify the Edge server internal FQDN.

#### Figure 8-22: Define Edge Internal FQDN

16	Define New Edge Pool	x
	Define the Edge pool FQDN	
Define t single co	he fully qualified domain name (FQDN) for the Edge pool, and indicate whether this should be a omputer or multi-computer pool.	5
uc-eda	e2 ac-onebox.com	
<ul> <li>Mul- Sele</li> <li>Sing Sele avail</li> </ul>	tiple computer pool ct this option if you want this pool to support load balancing and high availability. le computer pool ct this option if you have a small deployment and you do not need load balancing or high ability.	
Help	Back Next Cancel	Act

2. Select the features required.

#### Figure 8-23: Select Edge Features

lo.	Define New Edge Pool	
	Select features	
Select the	e features of this Edge pool.	
Use a Choo to sha each	r single FQDN and IP address. se this option if you would like the Access Edge, Web Conferencing Edge, and A/V Edge services are a single FQDN and IP address. Note: The combination of IP address and port number for Edge service must be unique.	
Enab Warn migra recor	le federation (port 5061). ing: The topology contains other federation-enabled Edge pools. This may be expected during ation. Only one Edge pool will be actively used for federation. Ensure that the external DNS SRV d points to the correct Edge pool.	
Enab Warn be ac Edge	le XMPP federation (port 5269). ing: The topology contains other XMPP federation-enabled Edge pools. Only one Edge pool will tively used for XMPP federation. Ensure that the external DNS SRV record points to the correct pool.	
Help	Back Next Cancel A	t,



**3.** Select the IP Options required.

Figure 8-24: Select Edge IP options

10	Define New Edge Pool	x
	Select IP options	
Select th Enable Enable Enable Enable In the If the	e IP options of this Edge pool. le IPv4 on internal interface le IPv6 on external interface le IPv6 on external interface external IP address of this Edge pool is translated by NAT. external IP address of this pool is translated by NAT, we will ask for the NAT IP address later.	
Help	Back Next Cancel	Acti

4. Specify the External FQDN.

Figure	8-25:	Define	Edge	External	FQDN

a.	Define New Ed	lge Pool	x
Exte	rnal FQDNs		
Specify the extension services. Note: 1	rnal FQDNs and ports for the Access Edge 'he combination of FQDN and port numb	e, Web Conferencing Edge, and A/V Edge er for each Edge service must be unique.	
External FQDN	5	: Ports	
Access Edge se	vice: *		
sip2.contoso.c	om	: 5061	
Web Conference	ing Edge service:		
sip2.contoso.c	om	: 444	
A/V Edge servic	e:		
sip2.contoso.c	om	: 443	
Help		Back Next Can	cel Act
			Go t

5. Specify the internal IP address.

#### Figure 8-26: Define Edge Internal IP address

10	Define New Edge	e Pool		X
5	Define the internal IP address			
Specify th	he internal IP address for the computer.			
Internal I	Pv4 address: *			
192.168	.0.123			
Help		Back	Next	Cancel Act
				Go to

6. Specify the external IP address.



16	Define New Edge Pool
	Define the external IP address
Specify the services.	e external IP address that will be used for Access Edge, Web Conferencing Edge, and A/V Edge
External IP	v4 address: *
192.168.2	254.123
Help	Back Next Cancel Act



7. Specify the FE pool for this Edge server.



10	Define New Edge Pool	x
	Define the next hop server	
Select th	e Front End pool or Director that will be used as the next hop for the Edge pool.	
Next ho	o pool:	
uc-fe2.	ac-onebox.com Site2	
Help	Back Finish Cancel A	ct
	G	o t

8. Click Finish.



**Note:** To prevent complex networking scenarios during installation, the wizard only allows for a single public edge IP Address and requires the Edge internal leg to be on the same subnet as the other servers installed. If different deployment scenarios are needed, it is just a small change to be made in Skype for Business Topology Builder after the installation wizard has finished.

For more information see *LTRT-26443* CloudBond 365 Certificates Configuration Note Ver. 7.0 Section 6.1.4 Edge Services and *LTRT-26531* Connecting the CloudBond 365 Edge Server to a Full DMZ Deployment Configuration Note.

## 8.3.1 Publish the Topology

- 1. Click **Action** at the top of Topology Builder.
- 2. Open the **Topology** sub-menu.
- 3. Click **Publish**, and then click **Next** in the wizard that pops up.

Figure 8-29: Publish the Topology

	Lyr	nc Server 2013, Topology I	Builder		 X	
le Action Help						
Edit Properties		Connel				
▲ Topology ►	New				_	
Delete	Open					
Halp	Download	Current Topology		PDOX.COM		
	Save A Co	ру		ured IPV4 addresses		
UC-FE.ac-onebox	Publish					
Director pools	Install Dat	abase				
Mediation pools	Merge Off	fice Communications Server 200	7 R2			-
Persistent Chat pool	Remove D	eployment				
Edge pools		PSTN conferencing:	Enabled			
📑 UC-Edge.ac-onebox.	com	Enterprise Voice:	Enabled			
Trusted application serv	ers	Associations				
Shared Components		SQL Server store:	uc-fe2.ac-c	nebox.com\rtc		
Branch sites		Archiving SQL Server	UC-DC.ac-	onebox.com\Default		
A Site2		store:				
4 Dunc Server 2013		Monitoring SQL Server	UC-DC.ac-	onebox.com\Default		
Standard Edition Front E	nd Servers	store:				
uc-fe2.ac-onebox.co	m	File store:	<u>\\uc-te2.ac</u>	-onebox.com\share		
Enterprise Edition Front	End pools	Office Web Apps Server:	Not associa	ited		
Director pools		Edge pool (for media):	uc-edge2.a	ic-onebox.com (Site2)		
Mediation pools		Note: To view the federation	on r <mark>ou</mark> te, use	the site property page.		
Persistent Chat pools						
4 Edge pools	1.000	Resiliency				
Trusted application serv	ers					
Shared Components		Associated backup pool:	Not configu	ired		
Branch sites		Automatic failover and failback for Voice:	Disabled			
						~

4. You will receive a warning that the machine(s) you just defined cannot be found in Active Directory, Click **Yes to All**.



10	Missing Computer	x
The following machines fr during Enable-CsTopology publish this topology, you uc-fe2.ac-onebox.com	om the topology you are publishing were not found in Active Directory and will result in err when it tries to prepare Active Directory entries for the topology machines. If you choose i must run Enable-CsTopology again after you join the missing machines to the domain:	ors to
	Yes Yes to All No No to All	

- 5. During 'Enabling topology' it will encounter errors, the summary screen will show status: Completed with warnings.
- 6. If you view logs for publishing you will find that the warning generated comes from the fact that the machines do not exist yet. This warning can be safely ignored.

# AudioCodes

7. Click **Finish**; You now have a second Central Site defined in your topology and are ready to export the file.

Lyi	nc Server 2013, Topology	Builder –	D X
File Action Help	General		^
<ul> <li>ACS-2013</li> <li>Carter Content of Co</li></ul>	FQDN: IPv4 addresses: Features and functionality Instant messaging (IM) and presence: Conferencing: PSTN conferencing:	uc-fe2.ac-onebox.com Use all configured IPv4 addresses Enabled Enabled Enabled	I
UC-Edge.ac-onebox.com  Trusted application servers  Shared Components Branch sites	Enterprise Voice: Associations SQL Server store:	Enabled	
<ul> <li>A</li></ul>	Archiving SQL Server store: Monitoring SQL Server store: Eile store:	UC-DC.ac-onebox.com\Default	
uc-fe2.ac-onebox.com     Interprise Edition Front End pools     Director pools     Mediation pools	Office Web Apps Server: Edge pool (for media): Note: To view the federati	Not associated <u>uc-edge2.ac-onebox.com (Site2)</u> on route, use the site property page.	
<ul> <li>Persistent Chat pools</li> <li>Edge pools</li> <li>uc-edge2.ac-onebox.com</li> <li>Trusted application senser;</li> </ul>	Resiliency		
Insteu apprication servers	Associated backup pool: Automatic failover and failback for Voice:	Not configured Disabled	
	<	II	>

#### Figure 8-31: Finished Topology Changes

## 8.4 Exporting the Topology

#### > To prepare the Topology file:

- 1. Log on to the existing CloudBond 365 Controller (or Skype for Business FE Server).
- 2. Open the Skype for Business Management Shell.
- 3. Enter the command Export-CsConfiguration –Filename c:\mytopology.zip.
- 4. Copy the mytopology.zip file to a convenient location on the new host operating system.



