Deploying Avaya IP Office Contact Center

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Chapter 1: Introduction

Purpose

This document provides deployment checklists and procedures for installing and configuring a reference configuration. It also describes initial administration and basic maintenance checklists and procedures.

Intended audience

This document is intended for personnel who deploy a verified reference configuration at a customer site.

Document changes since last issue

The following changes have been made to this document since the last issue:

- Information about the Setup Wizard has been updated. Some procedures have been removed from the document because those steps have been automated within the Setup Wizard..

Related resources

Documentation

See the following related documents at http://support.avaya.com.

Title	Use this document to:	Audience
Planning		
Avaya IP Office Contact Center Reference Configuration	Understand tested characteristics and capabilities including interoperability, performance specifications, security, and licensing for planning purposes.	Avaya BusinessPartners Avaya Sales
Implementation		
Deploying IP Office Server Edition Solution	To install, configure, and administer the Server Edition.	Avaya BusinessPartners Avaya Sales
Installing Contact Recorder for IP Office	Install and configure Contact Recorder.	Avaya BusinessPartners Avaya sales personnel
Installing IP500/ IP 500 V2	Install and configure IP 500 V2. **Note:** IP Office Contact Center does not support IP 500 V1.	Avaya BusinessPartners Avaya sales personnel
Avaya IP Voice Quality Network Requirements	Define the network segment between IP Office Contact Center and IP Office.	Avaya BusinessPartners Avaya sales personnel
Administration		
Installing Contact Recorder for IP Office	Perform system administration tasks.	System administrators
Using Avaya IP Office Contact Center Configuration Tool	Perform system administration tasks.	System administrators
Using Avaya IP Office Contact Center Task Flow Editor	Perform system administration tasks.	System administrators
Using Avaya IP Office IVR Editor	Perform system administration tasks.	System administrators
Using Avaya IP Office User Interface Textblock Administrator	Perform system administration tasks.	System administrators
User Guides		
Using Avaya IP Office Contact Center User Interface	Use the system features.	Contact Center agents

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		Contact Center supervisors System administrators
Using Contact Recorder for IP Office	Understand how to use Contact Recorder	Contact Center agents Contact Center supervisors System administrators
References		
Avaya IP Office Task Reporting Reference	Understand how to use Task Reporting.	Contact Center supervisors System administrators
Avaya IP Office Contact Center Statistics Counter Reference	Understand how to use the Statistics Counter function.	Contact Center supervisors System administrators
Avaya IP Office Contact Center xStat Server Reference	Understand how to use the xStat Server function.	Contact Center supervisors System administrators
Avaya IP Office Contact Center Task Tags Reference	Understand the Task Tags and how to reference them.	Contact Center supervisors System administrators

Avaya Mentor videos

Avaya Mentor videos provide technical content on how to install, configure, and troubleshoot Avaya products.

About this task

Videos are available on the Avaya Support website, listed under the video document type, and on the Avaya-run channel on YouTube.

- To find videos on the Avaya Support website, go to http://support.avaya.com, select the product name, and check the *videos* checkbox to see a list of available videos.
- To find the Avaya Mentor videos on YouTube, go to http://www.youtube.com/AvayaMentor and perform one of the following actions:
  - Enter a key word or key words in the Search Channel to search for a specific product or topic.

- Scroll down Playlists, and click the name of a topic to see the available list of videos posted on the site.

Note:

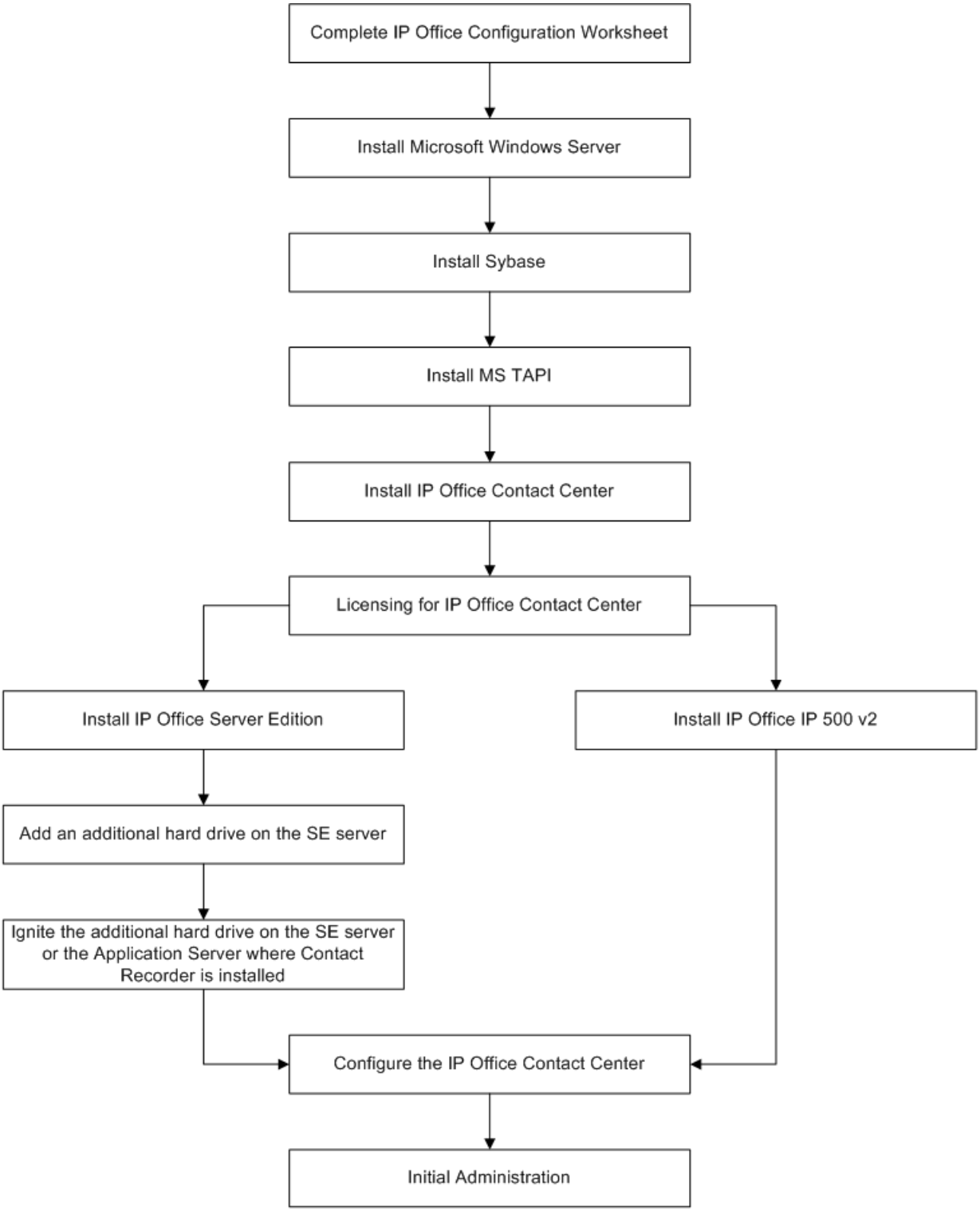
Videos are not available for all products.