#### Figure 8-32: Exporting the Topology

## 8.5 Commencing the BPA Configuration

To commence the remaining installation steps, mount the ISO image from the Recovery partition, and start the Configuration Wizard as described in Section 5 on page 27.

Ensure that there is network connectivity between the new BPA Hardware, and the existing CloudBond 365 servers.

## 8.6 License Agreement

If you are running the Configuration Wizard for the first time, or an existing configuration file is not found, a license agreement page is presented. You must agree to the license terms before proceeding with the software installation.

This page offers a short copy write text, a link to the full license agreement, and a QR code which contains said link. Click I Agree to continue setup, or Exit to abort.

Figure 8-33: License Agreement

	(s) -	
€ (	CloudBond 365™ Universal Installer	
Т	ERMS	
	Before continuing, make sure that the time and timezone for this computer are accurate	
	End-User License Agreement	~
	This computer program is protected by copyright law and international treaties. Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law.	
	For the full license terms, please visit	
	http://www.audiocodes.com/objects/HTML/iorder/AudioCodes-CloudBond-365-End-User-License-Agreement.pdf	
		~
	L Agrage Evit	
	i Agree Lait	

## 8.7 Hardware Check

The Configuration Wizard will first verify the hardware platform that it is running on. The hardware detected will influence the options presented within the Configuration Wizard. When the system running the setup does not meet the hardware requirements, the following message is shown.

€ manageme terms configur	nt suite	<b>₫</b> ⊅	_ 🗆 ×
DEPLOYMENT	YVE COMPUTER SAYS NO! Your system does not meet the hardware requirements for this installation ok		

## 8.8 Deployment Type

You must choose the Branch / Paired Pool Appliance (BPA) Deployment Type. This page also shows which hardware level was detected.

Once a Deployment Type is chosen, it is not possible to change the Deployment Type without restarting the Configuration Wizard.

-) Cloudbond 365 <sup>™</sup> Un TERMS CONFIGURATION	versal Installer
DEPLOTMENT TIPE	Please choose the type of installation
	<ul><li>Standalone</li><li>Branched/Paired Pool Appliance</li></ul>
	Hardware Detected: Standard (16Gb)
	Warning: After pressing Next, You cannot alter the Installation Type without restarting Setup
	Previous Next

Figure 8-35: Deployment Type

## 8.9 **Deployment Model**

There are currently three Deployment Models on the Configuration Wizard to choose from:

- Virtual Edition
- Hyper-V Host with Virtual Machines
- Co-Located Hyper-V / Domain Controller with Virtual Machines

#### Notes:



- The hardware detected by the Configuration Wizard determines which Deployment Models are available. For example, on a Mediant 800 OSN with 16/32GB RAM, only the Co-Located Hyper-V / Domain Controller with Virtual Machines is offered.
- The optional SBC and RP are unavailable on CloudBond 365 Standard Box Edition hardware.

### 8.9.1 Virtual Edition

The Virtual Edition allows you to install the CloudBond 365 application onto your own (virtual) hardware. This installation should be started three times on individual Windows Server 2012 R2 Operating System environments, in the following order:

- On the server that will be hosting the CloudBond 365 management server
- On the server that will be hosting the CloudBond 365 FrontEnd server
- On the server that will be hosting the CloudBond 365 Edge server

		s -	. 🗆	×
€ CloudBond 365™ U TERMS CONFIGURATION DEPLOYMENT TYPE DEPLOYMENT MODEL	Deploy as: Hyper-V Host with This depleviation machines Hyper-V Host with - Fully Aut Colocated Hyper-V - Supports preparation of a Session - Supports preparation of a Rever	Virtual Machines Virtual Machines //Domain Controller with Virtual Machines on Border Controller machine rse Proxy machine	•	
	Servers to Install Management Server Front-End Server Edge Server	SBC Reverse Proxy		
	Previous	Next		

#### Figure 8-36: Deployment Model – Virtual Edition

## 8.9.2 Hyper-V Host with Virtual Machines

The Hyper-V Host with Virtual Machines installs Hyper-V on the selected host machine, and the three CloudBond 365 Servers (Controller, FE, and optional Edge) as three separate virtual machines within Hyper-V.

This option is suitable for CloudBond 365 Pro, and CloudBond 365 Enterprise. (e.g. AudioCodes HP Servers).



DEPLOYMENT TYPE			
DEPLOYMENT MODEL	Deploy as: Hyper-V Host with	Virtual Machines	•
	This deple Hyper-V Host with	Virtual Machines	
	machines Colocated Hyper-V	/Domain Controller with Virtual Machines	
	Servers to Install		
	Management Server	SBC	
	Front-End Server	Reverse Proxy	
	✓ Edge Server		

### 8.9.3 Co-located Hyper-V / Domain Controller, with Virtual Machines

The Co-Located Hyper-V / Domain Controller with Virtual Machines installs the CloudBond 365 Controller (DC) and Hyper-V within the host machine, with the remaining CloudBond 365 Servers (FE and optional Edge) as Hyper-V virtual machines.

This option is suitable for CloudBond 365 Standard / Standard+ Box Edition (e.g. AudioCodes Mediant 800B OSN server).

DEPLOYMENT TYPE DEPLOYMENT MODEL	Deploy as: Colocated Hyper-V This deployment colocates th - Fully automated installation - Colocation allows for lower har - If chosen on a high-end machin	/Domain Controller with Virtual Machines • e domain controller role with a hyper-v server dware requirements ne, allows for additional machines
	Servers to Install	
	✓ Management Server	SBC
	✓ Front-End Server	Reverse Proxy
	✓ Edge Server	

Figure 8-37: Deployment Model - Mediant 800
# 8.10 Domain Information and Credentials (Branch / Paired Pool Deployment)

If performing a Branch / Paired Pool deployment, you will be asked to change and verify the domain, and, administrator login credentials for the existing CloudBond 365 Administrator, to verify you have the required permissions to continue the installation process.

The configuration wizard uses a multistep process to verify first, the domain details, and secondly the administrator credentials in that domain. The wizard will validate the information provided, and also that the user is a member of specific Skype for Business security groups with sufficient privileges to perform the installation.

Click Validate to verify the Domain Information you entered is correct.

incluis
Validate
Vanoure

Figure 8-38: Validate Domain

If the domain validation is successful, it will be highlighted in green. Click **Validate** to confirm the Administrator Credentials you entered.

Figure 8-39: Domain and Credentials Validated

Change
Validate
•

If the credential validation is successful, it will be highlighted in green and the NetBIOS field will be populated. Click **Next** to continue the installation.

### 8.11 Management Server

If you selected a Branch / Paired Pool Deployment Type, you will be asked to specify the new Management Server information. If installed as a second Domain Controller, it provides resiliency within the Branch, should the WAN link to the existing CloudBond 365 system be lost.

You will also need to select whether the Domain Controller is a:

- No Domain Controller (Management Suite only)
- Full Domain Controller (Read / Write)

The wizard will automatically create a new Domain controller with the information specified, and insert it into the existing Active Directory Resource Forest. It will also install the SysAdmin suite onto the Controller.

			<b>S</b> - "
€ CloudBond 365™ U	niversal Installer		
TERMS CONFIGURATION			
DEPLOYMENT TYPE	Management	Server	
DEPLOYMENT MODEL	Management	berver	
IoudBond 365 <sup>TM</sup> IRMS CONFIGURATION DEPLOYMENT TYPE DEPLOYMENT MODEL DOMAIN INFORMATION MANAGEMENT SERVER			
	Computer Name	UC-DC	Change settings
	Internal Interface		
	IP Address	192.168.0.100	
	Subnet Address	255.255.255.0	
	Default Gateway	192.168.0.100	
	Primary DNS Server	192.168.0.100	
	Role		
	Full Domain Controller (R	egular)	•
	Full Domain Controller (F	tegular)	
	No DC - Management Su	uite Only	
	Provious		Novt

Figure 8-40: Domain Controller (BPA)

#### Figure 8-41: Changing the Controller Settings

Computer Name	UC-DC	
Internal Interface		
IP Address	192.168.0.100	
Subnet Address	255.255.255.0	
Default Gateway	192.168.0.100	
Primary DNS Server	192.168.0.100	
Primary DNS Server	192.168.0.100	



**Note:** As the BPA will be joined into an existing Active Directory forest topology, the Management Server DNS Server IP address needs to be a DNS server that is capable of resolving a domain controller for the domain to which the BPA will need to be joined.