Support

Visit the Avaya Support website at http://support.avaya.com for the most up-to-date documentation, product notices, and knowledge articles. You can also search for release notes, downloads, and resolutions to issues. Use the online service request system to create a service request. Chat with live agents to get answers to questions, or request an agent to connect you to a support team if an issue requires additional expertise.

Chapter 2: Deployment process

The following flow chart illustrates the deployment process.


Complete IP Office Configuration Worksheet
Install Microsoft Windows Server
Install Sybase
Install MS TAPI
Install IP Office Contact Center
Licensing for IP Office Contact Center
Install IP Office Server Edition
Install IP Office IP 500 v2
Add an additional hard drive on the SE server
Ignite the additional hard drive on the SE server or the Application Server where Contact Recorder is installed
Configure the IP Office Contact Center
Initial Administration

Chapter 3: Avaya IP Office Contact Center overview

Avaya IP Office Contact Center provides inbound capabilities for contact centers that support 5 to 100 agents and supervisors. The system includes the following key features:

- Integrated contact center voice, email, and chat
- Supports a virtualized server environment
- Uses TCP and CORBA for stable and reliable communication
- Unified database access for all processes
- Unified tracing and logging for all components
- Easy to install and update
- Same interface for supervisor and agent with permission-based feature access
- Flexible routing with graphic interface for voice, email and chat in one task flow
- Integrated Voice Response
- Real-time statistics with interaction

Components

Component	Version	Platform	Description
Infrastructure			
IP Office Contact Center server	9.0.2	Supplied by Avaya BusinessPartner.	Contains: • IP Office Contact Center • Sybase ASE • IP Office Contact Center databases • Unified Media email components

Component	Version	Platform	Description
			• Interactive Voice Response (IVR) components • Software drivers
IP Office server	9.0.2	IP500V2 for (1 to 30 agents) or IP Office Server Edition server (1 to 100 agents) or Virtual Machine	Functions as a call center solution for telephony tasks and Voicemail Pro. Must be the primary server and can be used for other nodes. The system does not require IP Office to process applications such as email and chat.
Extensible Messaging and Presence Protocol (XMPP) application server	Avaya supports the following XMPP servers: • Jive Software® Openfire 3.7.1 • Prosody 0.8.2 • ProcessOne ejabbered 2.1.10	Server platform provided and maintained by the customer	Chat functionality
Endpoints			
Avaya 1400 series deskphone			
Avaya 1600 series deskphone			
Avaya 9500 series deskphone			
Avaya 96x1 (H.323) deskphone	6.2		
Avaya 96x0 (H323) deskphone	6.2		
Applications			
IP Office Contact Center	9.0.2	IP Office Contact Center Server	Includes: • WebLM and license clients • Java Development Kit

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Component	Version	Platform	Description
			• Contact Center Tomcat • Naming service • Trace system • Watchdog • Service tools • UI Session Manager • Common Hardware Abstraction Platform (CHAP) • PBX task server • IP Office Task server • Contact Center applications • IVR components • Address Book server • UM • Statistics generator and viewer • Web Service Collection
Sybase ASE	15.5	IP Office Contact Center server	• Contact Center (cc) database • Task Reporting (tr) database • Address book • Chat (mediastore) database • UM (c3k) database • UM Archive database
Administrator, supervisor and agent client application	Microsoft® Windows 7, Windows 8.1, or Windows Terminal Server client Internet Explorer 10	Provided by the customer	Permission-based feature access
Other software			
Microsoft Excel Adobe acrobat reader		Provided by the customer	To create the Dataimport.exe and .csv files.

Component	Version	Platform	Description
			To read the documentation.

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Chapter 4: Site preparation checklist

#	Task	Description	Notes	✔
1	Ensure all physical components are available on the customer network.	IP Office Contact Center server IP Office server XMPP server (optional for chat functionality) Agent workstations Telephones	See platform requirements.	
2	Ensure that the additional hard disk drives for IP Office server type are available. (Optional, only if you want to use Contact Recorder on page 53)	IP Office Server Edition IP 500 V2 **Note:** IPOCC does not support IP 500 V1 server.	For information about the hard disk drive types download the documents from the HP support site or Dell support site. For information about adding additional hard disk drives see, Contact Recorder on page 53. For information about deploying IP Office Server Edition see, *Deploying IP Office Server Edition Solution*. For information about installing IP 500 V2 see, *Installing IP500/ IP 500 V2*. **Note:** To Ignite the additional hard disk drive for Contact Recorder see, Contact Recorder on page 53.	
3	Telephony and internet services are in place.	Service Providers		

IP Office Contact Center server requirements

The requirements are as follows:

Operating system	Microsoft® Windows Server 2008 R2 Standard 64–bit Edition SP1 Microsoft® Windows Server 2012 R2 Standard 64–bit Edition
Processor	Intel Xenon E3 Quadcore 3.1 GHz
Memory	8 GB DDR3 ECC
Hard drive	1 Seagate ST500DM002 500 GB 7200 RPM, SATA 6 G 16 MB Cache **Note:** Avaya recommends you to add an additional 500GB Hard Disk Drive and RAID to support IP Office Contact Center.
Raid controller	Raid Controller Intel C202 onboard
Disk space allocations	- 500 GB disk space for complete OS, databases, and applications
Media	DVD-ROM drive
Keyboard	Multifunction keyboard
Network	1NIC 1 GB, network or Ethernet card **Note:** IP Office Contact Center supports only one NIC. If you have multiple NICs disable all the other NICs.

Agent workstation requirements

Processor	Intel Pentium 4 processor 2.2 GHz or higher
Operating system	Microsoft® Windows 7, or Windows 8.1
Memory	Minimum 4 GB RAM
Hard disk	Minimum 10 GB

Keyboard and mouse	Multifunction keyboard and mouse
Browser	Microsoft® Internet Explorer 8.x or higher Mozilla Firefox 3.6 or higher
Network	Ethernet card

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Chapter 5: Planning checklist

Plan for installation and configuration by meeting with the customer to collect site-specific information and network information and to ensure that they are prepared for delivery and installation.

#	Task	Description	Notes	✔
1	Download documents from the Avaya Support Site Documents and Downloads.	Use the planning documents to ensure the customer site is prepared and use forms to gather customer site-specific data.	On the Avaya Support Site, in the **Enter Your Product Here** field, type `IP Office Contact Center`.	
2	Complete the *Avaya IP Office Contact Center Configuration Worksheet*.	Customer data includes: • Server information • Agent information • Job codes • Topic assignments	Download and use the Microsoft® Excel spreadsheet as a template.	
3	Download the documents from the HP support site or Dell Support site.	Use the respective guides to add an additional hard disk drive for Contact Recorder.		
4	Download documents from the Avaya Support Site Documents and Downloads.	Use the planning documents to install and configure the IP Office Server Edition or IP 500 V2	On the Avaya Support Site, in the **Enter Your Product Here** field, type `IP Office`.	
5	Plan endpoint deployment.	Avaya 1400 series phone Avaya 1600 series phone Avaya 9500 series phone Avaya 96x1 (H.323) deskphone Avaya 96x0 (H.323) deskphone		
6	Ensure customer has required components.	XMPP server Agent workstations	Use the Site preparation checklist.	

Key customer configuration information

Using the IP Office Contact Center Configuration Worksheet

The worksheet is a Microsoft® Excel spreadsheet that captures and organizes customer site information used by the installer during system configuration tasks. Each tab in the workbook corresponds to an aspect of the system configuration.

Before you begin

Copy the *Avaya IP Office Contact Center Configuration Worksheet* from the IPOCC_DVD and save it on a computer with Microsoft® Excel. Typically, *Avaya IP Office Contact Center Configuration Worksheet* is located at `Utilities`.

About this task

Use the worksheet to collect customer configuration data and create export files for server configuration.

Procedure

1. Open the spreadsheet .
2. Enable macros.

   Important:

   Save the spreadsheet as *.xlsm* format to enable macros.
3. Use **Save as** to make a copy with a unique name for the customer.
4. Read the instructions on the **Brief Instruction** tab of the work sheet before you fill in the required information, marked in red (mandatory field), within each tab. The spreadsheet populates fields in the other tabs. For more information see, Important fields of the configuration worksheet on page 23.

   The *Change me* fields in the spread sheet are optional, used for configuring the chat and email.
5. Click **Create Data Import** to generate data import files.

Next steps

During configuration you need the DataImport.exe for IP Office Contact Center Server and configuration.csv for IP Office.

Related topics:

Important field descriptions of the configuration worksheet on page 23

Important field descriptions of the configuration worksheet

Note:

The following table lists only the minimum required fields that you need to fill in the configuration worksheet. For more details, lookup the tool tips in the configuration worksheet.

Name	Description
Base Data tab	Type the following: • Name of the IP Office Contact Center • Name of the chat server • Chat and E-mail domain name. For example, customer.com (optional) **Note:** Check the number range of topics. If you make any change you must also update the change in the **Topics** tab.
Chap tab	Type the following ip address: • IP Office Contact Center server • IP Office • DNS • SIP domain **Note:** The name of the SIP domain must be the same as the SIP domain name in **System** > **LAN1** > **VOIP** tab of the IP Office configuration. The name of the SIP domain must be in lower case. Verify the number for the SIP extensions. Do not use this number in the IP Office. If necessary change the partitioning of the channels for Queuedevices and IVR. For Queuedevices automatically the range 70000-70059, for IVR Ports 80000-80029 is used.

Name	Description
Topic tab	Type the topic details.
Agent groups tab	Type the agent group details.
Agents tab	Type the agent details.
Topic-AG-Assigment tab	Type the topic and agent assignment details.

Packaging and order codes

The following IP Office Contact Center license bundles are available:

Material code	Description
306493	IP Office Contact Center Base 30
306640	IP Office Contact Center Base 100
306495	IP Office Contact Center 1 voice agent license with skills based routing and call recording
306496	IP Office Contact Center 1 Multichannel License with email, chat and outbound campaigns
306497	IP Office Contact Center 1 Supervisor License
306641	IP Office Contact Center Base 30 to Base 100 migration

IP Office Contact Center Base 30 bundle

IP Office Contact Center:

Note:

Use Avaya WebLM to install the PLDS license.

PLDS license	Description
VALUE_CIE_PX_IPO (1)	Single PBX connection — IP Office
VALUE_CIE_IVR_CON (1)	1 CHAP port
VALUE_CIE_IVR_PORT (Channels 90)	90 channels (maximum for 32–bit CHAP)
VALUE_CIE_CC_CLIP	10000 addresses
VALUE_CIE_CC_TEAMLEADER (1)	Enables supervisor application in UI for preconfigured monitors and reports
VALUE_CIE_CC_SERVUSER (2)	2 concurrent service users needed for configuration

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PLDS license	Description
VALUE_CIE_CC_UMR	Required by C3000 server for email routing
VALUE_PHX_BASE 30 LIC	Allows up to 30 agents to be active and logged in

IP Office:

ADI license	Description
CTI Pro License	Enabled third-part TAPI license
VMPro Recording Administrators	Enables Contact Recorder
Avaya IP Endpoint License	For CHAP connection

Also requires IP Office Preferred Edition.

IP Office Contact Center Base 100 bundle

IP Office Contact Center:

Note:

IP 500 V2 does not support the IP Office Contact Center Base 100 bundle.

PLDS license	Description
VALUE_CIE_PX_IPO (1)	Single PBX connection — IP Office
VALUE_CIE_IVR_CON (1)	1 CHAP port
VALUE_CIE_IVR_PORT (Channels 90)	90 channels (maximum for 32–bit CHAP)
VALUE_CIE_CC_CLIP	10000 addresses
VALUE_CIE_CC_TEAMLEADER (1)	Enables supervisor application in UI for preconfigured monitors and reports
VALUE_CIE_CC_SERVUSER (2)	2 concurrent service users needed for configuration
VALUE_PHX_BASE 100 LIC	Allows up to 100 agents to be active and logged in
VALUE_CIE_CC_UMR	Required by C3000 server for email routing

IP Office:

Note:

Use IP Office Manager for Server Edition to install the license for IP Office Server Edition and use IP Office Manager to install the licenses for IP 500 V2.

ADI license	Description
CTI Pro License	Enabled third-part TAPI license

ADI license	Description
VMPro Recording Administrators	Enables Contact Recorder
Avaya IP Endpoint License	For CHAP connection

IP Office Contact Center 1 voice agent license with skills based routing and call bundle

IP Office Contact Center:

PLDS license	Description
VALUE_CIE_CC_USER_VOICE	1 license for each logged in telephony agent
VALUE_CIE_CC_MONTELUSER	Extended voice features, 1 license for each logged in telephony agent

IP Office:

ADI license	Description
Preferred Edition Additional VoiceMail Ports	Needed for 100% call recording

Also requires IP Office Preferred Edition.