### 8.12 Front-End Server

For all deployment types, you will be asked to specify the details for the Front-End server.

			<b>S</b>
CloudBond 365™ U terms configuration	niversal Installer		
DEPLOYMENT TYPE DEPLOYMENT MODEL CREDENTIALS	Front-End Ser	ver	
DOMAIN INFORMATION MANAGEMENT SERVER	Computer Name	UC-FE	Change settings
	Internal Interface IP Address	192.168.0.101	
	Previous		Next

Figure 8-42: Front-End server

### Figure 8-43: Changing the FE Settings

FI	RONT-END SER	VER		
	Computer Name	UC-FE		
1	Internal Interface			
	IP Address	192.168.0.101		
			OK	cancel

## 8.13 Edge Server

For Branch / Paired Pool deployment type, installation of the additional Edge server is optional.

CloudBond 365™ U TERMS CONFIGURATION	niversal Installer		
DEPLOYMENT TYPE DEPLOYMENT MODEL CREDENTIALS	Edge Server		
DOMAIN INFORMATION MANAGEMENT SERVER FRONT-END SERVER	Computer Name	UC-Edge	Change settings
EDGE SERVER	Internal Interface		
	IP Address	192.168.0.103	
	External Interface		
	IP Address	192.168.254.103	
	Subnet Address	255.255.255.0	
	Default Gateway	192.168.254.254	

#### Figure 8-45: Changing the Edge Settings

E	DGE SERVER				
C	Computer Name	UC-Edge			
4	Internal Interface				
P	IP Address	192.168.0.103			s
F	External Interface				
	IP Address	192.168.254.103			
	Subnet Address	255.255.255.0			
	Default Gateway	192.168.254.254			
			ок	cancel	



**Note:** To prevent complex networking scenarios during installation, the wizard only allows for a single public edge IP Address and requires the Edge Internal leg to be on the same subnet as the other servers installed. If different deployment scenarios are needed, it is just a small change to be made in Skype for Business Topology Builder after the installation wizard has finished. For more information see LTRT-26443 CloudBond 365 Certificates Configuration Note Ver. 7.0 section **6.1.4 Edge Services** and LTRT-26531 Connecting the CloudBond 365 Edge Server to a Full DMZ Deployment Configuration Note.

### 8.14 Topology

If installing a Branch / Paired Pool deployment, you will be asked to provide a copy of the existing topology in a zip file.

This can be retrieved from the existing CloudBond Controller using the Skype for Business Management Shell command **Export-csConfiguration** as describer at the start of this chapter.

Figure 8-46: Loading the Topology

CloudBond 365™ LI	niversal Installer	
CIOUCIDANCE CONFIGURATION DEPLOYMENT TYPE DEPLOYMENT MODEL DOMAIN INFORMATION MANAGEMENT SERVER FRONT-END SERVER EDGE SERVER TOPOLOGY	In lyncServerManagementShell execute the command Export-CsConfiguration to create a zip-file of the current topology (topology.zip). Add this file to [C\acsUnstailtmp]. Browse to this file by clicking the Browse. button. The acteck will be performed on the entered DC/FE/Edge-values and the current topology.  Browse  Result Loading TopologyFile	

The wizard will scan the topology for information and report results.

### 8.14.1 Topology Scan Results

The Wizard will scan the supplied topology file and attempt to match the required FE and Edge servers against the data you have entered so far.

If it fails to find matching entries, it will highlight the results in Red. You may need to return to the existing CloudBond 365 installation, and modify the topology, or change the data you have entered in the BPA wizard by going to previous screens.

If the wizard is able to match your entries against the topology, the results will be highlighted in green, and you may proceed with the installation.

CloudBond 365™ U	niversal Installer
TERMS CONFIGURATION	
DEPLOYMENT TYPE	
DEPLOYMENT MODEL	Тороlоду
DOMAIN INFORMATION	In LyncServerManagementShell execute the command Export-CsConfiguration to
MANAGEMENT SERVER	create a zip-file of the current topology [topology.zip]. Add this file to [C:\acs\installtmp]. Browse to this file by clicking the 'Browse ' button
FRONT-END SERVER	Then a check will be performed on the entered DC/FE/Edge-values and the
FRONT-END SERVER EDGE SERVER TOPOLOGY	current topology.
TOPOLOGY	
	Browse
	Result Loading TopologyFile
	Found: uc-fe2.cloudbond365.com
	Found: uc-edge2.cloudbond365.com

Figure 8-47: Topology Scan Results – Pass

### 8.15 Summary

The Summary page shows details of the selections made during the Wizard, as well as various pre-checks performed on the hardware.

If all information meets requirements, an **Install** button will appear below.

The summary page allows you to manually save the entered configuration by clicking the Save Configuration button. This will show display a standard "Save As" dialog, allowing you to specify where the file is saved.

Click the **Install** button to begin the Software Install process only once the checks show **Pass**. The OS Check specifically will sometimes need more time to be validated. The rotating wheel above the **Install** Button gives a time indication when the next validation check will be performed.

TERMS CONFIGURATION		
DEPLOYMENT TYPE DEPLOYMENT MODEL CREDENTIALS	Sumn	nary - Host
DOMAIN INFORMATION MANAGEMENT SERVER FRONT-END SERVER EDGE SERVER	Diskspace Check OS Check	Pass Pass
SUMMARY	Management Server	
	ComputerName	UC-DC
	Internal Interface IP Address Subnet Address Default Gateway	192.168.0.100 255.255.255.0 192.168.0.100
	Front-End Server	-
		Next Check in
	Save Configuration	Install

#### Figure 8-48: Wizard Summary



**Warning:** After the installation is finished, scheduled tasks will have been created on the management server. If multiple management servers are installed in the environment for redundancy, the scheduled tasks on the redundant servers should be disabled and only enabled if the primary server goes down to prevent duplicated objects from being created in the Active Directory.

## 9 Software Install

When all Configuration Wizard options are completed, the installation program starts installing the Skype for Business software components according to the inputted settings.

### 9.1 Deployment Model using Hyper-V

If you selected a Deployment Model of Hyper-V Host with Virtual Machines or

**Co-Located Hyper-V / Domain Controller with Virtual Machines**, installation will continue automatically on the current hardware platform, requiring minimal intervention. Software installation can take between 3-8 hours, depending on the options chosen.

### 9.2 Deployment Model using the Virtual Edition

If you perform a Deployment Model of **Virtual Edition**, Hyper-V and Windows operating systems will not be installed. You'll be required to create your own Windows Server 2012 R2 virtual servers and assign to them IP addresses that will match the IP addresses you'll specify in the installation wizard.

You'll be required to log on to each of the three servers (DC, FE, and Edge) and perform the configuration on each. Once configured on the DC, the configuration can be saved and loaded for re-use on the FrontEnd and Edge servers:

DEPLOYMENT TYPE DEPLOYMENT MODEL START Step 1: Which server is this? Front-End Server Management Server Step 2: Load Existing Configuration file can b Edge Server Vinstalltmp Vconfiguration.xml Browse For Configuration	DEPLOYMENT TYPE DEPLOYMENT MODEL START Step 1: Which server is this? Front-End Server Management Server Step 2: Load Existing Configuration Front-End Server The configuration file can b Edge Server Vinstalltmp Isrowse For Configuration	CloudBond 365™ Ur	niversal Installer			
DEPLOYMENT TYPE DEPLOYMENT MODEL START Step 1: Which server is this? Front-End Server Management Server Step 2: Load Existing Configuration file can b Edge Server Vinstalltmp Vconfiguration.xml Browse For Configuration	DEPLOYMENT TYPE DEPLOYMENT MODEL Step 1: Which server is this? Front-End Server Management Server Step 2: Load Existing Configuration file can b Edge Server Vinstalltmp Configuration.xml Browse For Configuration	TERMS CONFIGURATION				
DEPLOYMENT MODEL Step 1: Which server is this? Front-End Server Management Server Step 2: Load Existing Configuration The configuration file can b Ledge Server Vinstalltmp Configuration.xml Browse For Configuration	DEPLOYMENT MODEL     Step 1: Which server is this?     Front-End Server       START     Management Server       Step 2: Load Existing Configuration file can by Configuration.xml     Front-End Server       Winstalltmp     Edge Server	DEPLOYMENT TYPE				
Stakt Management Server Step 2: Load Existing Configuration The configuration file can b Ledge Server Vconfiguration.xml Browse For Configuration	Stakt Management Server Step 2: Load Existing Configuration file can b Configuration.xml Browse For Configuration	DEPLOYMENT TYPE DEPLOYMENT MODEL START	Step 1: Which server is this?	Front-End Server	•	
Step 2: Load Existing Configuration Front-End Server The configuration file can b Edge Server Configuration.xml Browse For Configuration	Step 2: Load Existing Configuration Front-End Server The configuration file can b Edge Server Vconfiguration.xml Browse For Configuration	SIARI		Management Server		
The configuration file can b Edge Server Avinstalltmp \configuration.xml Browse For Configuration	The configuration file can be can b		Step 2: Load Existing Configura	ati Front-End Server		
Browse For Configuration	Browse For Configuration		The configuration file can	b Edge Server	s\installtmp	
Browse For Conliguration	Browse For Conliguration		Coniguration	Drawes For Configuration		
				Browse For Conliguration		