IP Office Contact Center 1 multichannel agent license with email, chat and outbound campaign bundle

IP Office Contact Center:

PLDS license	Description
VALUE_CIE_CC_USER_CHAT	1 license for each logged in chat agent
VALUE_CIE_CC_USER_NONVOICE	1 license for each logged in email agent
VALUE_CIE_CC_TEXTMODULES	1 license for each agent for email textblocks

IP Office: None.

IP Office Contact Center 1 supervisor license bundle

This bundle includes the licenses in bundles 306495 and 306496 plus the following license:

IP Office Contact Center:

PLDS license	Description
VALUE_CIE_CC_SUPERVISOR	1 license for supervisor functions and configuring monitors and reports
VALUE_CIE_CC_TEAMLEADER	1 licence for using pre-configured realtime and reports

IP Office: None.

IP Office Contact Center Base 30 to Base 100 migration bundle

PLDS license	Description
VALUE_PHX_BASE 100 LIC	Allows up to 100 agents to be active and logged in

Related topics:

Installing Sybase Adaptive Server Enterprise on page 31

Chapter 6: Initial setup and connectivity

Software installation checklist

#	Task	Description	Notes	✔
1	Install the Microsoft® Windows operating system.	Microsoft® Windows Server 2008 R2 SP1, or Windows Server 2012 R2		
2	Copy the installation files from the DVD.	Copy from IPOCC-DVD (.iso) the complete folder Install_Sybase to local folder (e.g. c:\install) on IPOCC server.		
3	Install Sybase® ASE.	Set the system administrator password.		
4	Install Microsoft® Windows TAPI.	Enter switch IP address and password.		
5	Install IP Office Contact Center	After installing the server components of IPOCC, import the data using Dataimport.exe		

Related topics:

Installing Microsoft Windows Server on page 29
Installing Sybase Adaptive Server Enterprise on page 31
Installing and configuring Microsoft® Windows TAPI on page 31
Installing IP Office Contact Center on page 33

Installing Microsoft Windows Server

Procedure

1. Disable Power Management functions.

2. Activate daylight savings time when setting the system time to the local time zone.
3. Use TCP/IP as the network protocol.
4. Define the computer name.

   Only use digits and letters for the computer name. Do not use the underscore character. Begin the name with a letter. The name can consist of up to 30 characters.
5. Do not activate SNMP.
6. Enable error reporting unless you are setting up a test system. If you are setting up a test system, complete the following steps:
   a. On the Control Panel, click **System**.
   b. On the **Advanced** tab, click **Error Reporting**.
   c. Select **Disable error reporting**.
   d. Click **OK**.
7. Set up a permanent IP address.

   IP Office Contact Center works only with one IP address. IP Office Contact Center does not support multiple IP addresses on the same NIC.
8. Create a system user and password.
   a. Grant the user administration privileges to start services.

      You must also grant the user the rights to add scheduled tasks. The user needs this rights to install the Sybase server.
   b. For security reasons, do not use the same username and password for other computers on the network.
9. Ensure that the service Windows firewall is functional.

   Note:

   If you need to use a firewall, configure the firewall settings using the appropriate ports. See Port assignments.
10. In the Power Options Properties dialog box, on the Power Schemes tab, set the following settings:
    a. Set **Turn off hard disks** to **Never**.
    b. Set **System standby** to **Never**.

    To add the server to the list of trusted sites go to **Internet Explorer** > **Internet Options** > **Security** > **Trusted sites: http://<hostname>**

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Installing Sybase Adaptive Server Enterprise

Before you begin

- Copy the complete folder *Install_Sybase* on your computer from the IPOCC-DVD or .iso.

  Important:

  Do not change the name of the *Install_Sybase* folder.

- Log in as the *system administrator*.

Procedure

1. Execute the *SybaseDB.exe* file.
2. In the Sybase ASE Installer dialog box, select the drive for the database server.
   a. In the **SQL server name** field, accept the default setting.
   b. In the **Password for user sa** field, type the new password for the system administrator (sa) account.

      The password must be a combination of numbers and letters and must be at least eight characters long.
   c. In the **Confirm password** field, type the new password again.
   d. Do not change the default values under **Page Size** and **Hardware resources**.
3. Click **Install**.
   The system installs Sybase ASE in about 20 minutes. The system displays the `Installation successfully finished` message.
4. Click **OK**.
5. Restart the server.

Related topics:

Packaging and order codes on page 24

Installing and configuring Microsoft® Windows TAPI

Procedure

1. Navigate to the TAPI installation executable on the server.
   Typically, it is located at `\Server\IPO TAPI\tapiSetup.exe`

2. Right-click the file and click **Run as administrator** from the pop-up menu.
   The system displays Select a User Name.

   Note:

   The system displays the default **User Name** and **User Password**.

   a. Click **Next**.
      The system displays the TAPI2 — InstallShield Wizard.
   b. Click **Next**.
      The system displays the Select Networked Telephone System.
   c. Select the IP Office control unit.
      The system displays the Select a User Name window, with the default **User Name** and **User Password**.
   d. Click **Next**.
      The system displays the Ready to Install the Program window.
   e. Click **Install**.
      The system prompts you to restart the system.
   f. Click **Yes**.
      The system restarts and displays the Resuming the InstallShield Wizard for TAPI2 .
   g. Click **Next**.
      The system displays the InstallShield Wizard Completed.
   h. Click **Finish**.
3. Click **Start** > **Control Panel** and select **Phones and Modem**.
4. Select **My Location** and click **Edit**.
5. In the Edit Location dialog box, type the country and area code for the customer site and click **OK**.
6. In the Phone and Modem dialog box, click **Advanced**.
7. Select **Avaya IPO TAPI2 Service Provider** and click **Configure**
8. In the Avaya TAPI2 configuration dialog box, enter the following settings:
   a. In the **Switch IP Address** field, type the IP address of the IP Office server.
   b. In the **Switch Password** field, type the password of the IP Office server.
      The default password of the IP Office server is `password`. If you have changed the default password of the IP Office server, please type the new password that you typed in **Security Settings** > **System** > **Unsecured Interfaces** > **System Password**.
   c. Click **OK**.
   d. Click **Close**.

Installing IP Office Contact Center

About this task

Note:

The system requires 26 GB disk space to perform a complete install. All databases are automatically set to *Automatic Expansion*, so the databases of IP Office Contact Center can expand in case the system reaches the initial configured database size.

Procedure

1. Install *vcredist_x86_2008.exe* and *vcredist_x86_2010.exe* .
   Typically, it is located in `Server\IP Office Contact Center` of the install DVD.
2. Navigate to the IP Office Contact Center setup wizard on the server.
   Typically, it is located in `Server\IP Office Contact Center` of the install DVD.
3. Double click the `SetupWizard.exe` file.
   The system displays the Avaya IP Office Contact Center — Setup Wizard dialog box.
4. Click **Complete**.
5. In the Settings for Avaya IP Office Contact Center installation dialog box , type the *sa* password.
   Type the password that you set for *sa* user when installing the Sybase server.
   The system displays the ip address of the server in the **Network Adapter IP address** field. If the system does not display the ip address of the server that you are currently using, then type the ip address of the server.
6. Click **Install**.
   The system displays the list of components installed.
7. Click **Finished**.
8. Restart the server.
   After the system restarts, Watchdog configuration runs automatically.