### Figure 9-1: Configuring DC, FE, and Edge Servers



Figure 9-2:	: Configuring DC, FE, and E	dge Servers	
		<u>s</u>	×
€ CloudBond 365™ Univ terms configuration	versal Installer		
DEPLOYMENT TYPE DEPLOYMENT MODEL START	Step 1: Which server is this? Managem	ent Server 🔹	
	Step 2: Create New Configuration / Load Exis Note: If you are not sure, select 'Create Ner	ting Configuration w Configuration'	
	Create New Configuration	Browse For Configuration	

The installation wizard checks the machine IP with the IP defined in the wizard, to determine which server role will be installed. If there's an IP address mismatch between the wizard and the virtual machine, the **Install** button will be grayed out and the server role is displayed as 'Unknown Server' on the Summary page.



TERMS CONFIGURATION		
DEPLOYMENT TYPE DEPLOYMENT MODEL START CREDENTIALS DOMAIN INFORMATION	Summ	nary - Unknown Server
MANAGEMENT SERVER FRONT-END SERVER		
SUMMARY	<b>Edge Server</b> ComputerName	UC-Edge
	Internal Interface IP Address	192.168.0.103
	External Interface IP Address Subnet Address Default Gateway	192.168.254.103 255.255.255.0 192.168.254.254
		Next Check in
	Save Configuration	Install

### 9.3 Installation Steps

The software installer will perform many steps on each server to build the CloudBond 365 system. The steps will vary depending upon the options chosen in the Configuration Wizard. The major steps include:

- Creating Hyper-V Virtual machines as required
- Installing Windows 2012 R2 on each VM where needed
- Creating a Domain Controller
- Installing a Skype for Business Standard Edition Front End Server
- Installing a Skype for Business Consolidated Edge Server
- Installing Skype for Business utilities on the DC
- Installing SysAdmin and other CloudBond 365 components
- Installing the SBC software if required

The order of building each server VM is important. For example, the FE cannot be installed before the DC build is complete. The servers will be installed in the following order:

- DC
- FE
- Edge
- SBC
- RP

The Host waits for all VMs to complete before continuing. Each individual server waits for the previous server to complete before continuing.

### 9.4 Installation Progress

The following screenshots provide examples of the progress visible on each server component of the CloudBond 365 system.



€ CloudBond 365™ Universal Installer	
TERMS CONFIGURATION PROGRESS	
08:38:48 Normal: 38: Step-DC-Roles-Features	-
08:38:48 Normal: 39: Install-Opdates	
08:38:48 Normal: 40: Step-Configure-DC-Roles-Features	
08:38:48 Normal: 41: Step-54b-Core	
08:38:48 Normal: 42: Step-waitForOs 160	
00:30:40 Normal: 44: Install-OCMA-Runtime	
00:30:40 Normal: 44: Step-DC-FileWalikules	
09:29:49 Normali 46: Step S4RCaniari Indator	
09:22:48 Normal: 47: Install Additional Indatos	
00:20:40 Normal: 49: Stop O365. Prorequisitor	
09:29:49 Normal: 49: Step-Begistry Lindates	
09:38:48 Normal: 50: Step-Win2k12R2-Degistry/Eix	
08:38:48 Normal: 51: Step-Convi Itils	
09:29:49 Normal: 52: Step ClearAutologop	
09:29:49 Normal: 52: Step-ClearActologon	
08:38:48 Normal: 54: Step-UndowsActivation	
08:38:48 Normal: 55: Step-Start-VMs	
08:38:48 Normal: 56: Step-WaitFor-Servers	
08:38:49 Normal: Total number of steps is 57	
08:38:49 Normal: Number of steps to execute: 57	
08:38:49 Normal: Set-AdminPassword: OK	
08:38:49 Normal: Create-LocalAdministrator:	-

Figure 9-5: Setup has been completed on one of the VMs



## **10 Setup Complete**

When the Hyper-V Host server installation is finished and it can communicate to the virtual servers over IP, it will report **Setup has Completed** on the install screen.

You should now proceed with the post-install steps, which include:

- Installing a license code into the CloudBond 365 management suite web pages
- Completing any configuration steps for the SBC and reverse proxy
- Following the AudioCodes CloudBond 365 Deployment Guide to connect to the customer domain.
- Perform any local customer Skype for Business configuration required.
- Activating Windows 2012 R2 licenses
- Update Windows and Skype for Business updates
- Update HP servers latest service pack updates

If you installed a Branch / Paired Pool Appliance, and wish to configure a paired pool, proceed to the next chapter.



**Note:** After the CloudBond 365 software has been installed as a BPA or Software Only installation, the Edge server computer IP address is not registered into DNS dynamically as the Edge server role is installed on a computer that is not domain joined. This means that you will need to add the Edge internal IP address to the internal DNS servers manually.



**Note:** After CloudBond 365 software has been installed, you may need to adjust DNS settings to match your network environment. You may either follow the deployment guide to set up DNS, or set the DNS server on the CloudBond 365 Controller (UC-DC) to forward requests to the internet. See Appendix G on page 109 for more details.



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## **11** Paired Pools – Post Install

After the BPA software install completes, you may wish to modify the topology so that each FE server has resiliency by Pairing with the other FE server.

A paired pool of servers should only be established after both servers and installed and functioning.

To pair FE servers, they must be of the same type. For CloudBond 365, this means both FE servers must be Skype for Business Standard Edition FE Servers. You cannot pair a Skype for Business Standard Edition FE Pool with a Skype for Business Enterprise Edition FE Pool.

There is a good article about Paired Pool setup at:

http://www.gecko-studio.co.uk/dont-play-with-fire-play-with-pool-pairing-configuring-testing/

### **11.1 Pairing Pools in Topology**

#### **To pair two FE servers:**

- 1. Log on to a CloudBond 365 DC.
- 2. Open the Skype for Business Topology Builder.
- 3. Right-click an existing Standard Edition FE Server, and select properties.
- 4. Navigate to the **Resiliency** section.
- 5. Enable an Associated backup pool, and select the paired FE server.
- 6. Select Automatic failover and failback for Voice.
- 7. Click OK.