Next steps

Select **Start >Programs > Avaya IP Office Contact Center > Trace System > TT Display** and verify that all the all components are running.

Note:

Unless you install the licenses, the component SMTPConnector for Runlevel 14 and IVR services stop automatically and turns red in **TTDisplay** and the Watchdog restarts the SMTPConnector for Runlevel 14 and IVR services.

Licensing

Installing licenses

Before you begin

- Obtain the license file from the Avaya Product Licensing and Delivery System (PLDS) website at https://plds.avaya.com.

About this task

If you experience problems while installing the license file, see the License file installation errors section in Administering Avaya WebLM (stand-alone).

Procedure

1. Open a browser on IPOCC Server and type `https://<hostname>:8443/WebLM` connect to WebLM.
2. In the login page do the following:
   - In the **User Name** field, type `admin`.
   - In the **Password** field, type `weblmadmin`.

   The password is case sensitive.

   If you are logging into WebLM for the first time, the system prompts you to change the password.

   Use the same password that you set as Sybase *sa* password.
3. In the left navigation pane, click Install license.
4. On the Install license page, enter the license file path. You can also click Browse to select the license file.
5. Click Install to install the license file. WebLM displays a message upon successful installation of the license file. The installation of the license file can fail for various reasons, such as:

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- WebLM finds an invalid digital signature on the license file. If you get such an error, request PLDS to redeliver the license file.
- The current capacity use exceeds the capacity in the installed license.

Next steps

Restart the IPOCC watchdog service.

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Chapter 7: Configuration

Component configuration checklist

#	Task	Description	Notes	✔
1	Import configuration data file.	Import the `DataImport.exe` file.	Activate the Task Flow editor	
2	Configure IP Office for telephony.	Import the `Configuration.csv` file. General system settings SIP extensions		
3	Configure Contact Recorder (optional)	Add additional HDD or RAID on the Server Edition Server Partition using the Ignition process Mount the partition	You can use Contact Recorder to manage, archive and search your voicemail recordings. **Note:** For more information see, Avaya IP Office Contact Recorder on page 53	
4	Configure Unified Media components (optional)	POP3 and IMAP4 (optional)		
5	Configure chat components.	XMPP server (Optional)		

Related topics:

Importing the IP Office Contact Center configuration data file on page 38
Importing the IP Office configuration data file on page 42

Importing the IP Office Contact Center configuration data file

Before you begin

1. Complete all the steps in Using the IP Office Contact Center Configuration Worksheet on page 22.
2. **Important:**
   Back up the cc and c3k databases. For more information, see Backing up a database on page 62.

Procedure

1. Copy the `DataImport.exe` file to any folder on the computer where the database is installed.
2. Double click `DataImport.exe`.
   The system displays the CCImportJobber dialog box.
3. In the **DB User** field, type **sa**.
4. In the **Password** filed, type the password you set for **sa** user.
5. Click **Import Data**.
6. Click **Finish**.
7. Restart the IPOCC server after you import.

Next steps

Activate the task flow editor.

Related topics:

Activating task flow editor on page 38

Activating task flow editor

Before you begin

Select **Start > Programs> Avaya IP Office Contact Center > Trace System > TT Display** and verify that all the processes are running.

About this task

Procedure

1. Select **Start > Programs> Avaya IP Office Contact Center > User Interface**.
   The system displays the Avaya IP Office Contact Center log in page.
2. Type `Administrator` in the **Username** field.
3. Type the password in the **Password** field.
   The default password is *Administrator*.
4. Click **Login**.
   The system displays IP Office Contact Center window.
5. Select **Go To > Task Flow Editor**.
6. Click the **Open** icon.
   The system displays Open task flow set.
7. Select **Import TF-Set**.
8. Click **OK**.
   The system displays the Password dialog box. You do not have to type the password.
9. Click **OK**.
10. Click **Activate**.
    The system displays *Task Flow set successfully activated* message.
11. Click **OK**.
12. In the **Task flow set** menu, click **Close**.
13. In the **Task flow set** menu, click **Default task flow set**.
    The system displays the Use default task flow set dialog box.
14. Select **Import TF-set** and click **OK**
    The system displays the Password dialog box. You do not have to type the password.
15. Click **OK**.

IP Office telephony integration

IP Office Contact Center uses the PBX within the Avaya IP Office for telephony tasks. It uses other processes for email and chat and is does not depend on IP Office for those services.

Important:

The network segment between IP Office Contact Center and IP Office must correspond to the Avaya VoIP specification. For more information, see *Avaya IP Voice Quality Network Requirements*.

The following elements are required to connect to IP Officeversion 9.0:

- CTI-Pro license
- Avaya SIP User License 150 channels
- Essential and Preferred Edition IP500V2 server
- Linux server edition

IP Office Contact Center uses the following elements to interact with the IP OfficePBX:

- Microsoft Telephony Application Programming Interface (TAPI)
- IP Office task server
- Voice Extension Adapter (VEA)
- Common Hardware Abstraction Platform (CHAP)
- Interactive Voice Response (IVR)

Microsoft Telephony Application Programming Interface

IP Office Contact Center uses TAPI as the programming interface for telephony applications. The PBX uses a corresponding TAPI driver.

IP Office task server

The IP Office task server adapts the telephone-specific behavior of the TAPI and makes it available to the kernel process and the business logical components (BLCs) within the user interface.

Kernel process functions: The task server uses a standardized definition for voice and email task servers so that the kernel process doesn't have to differentiate between the individual media types and PBX types. The kernel process is notified by the task server interface regarding:

- Call routing
- Agent monitoring
- Device monitoring
- Pending topic calls

The kernel process uses the task server services to forward topic calls to the correct destinations such as:

- Agents
- Topics or queue devices
- Announcement scripts

- Telephones and lines or external numbers
- IVR

User interface functions: The business logical components (BLCs) within the IP Office Contact Center user interface uses the task server to control agent telephones. Task server services are available to the control basic telephone functions such as:

- Connecting and disconnecting
- Consultation
- Holding
- Call waiting
- Forwarding
- Conferencing
- Call diversion

The task server also controls third-party contact center functions such as:

- Job code input
- Signing on and off of agent groups
- Switching on wrap-up time
- Switching on pause

Voice Extension Adapter

The VEA controls the contact center routing and queuing devices using IP channels. IP Office Contact Center uses the VEA for the following task server functions:

- Signalling a topic call
- Queuing calls on the queue device
- Switching calls to announcement scripts

When there is a pending call at a routing device, the VEA signals it as a route request.

The task server notifies the kernel. The VEA receives the call destination determined by the kernel and vector processes from the task server. The following destinations are possible:

- Available agent
- Queue without announcement
- Queue with announcement through CHAP

  When a call switches to a CHAP announcement, VEA routes the call to one of the queue devices. Queue devices are VoIP channels between IP Office and CHAP. The CHAP sends the required announcements to the queue device.

- Queue with announcement through IVR

  When a call switches to an IVR announcement script, VEA initiates a call transfer to a IVR channel.

- External destination

The IP Office task server and VEA can establish multiple connections in parallel and make them available for allocation to available agents to carry out power and predictive dialer

functions. Once the connection has been established and the called subscribes has answered, the connection can be transferred to an available agent.

Common Hardware Abstraction Platform

The CHAP provides a specific adapter in the form of a dynamic linked library (DLL) for SIP over IP. The CHAP also plays announcements which are stored in the database as WAV files. The CHAP is also capable of DTMF recognition. A CHAPSync process connects the database and the CHAP. The CHAP does not connect to the database directly. CHAPSync registers changes to the CHAP configuration data in the database and forwards the changes to the CHAP. The CHAP writes the data to a local properties file.

Related topics:

IP Office server configuration checklist on page 42
Importing the IP Office configuration data file on page 42
Configuring IP Office on page 43

IP Office server configuration checklist

Configuring IP Office

Use IP Office Manager to complete the following configuration tasks.

#	Task	Description	Notes	✔
1	Import the data file.	`Configuration.csv`		
2	Configure general system settings.	VoIP SIP Register DNS		

Importing the IP Office configuration data file

Before you begin

Complete all the steps in Using the Avaya IP Office Contact Center Configuration Worksheet on page 22.

Note:

The short codes targeted for each Topic that you create must exist and be the same for the Server Edition Secondary server and Server Edition Expansion System .

Procedure

1. Copy the `configuration.csv` file to any folder on the computer where you have installed IP Office Manager.
2. Start IP Office Manager, and select the IP Office server.
3. Click **File** > **Import/Export** > **Import**.
4. Select **Configuration** .
5. Navigate to the location where you copied the `configuration.csv` file and select it.
6. Click **OK** to import the file.

Next steps

Complete the steps in Configuring IP Office on page 43.

Configuring IP Office

Before you begin

Complete all the steps in Importing the IP Office configuration data file on page 42.

Important:

To avoid restarting the TAPI service every time you add a user in IP Office who is also an IPOCC user, Avaya recommends you to create a pool of users to be used by IPOCC *Agents*. When you configure an *Agent* in IPOCC, the *Agent* can login as a user that you have already reserved.

Note:

After you create a pool of users you must restart the TAPI service on the IPOCC server, so that the users are available for the IPOCC server. When the system has exhausted all the users in the pool that you created, you can create a new pool of users and restart the TAPI service.

About this task

For more information about the configuration settings, see the *IP Office Manager* document.

Procedure

1. Select **System > LAN 1**.
2. In the **VoIP** tab, set the following values and settings:
   a. Select **H323 Gatekeeper Enable**.

b. Select **SIP Trunks Enable**.
c. Select **SIP Registrar Enable**.

3. In the **SIP Registrar** tab, set the following values and settings:
   a. In the **Domain Name** field, enter server domain name. For example: `st4-ipo1.qas`. This is the local SIP registrar domain name through which SIP endpoints register with the IP Office system.

      The domain name must be the same domain name that you typed in *Avaya IP Office Configuration Worksheet*.
   b. In **Layer 4 Protocol**, select **UDP**, **TCP**, and **TLS**. Use default ports.
   c. Click **OK**.
4. Select **Extension**.

   Select the SIP extension that you created for the CHAP connection to the IPOCC server, then click **VoIP** tab.
5. Select **Custom** from the **Codec Selection** drop-down list.
6. List only **G.711 ALAW 64K** and **G.711 ULAW 64k** under **Selected**.

   The system functions only if you list both **G.711 ALAW 64K** and **G.711 ULAW 64k** under **Selected**.

   Move the other codecs under **Unused** list.
7. Click **OK**.
8. To add the ADI licenses do the following:
   a. Select **License** .
   b. Click **Add**.
   c. Type the license key in the **License Key** field.
      The system displays the type of license, the status of the license, instances, and the date of expiry.
9. Click **OK**.
10. To send the configuration to the IP Office system, select **File > Save Configuration**.
11. Restart the IP Office system.
12. Restart the IP Office Contact Center server.

Chat configuration

Configuring the XMPP server

Configuring the XMPP server

Use Jive Software® Openfire, Prosody, or ProcessOne ejabbered to configure the XMPP server.

- For complete Openfire documentation, go to http://www.igniterealtime.org/projects/openfire/documentation.jsp.
- For complete Prosody documentation, go to http://prosody.im/.
- For complete ejabbered documentation, go to http://www.process-one.net/en/ejabberd/.

Before you begin

Install a new XMPP server or use an existing XMPP server. For more information about installing and configuring an XMPP server, see the related documents of the manufacturer.

Note:

The domain name of the XMPP server must be the same domain name that you typed in the *Avaya IP Office Contact Center Configuration Worksheet*.

About this task

Note:

- For every topic in the IP Office Contact Center system you must create a user on the XMPP server.
- The password of the XMPP server user must be the same as the password that you typed in the *Avaya IP Office Contact Center Configuration Worksheet*. The default password in the *Avaya IP Office Contact Center Configuration Worksheet* is `cc123456`.

Installing IP Office Contact Center User Interface

Install the User Interface on every client computer. You can also install the client components on a IP Office Contact Center server. Use the User Interface only for the configuration. When

you use *Realtime Information* and *Reporting* as clients on the IP Office Contact Center server, then the performance of the process is affected.

Before you begin

- Administrator rights — You must have administrator rights to install the User Interface software. However, you do not need administrator rights to use the User Interface.
- Proxy server — For information about the proxy settings, see Proxy server on page 47
- Check for the following on a workstation:
  - Switch on the client computer.
  - Install the operating system and connect the computer to the network.
  - Install and configure TCP/IP.
  - Log in as the system administrator.
  - Close all the Windows applications.

Procedure

1. Double click *Contact Center User Interface.msi*.
   The system displays the IP Office Contact Center User Interface window.
2. Click **Next**.
   The system displays the End-User License Agreement dialog.

   To install, read the license agreement and accept the terms in the agreement.
3. Click **Next**.
   The system displays the Choose Setup Type dialog box.
4. Click **Complete**.