#### Figure 11-1: Edit Properties

1. C	ync Server 2013, Topology Builder	
Kulun Petip     Lync Server     Marco Server     Marco Server 2010     Jync Server 2010     Jync Server 2013     Jync Server 2013     Jync Server 2013     Jone Server 2013     Junc Server 2013	General         FQDN:       uc-fe2.ac-onebox.com         IPv4 addresses:       Use all configured IPv4 addresses         Features and functionality       Instant messaging (IM)         Instant messaging (IM)       Enabled         and presence:       Enabled	E
Directo     Mediat	Edit Properties	
Persist     Edge p     General     Edde p     Resiliency     Resiliency     Branch site	Resiliency         ✓ Associated backup pool         UC-FE.ac-onebox.com       ACS-2013         ✓ Automatic failover and failback for Voice:         Voice failure detection interval (sec): *         300         Voice failback interval (sec): *         600         Note: If you want to invoke failover and failback between two pools for services or must do so manually.	ther than Voice, you

8. Publish the topology.

9. On each FE server, run the Skype for Business Deployment Wizard.

#### Figure 11-2: Publish Topology

19	Publish Topology	x
Publi	ish the topology	
In orde publisi comple	er for Skype for Business Server 2015 to correctly route messages in your deployment, you must n your topology. Before you publish the topology, ensure that the following tasks have been eted:	
<ul> <li>A</li> <li>A</li> <li>AI</li> <li>Fc</li> <li>Ai</li> <li>Fc</li> <li>Cc</li> <li>Yo</li> <li>Yo</li> <li>If</li> <li>When</li> </ul>	validation check on the root node did not return any errors. file share has been created for all file stores that you have configured in this topology. I simple URLs have been defined. Ir Enterprise Edition Front End pools and Persistent Chat pools and for Monitoring Servers and chiving Servers: All SQL Server stores are installed and accessible remotely, and firewall ceptions for remote access to SQL Server are configured. Ir a single Standard Edition server, the "Prepare first Standard Edition server" task was impleted. bu are currently logged on as a SQL Server administrator (for example, as a member of the SQL sadmin role). you are removing a Front End pool, all users, common area phones, analog devices, application intact objects, and conference directories have been removed from the pool- you are ready to proceed, click Next.	< III >
He	p Back Next Cancel	

#### **10.** Click **Install or update database**.



9		S <b>k</b> ype fo	r Business Server 2015, Topology Builder
File	Action H	elp	
4	New Edit	Central Site Properties	SIP domain
	New Oper Dow	Topology n Topology nload Topology	Default SIP domain: S4B.interop Additional supported Not configured SIP domains:
	Publ	ish Topology	Simple URLs
	Rem	ove De Install or upgrade databases	s (other than the Central Management Store).

**11.** With the Get-CsManagmentReplicationStatus command, make sure the CMS is updated on all servers.

riguie i i	4. Making oure the own is opulled on an oervers
PS C:\Users\eu.lync	admin.DAYCO> Get-CsManagementStoreReplicationStatus
UpToDate ReplicaFqdn LastStatusReport LastUpdateCreation ProductVersion	: True : TR-SRVEDGE.#Fqdn.LOCAL : 5/18/2016 11:46:43 AM : 5/18/2016 11:46:40 AM : 6.0.9319.0
UpToDate ReplicaFqdn LastStatusReport LastUpdateCreation ProductVersion	: True : TR-SRVFSEN.Fqdm).LOCAL : 5/18/2016 11:46:42 AM : 5/18/2016 11:46:40 AM : 6.0.9319.0
UpToDate ReplicaFqdn LastStatusReport LastUpdateCreation ProductVersion	: True : IV-SRVEDGE.⊮Fqdn:.LOCAL : 5/18/2016 11:46:41 AM : 5/18/2016 11:46:40 AM : 6.0.9319.0
UpToDate ReplicaFqdn LastStatusReport LastUpdateCreation ProductVersion	: True : IV-SRVFREN.⊮Fqdn:.LOCAL : 5/18/2016 11:46:48 AM : 5/18/2016 11:46:40 AM : 6.0.9319.0

Figure 11-4: Making Sure the CMS is Updated on all Servers

- **12.** On each FE server (not in parallel), run the Skype for Business Deployment Wizard.
- **13.** In the Skype for Business Deployment Wizard, Run 'Step 2' as shown in the figure below.



#### Figure 11-5: Install or Update Database



2	Set Up	Skype for Business	Server Compon	ents		×
S Ex	ecuting Comn	hands				
REBOOT=Re Installing Ba INSTALLDIR Installing an Executing Pi Report "CiV [11_46_18].H Enabling ne This step wil Executing Pi Veu.lyncadm	allySuppress INST/ ckupService.msi(AD ='C:Program Files) y collocated databa owerShell commanc isers/veu/yncadmin.l tml" w roles I configure services owerShell commanc in.DAYCO\AppData	ALLDIR="C\Program File DLOCAL=Feature_LyncBi Skype for Business Serve ses	ASkype for Busines ackup REBOOT=Rer r 2015\")success nfirm:\$false -Verboo emp\T\Install-CSDa e firewall rules, etc. onfirm:\$false -Verb SComputer-[2016_0	s Server 2015\" allySuppress se -LocalDatabi tabase-[2016_( ose -Report "C: 05_18][11_46_2)	)success ases - )5_18] \Users 6].html*	<
Task status: C	ompleted.					
Bootstrap loc	al machine			•	View Lo	9
Help			Back	Finish	Cance	

14. With the Get-CsManagmentReplicationStatus command, make sure the CMS is updated on all servers.

Figure 11-7: Making Sure the CMS is Updated on all Servers

PS C:\Users\eu.lyncadmin.DAYCO> Get-CsManagementStoreReplicationStatus

UpToDate : True
ReplicaGqdn : TR-SRVEDGE.#Fqdn.LOCAL
LastStatusReport : 5/18/2016 11:46:43 AM
LastUpdateCreation : 5/18/2016 11:46:44 AM
ProductVersion : 6.0.9319.0

UpToDate : True
ReplicaGqdn : TR-SRVEDEE.#Fqdn).LOCAL
LastStatusReport : 5/18/2016 11:46:40 AM
ProductVersion : 6.0.9319.0

UpToDate : True
ReplicaGqdn : Tr-SRVEDEE.#Fqdn).LOCAL
LastStatusReport : 5/18/2016 11:46:40 AM
ProductVersion : 6.0.9319.0

UpToDate : True
ReplicaGqdn : TV-SRVEDEE.#Fqdn).LOCAL
LastStatusReport : 5/18/2016 11:46:41 AM
LastUpdateCreation : 5/18/2016 11:46:40 AM
ProductVersion : 6.0.9319.0

UpToDate : True
ReplicaGqdn : TV-SRVEDEE.#Fqdn).LOCAL
LastStatusReport : 5/18/2016 11:46:40 AM
ProductVersion : 6.0.9319.0

UpToDate : True
ReplicaGqdn : TV-SRVEDEE.#Fqdn).LOCAL
LastStatusReport : 5/18/2016 11:46:40 AM
ProductVersion : 6.0.9319.0

**15.** Run the Invoke-CsBackupServiceSync cmdlet on each server to make sure conferencing data is replicated. The following commands are listed in the to-do list after publishing the topology:

#### Figure 11-8: Commands Listed in the To-Do List after Publishing the Topology

NextSteps - Notepad
File Edit Format View Help
Update Skype for Business Server with the changes defined in the topology by running local Setup on each server in the following list. Important: Server changes made in Topology Builder must replicate to the servers in your topology. Please confirm that replication has been successful before proceeding setup. Server FQDN: TR-SRVFREN.IFqdni.LOCAL, Pool FQDN: TR-SRVFREN.IFqdni.LOCAL Server FQDN: IV-SRVFREN.IFqdni.LOCAL, Pool FQDN: IV-SRVFREN.IFqdni.LOCAL
Run the Invoke-CsBackupServiceSync cmdlet to ensure conferencing data is replicated. Invoke-CsBackupServiceSync -PoolFqdn TR-SRVFREN. Fqdn:LOCAL Invoke-CsBackupServiceSync -PoolFqdn IV-SRVFREN. Fqdn:LOCAL

**16.** Check the Pool-Pairing status (FinalState) with Get-CSBackupServicesStatus:

ActiveMachineFqdn	OverallExportStatus	OverallImportStatus	BackupModules
TR-SRVFREN. :Fodn - LOCAL	FinalState	NormalState	{UserServices.PresenceFocu
PS C:\Users\eu.lyncadmin⊳ Get-	CsBackupServiceStatus -PoolFqdn iv	-srvfren.dayco.local	
	OuerallExportStatur	OverallImportStatus	BackupModules
ActiveMachineFqdm	over at texport cacacas		

### Figure 11-9: Checking the Pool-Pairing Status (FinalState)

### 11.2 Pairing Pools in DNS

To complete the setup of a paired pool, the DNS records will need to be reviewed and modified so that users can locate the surviving Front End pool in the event of a failure.

The most common way to do this is to add a weighted SRV record pointing to the second FE server. When this method is used, all Skype for Business clients will initially contact the first FE pool indicated by the SRV records. The first FE pool will redirect clients homed on the second FE to that FE Pool, thus some minor additional traffic is encountered by the First FE pool. During a failure, the clients will use the second weighted SRV record to locate the surviving FE Pool.

You may choose other methods to control client logins, such as geographic DNS records. These will redirect client logins to their local FE pool and minimize traffic.

### 11.3 Failing Over

Paired pools offer automatic failover for Enterprise Voice traffic, but not for other features of Skype for Business. Failover between servers is a manual process. After a server fails, and before manual failover is completed, clients will experience restrictions and limited functionality.