   The system displays the General settings dialog box.

   a. In the **Hostname of IPOCC Server** field, type the host name or the TCP/IP number of the IP Office Contact Center server .
   b. In the **Hostname of the License Server** field, type the host name or the TCP/IP number of the license server.

      The default license server is the IP Office Contact Center server.
5. Click **Next**.
   The system displays the Ready to install User Interface dialog box.
6. Click **Install**.
7. Click **Yes**.
8. Click **Finish**.

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Related topics:

Proxy server on page 47

Proxy server

Hyper Text Transfer Protocol (HTTP) is used to gain access to the Internet in the network of a company network. When implementing HTTP, you can use an automatic configuration script for the LAN settings. To ensure that the Web applications on IP Office Contact Center are functional, you must set some exceptions rules in the LAN settings of the browser or modify the automatic configuration script.

For more information, consult the system administrator of your company network.

Security

Password guidelines

Password

Follow these rules when setting your password:

- The password must be at least 8 characters long.
- The password must contain a combination of at least three of the following character types: lowercase letters, uppercase letters, numbers, and special characters.
- Do not use your first name, last name, or any other personal information.
- Change your password once in every 90 days.
- The passwords are case-sensitive.

Operating system

Always use the latest security update from Microsoft.

Security certificates

If you are using the web applications through SSL encryption, the browser displays a security warning notifying you that the security certificate for the site is deficient. A valid security certificate is not part of the IP Office Contact Center installation. If you want to avoid the security warnings for SSL, you must obtain a valid security certificate from a certification service provider.

Virus scan software considerations

The IP Office Contact Center has been tested with the following virus scan software:

- McAfee 8.5.0i, 8.7.0i and 8.8.0i
- F-Secure Anti-Virus for Windows Servers 7.00 and 7.2.0
- Kaspersky 6.0.2.678
- Panda Admin secure 2006
- Symantec Norton Antivirus
- Avira Server Security 2012

Database access rights and security

The access rights and security features of the databases are governed by the how the system is administered using the Sybase ASE administration tools. For more information on Sybase and security, go to http://www.sybase.com.

Installation and update access

Only the system administrator user can use the installation and update features. The account is secured with a password.

Reporting and real-time information server access

Within the database, the system uses identifiers that can be assigned to user names in the database table. The system saves reporting data in coded form as basic values. Only the server process can evaluate these basic values using programmed algorithms and generate readable reporting data from them.

User interface access

Only those users with user accounts authorized by the system administrator can access the report generation features. Additional privileges control which reporting types can be used. The system administrator assigns authorizations and privileges or they can be assigned during system configuration. Further security for the data is offered by the implemented *Four-Eye Principle*. This principle allows access to reporting data only when two passwords are entered. This enables works councils and other employee representatives to fulfill their rights.

Optional and customized functionality

Managing email security

To increase security and prevent SPAM, use the **E-mail configuration** to block or allow certain domains, IP addresses and valid senders for email messages.

Procedure

1. Open **User Interface**.
2. Select **Go to** > **E-mail configuration**.
3. Select a server from the list.
4. Click **C3000 SMTP Connector**.
5. On the **Security** tab, click **Add** to add domains, IP addresses or valid senders.
6. Restart the service.

Setting UMR database fill thresholds

You can use the **E-mail configuration** to set threshold values and query intervals for the UMR runtime database.

Avaya recommends setting up a SMTP message to be generated on the message output in TTrace to inform the system administrator with the database threshold status. The system administrator can then take action to avoid system shutdown.

Procedure

1. Open **User Interface**.
2. Select **Go to** > **E-mail configuration**.
3. On the **System** tab, enter the following values:
   a. In the **DB size checking interval (minutes)** field, specify the query interval for the database fill level in minutes. If the fill level exceeds a configured threshold value, the system generates a TTrace message. Default is 15 minutes.
   b. In the **Level for info message (%)** field, specify the level in percent at which a TTrace information message will be generated. Default is 80%.

c. In the **Level for alarm message (%)** field, specify the level in percent at which an alarm message will be generated. Default is 90%.
d. In the **Current DB size (%)** field, the system displays the current database fill level. The SMTP connector or POP3 or IMAP4 client evaluates this value. If the level is exceeded, no more emails are accepted or retrieved.

Uninstalling Sybase Adaptive Server Enterprise

Before you begin

If you have installed IP Office Contact Center databases, then remove all database setups using the control panel.

About this task

To uninstall Sybase Adaptive Server Enterprise, run the following steps as an Administrator:

Procedure

1. Start **Sybase** > **Adaptive Server Enterprise** > **Server Config**.
2. Select **Products** > **Backup Server.**
3. Click **Remove Backup Server**.
4. Click **Ok**.

   If, there are several instances of the backup server, then you must remove all the instances of the backup server.

   The system displays:
   ```
   Quit Remove Backup Server! Continue?
   ```
5. Click **Yes**.
   The system displays:
   ```
   Quit Exit SyConfig and Reboot now
   ```
6. Click **Ok**.
7. Select **Products** > **Adaptive Server**.
8. Click **Remove Adaptive Server**.

   If, there are several instances of the backup server, then you must remove all the instances of the backup server.

   The system displays:
   ```
   Quit Remove Adaptive Server! Continue?
   ```
9. Click **Yes**.
   The system displays:
   ```
   Quit Exit SyConfig and Reboot now
   ```
10. Click **Ok**.

11. Click **Exit**.
12. Start the computer.
13. Start Control Panel — Software.
14. Select **Sybase Software Developer's Kit**.
15. Click **Change/Remove**.
16. Click **Next** in all the following dialog boxes.
17. Select **Sybase Adaptive Server Enterprise Suite**.
18. Click **Change/Remove**.
19. Click **Next** in all the following dialog boxes.
20. Delete the installation paths.
    For example, c:\sybase.

Result

The system uninstalls Sybase Adaptive Server Enterprise.

Component management

Changing a server host name

About this task

Note:

You can change the server host name only for a newly installed database.

Procedure

1. Open the `Utilities` folder on the computer where the database is installed.
   Typically, it is located in the root folder of the IPOCC installation kit.
2. Double-click **AdjustHostname**.
3. Type the **User** and **Password** that you set for the database.
4. Type the name of the host in the **Hostname** field.
5. Click **Apply**.
   The system displays the `Adjustment of hostname and computer IP finished.` message.

6. Click **OK**.

Next steps

Restart the system.

Changing the server address on the client

If you change the IP address of the IP Office Contact Center server, you must also change the server address setting on the IP Office Contact Center client.

Procedure

1. On the IP Office Contact Center client, from the Windows **Start** menu, open **Control Panel**.
2. Select **Programs and Features**.
3. Select **IP Office Contact Center User Interface** and then click **Change**.
4. Click **Next** and then click **Modify**.
5. Click **Next**.
6. In the **Hostname of IPOCC Server** field, enter the IP address of the IP Office Contact Center server.
7. In the **Hostname of License Server** field, enter the IP address of the IP Office Contact Center server.
8. Click **Next**.
9. Click **Change**.
10. Click **Finish**.