Microsoft documentation for the failover process can be found at: https://technet.microsoft.com/en-us/library/jj204678%28v=ocs.15%29.aspx

In the following command examples, it is assumed that uc-fe.ac-onebox.com has failed, and must be switched to the surviving uc-fe2.ac-onebox.com

### 11.3.1 Edge Pool Next Hop

If an Edge server uses the failed FE pool as the next hop, and that edge server has not failed and is still available, you will have to change the Edge server to use a surviving FE pool as the next hop.

```
Set-CsEdgeServer -Identity EdgeServer:uc-edge.ac-onebox.com -
Registrar Registrar:uc-fe2.ac-onebox.com
```

### 11.3.2 Central Management Store

If your CMS is located on the failed FE server, you will need to fail it over to the remaining server. You can check the CMS location with *Get-CsManagementConnection*.

In the Skype for Business Management Shell on the surviving FE server, enter the commands:

Get-CsManagementConnection

```
Invoke-CsManagementServerFailover -BackupSqlServerFQDN uc-fe2.ac-
onebox.com -BackupSqlServerInstance rtc -force
```

### 11.3.3 Users

To failover the users, enter the command: Invoke-CsPoolFailOver -PoolFqdn uc-fe.ac-onebox.com -DisasterMode

### 11.4 Failing Back

Once the failed server has been recovered and brought back online, you can fallback the users and CMS as required.

Note that the CMS location does not need to be changed and can remain in its current location if desired.

### 11.4.1 Edge Pool Next Hop

If an Edge server next hop pool was changed, you can optionally change the Edge next hop value back to its original location. For a paired pool within the same site, this may not be required, but if the FE and Edge are now on separate sites, the next hop should be returned to minimize cross WAN traffic.

```
Set-CsEdgeServer -Identity EdgeServer:uc-edge.ac-onebox.com -
Registrar Registrar:uc-fe.ac-onebox.com
```

### 11.4.2 Central Management Store

To return the CMS to its original location, in the Skype for Business Management Shell on the repaired a FE server, enter the commands:

Get-CsManagementConnection

```
Invoke-CsManagementServerFailover -BackupSqlServerFQDN uc-fe.ac-
onebox.com
```

-BackupSqlServerInstance rtc -force

### 11.4.3 Users

To return users to their original home pool, on the repaired FE server, enter the command: Invoke-CsPoolFailBack -PoolFqdn uc-fe.ac-onebox.com

## A Installing the Product License

CloudBond 365 uses an Enterprise License model i.e. a single CloudBond 365 license is used for one or more CloudBond 365 servers that are installed in the same company domain and share the same Active Directory (AD). The Enterprise License will store the total number of users of all CloudBond 365 servers that share the same AD.

The Enterprise License is based on a unique "System ID" (Fingerprint) which is based on an AD contact field. The "System ID" key is available the first time you try to login to the CloudBond 365 using the CloudBond 365 sysadmin.

#### Figure A-1: Uploading License File

10.0.0.60	×			
		To start your trial with this Lync environme Follow the documentation to obtain a licens Current server time: 6/2/2016 9:44:23 PM	nt, a trial license is required. le file and start the trial by uploading t	he license file.
		Current server time zone: (UTC+01:00) Brusse Please use the following SystemID to generate t	ls, Copenhagen, Madrid, Paris he license file: 5655dc49-8a26-4ada-a5b:	reeb6b9c9d42b
		Holoard Brance Bles	Presses	Linkard

The "System ID" is also available in the CloudBond 365 management tool **System** Configuration -> Licensing Info page.

The first time a CloudBond 365 system is ordered for an enterprise the AudioCodes system generated a unique "Product Key" that represents the customer enterprise system. The Product key is sent to the customer/channel upon system ordering via email.

To activate your CloudBond 365 system you will need both a "Product Key" and a "System ID" (Fingerprint). Once you have both keys you can activate your product through AudioCodes License Activation tool at <u>http://www.audiocodes.com/swactivation</u>.

An e-mail will subsequently be sent to you with your Product License.



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## **B** Activating Windows

CloudBond 365 is supplied with Windows 2012 R2 Standard Edition OEM licenses, with the Microsoft Product License code stickers attached to the server hardware.

If you are performing a Bare Metal installation, or rebuilding an existing CloudBond 365 system, you may need to activate windows when the software installation is complete.

You will need to Activate the Host server, as well as each Virtual Machine.

To activate windows, you may start the Activation process by running *slui.exe*, or opening the Sever Manager utility and clicking the **Product ID** field.



**Note:** Make sure your host server and all virtual machines have Internet access when activating the Windows license.

The Windows activation key is a 25 character key available on the Windows license sticker attached to the server and named 'Product Key' e.g., *abcd-12345-efghi-6789-jklmn*.

Each Windows 2012 R2 OEM sticker is allowed to activate one physical server (i.e., Host) and two additional virtual machines running on the same physical sever. In the case of CloudBond 365 Pro with three stickers, it allows to activate the host and six virtual machines.

The CloudBond 365 Standard Box Edition contains one Windows 2012 R2 OEM license that allows you to license the Host, FE and Edge servers.



Figure B-1: CloudBond 365 Standard Box Edition

The CloudBond 365 Standard+ Box Edition contains two Windows 2012 R2 OEM license stickers that allows you to license the Host, FE and Edge servers with the first sticker product key. The second sticker product key is for licensing the Reverse Proxy server.

The CloudBond 365 Pro and Enterprise Box Editions contain three Windows 2012 R2 OEM license stickers that allows you to license the Host, DC and FE servers with the first sticker product key. The second sticker product key is for licensing the Edge and Reverse Proxy servers. The third sticker is available for licensing additional verified applications to be installed on the server.



#### Figure B-2: CloudBond 365 Pro and Enterprise Box Editions

Figure B-3: Activation using Server Manager



#### Figure B-4: Entering the Product Key





**Note:** It is recommended that you photograph or copy the Windows product key slickers and save them in a safe place to be used in the future, for a system re-installation or if your server is physically placed in a rack where it may be difficult to access the Windows sticker during installation.

## C Running Windows Updates

Microsoft periodically releases new hotfixes for the Windows operating system to solve security issues and bug fixes.

It is recommended to follow the Microsoft recommendation and have your CloudBond Windows operating system up-to-date with the latest hotfixes.

Refer to the Microsoft best practice guidelines regarding Windows Update: <a href="https://technet.microsoft.com/en-us/library/dn518337%28v=ocs.15%29.aspx">https://technet.microsoft.com/en-us/library/dn518337%28v=ocs.15%29.aspx</a>



**Note:** If any unsupported or unapproved hotfix is found by the AudioCodes team, AudioCodes will officially publish a Product Notice regarding this issue.

Windows updates are configured to "automatically download updates" on all Windows Servers (Controller, Front End, and Edge) installed as part of a CloudBond 365 system.



**Note:** Downloaded updates are not automatically installed. The Administrator should manually run the update at a convenient time e.g., after working hours.

You may modify these Windows Update settings to suit your requirements, or manually install updates at a convenient time.

To manually install updates, open the Server Manager Utility, then select the Last Installed Updates field.



**Note:** Ensure that DNS forwarding has been set correctly prior to attempting a Windows Update. See Appendix G on page 109 for more details.



#### Figure C-1: Accessing Windows Updates



#### Figure C-2: Checking for new updates

#### Figure C-3: Checking for New Updates

- <b>6</b> 9	Windows Up	date		
(a) < ↑ (Souther the second secon	ystem and Security   Windows	Update v C	Search Control Panel	Q
Control Panel Home	Windows Update			0
Check for updates				
Change settings	Checking for u	ndatos		
View update history		puates		
Restore hidden updates				
	Most recent check for updates:	Never		
	Updates were installed:	Never		
	You receive updates:	Managed by your system a Check online for updates fr	idministrator om Windows Update	
See also				
Installed Updates				

<b>3</b> 9	Windows Up	date			_ □	x	
🍥 🍥 🔻 ↑ 🐼 ► Control Panel ►	System and Security   Windows	s Update 🗸 🗸 🗸	Ċ	Search Control Par	nel	Q	
Control Panel Home	Windows Update					?	
Check for updates							
Change settings View update history Restore hidden updates	Change settings View update history Restore hidden updates O important updates are available						
	Most recent check for updates: Updates were installed: You receive updates:	Today at 10:08 AM Never Managed by your sy	stem a	dministrator			
		Check online for upo	dates fr	om Microsoft Updat	e		
See also							
Installed Updates							

#### Figure C-4: New Updates found

#### Figure C-5: Selecting and Installing Update

<b>43</b>	Select upd	ates to install						
€ ⊚ - 1	🕅 🐼 « Windows Update 🕨 Select updates to install	.	v ¢	Se	arch Control Panel 🔎			
Select the updates you want to install								
	Name	Size		^ s	Security Update for Microsoft			
Important (60)	Silverlight (1)		^	S	Silverlight (KB3056819)			
Important (00)	Security Update for Microsoft Silverlight (KB30	12.5 MB		Т	This security update to Silverlight			
	Microsoft SQL Server 2012 (2)		~ ^	= 1	ncludes fixes outlined in KB			
	✓   Microsoft SQL Server 2012 Service Pack 2 (KB2	1,015.2 MB		0	compatible with web applications			
	☑ : Security Update for SQL Server 2012 Service Pa	156.4 MB		b	ouilt using previous versions of			
	Visual Studio 2010 (4)		^	S	Silverlight.			
	Security Update for Microsoft Visual Studio 20	1.7 MB		P	Published: 5/13/2015			
	Update for Microsoft Visual Studio 2010 Servic	1.5 MB			Update is ready to download			
	✓ Update for Microsoft Visual Studio 2010 Servic	9.1 MB			· · · · · · · · · · · · · · · · · · ·			
	☑ Update for Microsoft Visual Studio 2010 Servic	6.6 MB		N	Aore information			
	Windows Server 2012 R2 (52)		^	S	upport information			
	Cumulative Security Update for ActiveX Killbit	33 KB						
	Cumulative Security Update for Internet Explor	33.8 MB						
	☑ Microsoft .NET Framework 4.5.2 for Windows	71.6 MB						
	✓ Rules Update for RRAS Best Practice Analyzer f	373 KB						
	Security Update for Microsoft .NET Framewor	9.9 MB						
	☑ : Security Update for Microsoft .NET Framewor	3.3 MB						
	Security Update for Microsoft .NET Framewor	322 KB						
	Security Update for Microsoft .NET Framewor	35.3 MB						
	Security Update for Microsoft .NET Framewor	4.9 MB		~				
Total selected: 60 important updates (1,907.8 MB - 1,907.9 MB) Install Cancel								

Unless you wish to avoid a specific update, it is generally easiest to accept the default selections and click Install.



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## **D CloudBond Infrastructure Updates**

The CloudBond 365 system is built on top of different infrastructure modules such as Mediant 800, HP server, server BIOS and firmware, Windows OS, hardware and software drivers, Hyper-V, CloudBond 365 applications, etc. CloudBond was fully tested to operate and best perform with all infrastructure modules and together with CloudBond software applications.

It is not allowed to self-upgrade any of the CloudBond infrastructure or application modules without AudioCodes official instruction or without consulting an official AudioCodes representative.

### D.1 Skype for Business Cumulative Update

Microsoft periodically releases a Cumulative Update (CU) of fixes for the Skype for Business different roles. AudioCodes periodically tests and verifies each released CU and publishes its recommendation, whether or not a new CU is approved for the CloudBond system.

It is recommended not to install a CU on the CloudBond 365 unless it has been approved by AudioCodes.



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## **E** Antivirus Application

No antivirus application is installed with CloudBond 365. To protect your CloudBond 365 system, it is advised to install an antivirus application. Make sure you install a Microsoft-verified antivirus application for Skype for Business.

Antivirus applications may influence and degrade system performance. Refer to Microsoft instructions for installing the antivirus application on Skype for Business severs at <a href="https://technet.microsoft.com/en-us/library/mt629173.aspx">https://technet.microsoft.com/en-us/library/mt629173.aspx</a>.



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F

## Running the Skype for Business Deployment Wizard

Normally, the Software Install Wizard will perform all Skype for Business Deployment steps for you automatically.

If creating a paired pool for resiliency purposes, this can only be done after the software install has been completed. For Paired Pools, it is necessary to run the Skype for Business Deployment wizard on each server, so that Topology Changes (paired pools) take effect.

To run the deployment wizard (on each FE and Edge server), locate the Skype for Business Deployment Wizard on the **Start** menu, and open the Utility.

Event Server 2013 Welcome to Lync Server deployment.         Perpore         Prepares Active Directory Prepares the Active Directory schema, forest, and domain for Lync Server. Help >       Prepare first Standard Edition server 0 host Central Management Service. Note: This task requires local administrator rights. This task does not apply to Standard Edition Server state are not planned to host the Central Management Service, or for deployments that include Enterprise Edition.         Note: Before installing a server, you and published. Help >       Determining deployment state the power state are not planned to host the Central Management Service, or for deployments that include Enterprise Edition.         Determining deployment state Help >       III Administrative Tools to the rat system. deployment requires at least one plator of the Topology Builder.         Deloy Monitoring Reports Deploy Monitoring Reports Deploy Monitoring Reports to selected SQL Server Reporting Services (SSRS) instances. First Run Videos Click to view the latest Lync Server documentation online for deployment, planning, and operations.         Doublished. Help >       Distander Deploy Monitoring Reports Deploy Monitoring Reports Deploy Monitoring Reports Deploy Monitoring Reports to selected SQL Server Reporting Services (SSRS) instances. First Run Videos Click to view the latest Lync Server documentation online for deployment, planning, and operations.	Ø	l	ync Server 2013 - Deployment V	Vizar	d		X
Prepare Active Directory       Prepares the Active Directory schema, forest, and domain for Lync Server.       Prepares first Standard Edition server         Help >       Install or Update Lync Server System       Prepares a single Standard Edition server to host Central Management Service, or for rights. This task does not apply to Standard Edition.         Install or update a Lync Server Server deployment member system.       Prepares a single Standard Edition server to host Central Management Service, or for deployments state are not planned to host the Central Management Service, or for deployment state.         Note: Before installing a server, you and published.       Petermining deployment state       Ill Administrative Tools to the ant system.         Help >       Determining deployment state       Install or the Topology Builder.         Deploy Monitoring Reports       Deploy Monitoring Reports to selected SQL Server Reporting Services (SSRS) instances.         First Run Videos       Click to view getting started videos.         Documentation       Click to view the latest Lync Server documentation online for deployment, planning, and operations.		Lync Server 2013 Welcome to Lync Server deployme	nt.				
Prepare Active Directory       Prepares the Active Directory schema, forest, and domain for Lync Server.       Prepares ingle Standard Edition server         Help ▶       Install or Update Lync Server System       Install or Update Lync Server Server deployment member system.       Prepares a single Standard Edition server to host Central Management Service, or for deployment state.         Note: This task requires local administrator rights. This task does not apply to Standard to host the Central Management Service, or for deployment state.       Indeministrative Tools         Note: Effore installing a server, you and published.       Determining deployment state.       Ill Administrative Tools to the ant system.         Help ▶       Determining deployment state.       Ill Administrative Tools to the ant system.         Help ▶       Determining deployment state.       Ill Administrative Tools to the ant system.         Help ▶       Determining deployment state.       Ill Administrative Tools to the ant system.         Click to view getting started videos.       Deploy Monitoring Reports         Deploy Monitoring Reports       Deploy Monitoring Reports         Deploy Monitoring Reports       Decumentation         Click to view getting started videos.       Documentation         Click to view the latest Lync Server documentation online for deployment, planning, and operations.       Documentation         Click to access tools and other resources       Click to access tools and other resources	Deploy						-
Deploy Monitoring Reports Deploy Monitoring Reports to selected SQL Server Reporting Services (SSRS) instances. First Run Videos Click to view getting started videos. Documentation Click to view the latest Lync Server documentation online for deployment, planning, and operations. Tools and Resources Click to access tools and other resources		Prepare Active Directory Prepares the Active Directory scher Help > Install or Update Lync Server Sys Install or Update Lync Server Serv This option installs Lync Server con configuration store. Note: Before installing a server, you and published. Help >	na, forest, and domain for Lync Server. tem er deployment member system. e components, and a local replica Determining deployment sta	Pre Prej hos Not righ Edit the dep	pare first Star pares a single t Central Mana te: This task rein ts. This task di ton Servers th Central Manap loyments that all Administr ills the Administr all system. deployment julation of the	ndard Edition server Standard Edition server to agement Service. quires local administrator oes not apply to Standard at are not planned to host gement Service, or for include Enterprise Edition ative Tools isistrative Tools to the requires at least one Topology Builder.	
Click to access tools and other resources				Dep Dep Sen Firs Clic Clic doc plar Too	oloy Monitori oloy Monitorin ver Reporting 5 et Run Videos k to view getti cumentation k to view the I cumentation of nning, and ope ols and Resour	ng Reports g Reports to selected SQL Services (SSRS) instances. ing started videos. atest Lync Server nline for deployment, rations. rces	
				Clic	k to access too	ols and other resources	

Figure F-1: Skype for Business Deployment Wizard

#### Figure F-2: Setup or Remove Components

ø	Lync Server 2013 - Deployment Wizard		x
	Venc Server 2013 Welcome to Lync Server deployment.		
Deploy >	> Lync Server 2013		2
Step Step 2	1: Install Local Configuration Store Installs local configuration store and populates with data from Central Management Store. Prerequisites   Help   Complete  Components Install una science or description and uninstall una Sonar Components based on the tension definition	Run Again	^
Step :	Prerequisites > Help > Determining deployment state 3: Request, Install or Assign Certific This step starts the Certificate Wizaror ender end	Run certificates for	=
	this system based on the topology definition. Prerequisites > Help >	Run	
Step	.4: Start Services Initiates a start request for all Lync Server services. Note: This step does not verify that the services have actually started. To do so, launch the Services through the "Service Status" step in the Deployment UI.	MMC tool	
	Prerequisites > Help >	Run	
		Back	Exit

Set Up Lync Server Components   ×
Set Up Lync Server Components
Install and activate, or deactivate and uninstall Lync Server components based on the topology definition. This step may take several minutes.
Help Back Next Cancel

#### Figure F-3: Updating the Skype for Business Deployment



6	Set Up Lync Server Components	x
	Executing Commands	
Checkii Checkii Checkii Installir Executi Report [11_01_ Enablin This ste Executi \Admin	g prerequisite MSSpeech_SR_zh-HK_TELEprerequisite satisfied. g prerequisite MSSpeech_SR_zh-HK_TELEprerequisite satisfied. g prerequisite UcmaWorkflowRuntimeprerequisite satisfied. g any collocated databases g PowerShell command: Install-CSDatabase -Confirm:\$false -Verbose "C\Users\Administrator.Hostlync\AppData\Local\Temp\Install-CSData 32].html" g new roles p will configure services, apply permissions, create firewall rules, etc. ng PowerShell command: Enable-CSComputer -Confirm:\$false -Verbos istrator.Hostlync\AppData\Local\Temp\Enable-CSComputer-[2015_07]	<ul> <li>LocalDatabases - abase-[2015_07_25]</li> <li>se -Report "C:\Users _25][11_01_38].html"</li> </ul>
Task sta	us: Completed.	
Bootstra	p local machine	▼ View Log
Help	Back	Finish Cancel
## **G** Forwarding DNS Requests

The CloudBond 365 controller (UC-DC) acts as the DNS master for the CloudBond 365 system. It can resolve all necessary DNS lookup requests within the CloudBond 365 system. However, the DNS server on UC-DC is unable to resolve external DNS requests by itself. The DNS server must forward any unknown request to another, more authoritative DNS server.

If following the deployment guide, and establishing a forest trust with your corporate domain, DNS requests would normally be forwarded to the corporate DNS server as the more authoritative server.

If you are deploying the CloudBond 365 system in a standalone mode, with no forest trust, DNS requests would normally be forwarded to the Internet (DNS specified by your ISP), as the more authoritative server.

- 1. Log on to UC-DC using remote desktop
- 2. Open the Administrative tools and DNS mmc
- 3. Right click the DNS server name and select properties
- 4. One the Forwarders tab, add the IP address of the more authoritative DNS server
- 5. Close the DNS mmc

DNS requests from the CloudBond 365 servers will now be passed to the CloudBond Controller (UC-DC) as normal. If the request is for an external name, the UC-DC DNS server will be unable to resolve the request, and will relay the request to the more authoritative DNS server for resolution.



Note: Failure to set DNS forwarding correctly will cause Windows Updates to fail.



#### Figure G-1: Start -> Administrative Tools

# AudioCodes

🖄   🍃 📗 🖛 I	i i i	Shortcut Tools	Application Tools	Administr	ative Tools	_ 0	x
File Home Share	View	Manage	Manage				~ 0
🔄 🔄 🔹 🛧 🔞 « System and Security 🕨 Administrative Tools 🕨			~ ¢	Search Admini	strative Tools	P	
Favorites	Name	*		Date modified	Туре	Size	^
Desktop	🔒 Termi	inal Services		8/23/2013 1:39 AM	File folder		
Downloads	Active	Directory Admir	nistrative Center	8/22/2013 9:50 AM	Shortcut	2 KB	
🕮 Recent places	Active Directory Domains and Trusts			8/22/2013 4:55 PM	Shortcut	2 KB	
	Active	Directory Modu	le for Windows Po	8/22/2013 4:55 PM	Shortcut	2 KB	
🌉 This PC	Active Directory Sites and Services			8/22/2013 4:55 PM	Shortcut	2 KB	
1000	Active	Directory Users	and Computers	8/22/2013 4:55 PM	Shortcut	2 KB	_
🙀 Network	ADSI I	Edit		8/22/2013 4:55 PM	Shortcut	2 KB	=
	Certification Authority			8/22/2013 4:56 PM	Shortcut	2 KB	
	Comp	oonent Services		8/22/2013 4:57 PM	Shortcut	2 KB	
	🛃 Comp	outer Managemei	nt	8/22/2013 4:54 PM	Shortcut	2 KB	
	📸 Defra	gment and Optin	nize Drives	8/22/2013 4:47 PM	Shortcut	2 KB	
	💦 DNS			8/22/2013 4:55 PM	Shortcut	2 KB	
	Event	Viewer		8/22/2013 4:55 PM	Shortcut	2 KB	-
	Group	Policy Manager	ment	8/22/2013 4:56 PM	Shortcut	2 KB	
	👸 Intern	et Information Se	ervices (IIS) 6.0 Ma	8/22/2013 4:50 PM	Shortcut	2 KB	
	濻 Intern	et Information Se	ervices (IIS) Manager	8/22/2013 4:50 PM	Shortcut	2 KB	
	🔝 iSCSI	Initiator		8/22/2013 4:57 PM	Shortcut	2 KB	
	🛃 Local	Security Policy		8/22/2013 4:54 PM	Shortcut	2 KB	
	DDBC	Data Sources (32	2-bit)	8/22/2013 9:56 AM	Shortcut	2 KB	
	DDBC	Data Sources (64	4-bit)	8/22/2013 4:59 PM	Shortcut	2 KB	
	Perfor	rmance Monitor		8/22/2013 4:52 PM	Shortcut	2 KB	~
34 items 1 item selected	1.20 KB						

#### Figure G-2: DNS MMC Tool

### Figure G-3: Setting DNS Server Properties

å	DNS Manager 📃 🗖 🗙
File Action View Help	
🗢 🔿 🙍 🖬 🙀 🖓	
DNS DIS UC-DC Configure a D Create Default New Zone Set Aging/Sca Scavenge Stal Update Server Clear Cache Launch nslool All Tasks View	
Delete Refresh Export List Properties	
Help	
Opens the properties dialog box fo	or the current selection.

	UC-DC P	roperties	? ×
Debug Logging	Event Loggin	ng Monitoring	Security
Interfaces	Forwarders	Advanced	Root Hints
Forwarders are D queries for record	NS servers that this s s that this server can	server can use to resolv not resolve.	ve DNS
IP Address		Server FQDN	
fec0:0:0:ffff::1		<unable resolve="" to=""></unable>	
fec0:0:0:ffff::2		<unable resolve="" to=""></unable>	
fec0:0:0:ffff::3		<unable resolve="" to=""></unable>	
192.168.0.10		Contoso-DC	
Use root hints	if no forwarders are a	available	Edit
Use root hints Note: If condition used instead of s forwarders, navig	if no forwarders are a al forwarders are defi arver-level forwarders ate to the Conditiona	available ined for a given domair s. To create or view cr I Forwarders node in th	Edit h, they will be onditional e scope tree.

#### Figure G-4: Adding Corporate DNS to Forwarders

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