Address book administration

Address Book Administrator

The UMR Client module contains the address book functionality. The address book server displays address book information to agents. Use the Address Book Administrator module to configure the address book server and connect to address books.

For more information, see *Using Avaya IP Office Contact Center Address Book Administrator*.

Avaya IP Office Contact Recorder

Contact Recorder stores and catalogs the voicemail recordings so that you can access and retrieve the voicemail recordings.

To install Contact Recorder on the IP Office Server Edition server, you must add an additional hard disk drive on the IP Office Server Edition server.

For more information about installing Contact Recorder see, *Contact Recorder for IP Office Installation*manual. For more information about using Contact Recorder see, *Using Contact Recorder* manual. For information about administering Contact Recorder see, *Administering Contact Recorder* manual.

Related topics:

Additional hard disk drives on page 53
Creating an additional hard disk drive on a DL360G7 server of the IP Office Server Edition on page 54
Creating an additional hard disk drive on a Dell R210II server of the IP Office Server Edition on page 56
Configuring the additional hard disk drive using the ignition process on page 56
Replacing a failed hard disk drive on page 59

Additional hard disk drives

IP Office Server Edition release 9.0.2 supports the following operations:

- Additional hard disk drives that are fitted prior to the initial installation.
- Additional hard disk drives that are added before the installation not upgrade over an existing IP Office Server Edition release 8.1 or 9.0.

Order codes for the servers and hard disk drives

Product	Order code	Notes
Avaya Dell PowerEdge R210 II server	302788, 302786	Ignited either as Server Edition Primary server or as an Application Server with a single additional hard disk drive.
Avaya HP ProLiant DL360G7 server	270393	Ignited either as Server Edition Primary server or as an Application Server with either a single additional hard

		disk drive or two additional hard disk drives.
Dell R210 II Additional HDD	700506869	R210 II XL 500GB 7200 HDD
HP DL360G7 Additional HDD	700501314	DL360G7 SRVR 300GB 10K SAS 2.5" HDD

Creating an additional hard disk drive on a DL360G7 server of the IP Office Server Edition

You can create an additional single hard disk drive or a pair of mirrored RAID (Redundant Array of Independent Drives) drives.

Note:

You can create an additional single drive on slot 3 of the server and it is not mirrored image. However, you create a pair of RAID drives on slot 3 and slot 4 of the server and these drives are the mirrored images of each other.

Before you begin

1. Go to the *HP support* site and download the related guide of the server.
2. Turn off the power supply to the server.
3. Remove the disks in the slots.

   Note:

   To create a single hard disk drive remove the disk in the slot 3.

   To create a pair of mirrored RAID drives remove the disks in slot 3 and slot 4.
4. Insert the new hard disk drives into the slots from which you removed the disks.

   Note:

   The product ID for the new drives is : 700501314. For more information see, *Installing a SAS hard drive* section of the guide you downloaded from the HP support site.

About this task

Note:

Create the additional hard drives and then change the BIOS settings. These changes are specific to the server and configuration but in general the template in BIOS has two visible Logical Drives: one for primary hard drive and the other one for the additional hard drive that you created.

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Procedure

1. Turn on the power supply to the server.
   The server restarts.
2. When the system displays the message `Press any Key to view Option ROM messages`, press any key on the keyboard.
3. When the system displays the message `Slot 0 HP Smart Array 4101 Controller Initializing`, press the function key *F8* .
   The system displays the Main Menu list.
4. Select the **Create Logical Drive** option.
   The system displays the Option ROM Configuraion for Arrays, version 8.x.x.x page.
5. Do the following:
   - To configure a single hard disk drive do the following:
     i. In the **Available Physical Drives** section, select the drive on *Bay 3*.
     ii. In the **RAID Configurations** section, select **RAID 0**
     iii. In the **Maximum Boot partition** section, select **Disable (4GB maximum)**.

   To configure a pair for mirrored RAID disk drives do the following:
     i. In the **Available Physical Drives** section, select the drives on *Bay 3* and *Bay 4*.
     ii. In the **RAID Configurations** section, select **RAID 1 + 0**
     iii. In the **Maximum Boot partition** section, select **Disable (4GB maximum)**.
6. Press the <*Enter key*> to save the configuration.
7. Press the function key *F8* to confirm the configuration.
   The system displays the Main Menu list.
8. Select the option **Select View Logical Drive**.
   The system displays the drives that you created.

   Note:

   If the system does not display the drives that you created complete step 5 to step 8.
9. Press the <*ESC key*>.

Result

The IP Office Server Edition version 9.0.2 or later recognizes the drives that you created.

Creating an additional hard disk drive on a Dell R210II server of the IP Office Server Edition

Before you begin

1. Go to the *Dell support* site and download the related guide of the server.
2. Turn off the power supply to the server.
3. Open the system. For more information about opening the system see, *Opening the system* section of the guide.
4. Install the additional hard disk drive in the Optical drive. For more information about installing the hard disk drive see, *Installing a Hard Drive* section of the guide.

Procedure

1. Turn on the power supply to the server.
2. To open the BIOS settings press the function key *F2*.
3. Select **SATA Settings** and press the <*Enter key*>.
4. Select **Port B**.

   Change **Off** to **Auto**.
5. Press the <*ESC key*>.
6. Save the changes and exit.

Result

The IP Office Server Edition version 9.0.2 or later recognizes the drives that you created.

Configuring the additional hard disk drive using the ignition process

If an additional hard disk drive is present, the system detects it and prompts the user to create up to three partitions on the hard disk drive, and to mount it in a specified location. The system creates a sub folder for each partition in a location that you specify.

Note:

If an additional drive is not present, the system displays a message `No new hardware available`. You can add the additional hard disk drive and restart the ignition process.

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Before you begin

- Check if the two logical drives are defined in the BIOS settings.
- The additional hard drive should be a new one else format the hard disk using the run command `mkfs.ext4 <device>` and then insert the disk in the slot.

About this task

This procedure provides only the steps to configure the additional hard disk drive using the Ignition process. For more information about Ignition process on a IP Office Server Edition server, see *Configuring IP Office Server Edition using Ignition* section of the *Deploying IP Office Server Edition* document.

For more information about Ignition process on an *Application Server*, see *Server Ignition* section of the *Installing Contact Recorder for IP Office*.

Do the following the Hardware page of the Ignition process:

Procedure

1. In the **Additional Hardware Settings** section, enable **Create Partitions**.
2. The following fields must have the value *0*:
   - **Partition 1 size (GB)**
   - **Partition 2 size (GB)**
   - **Partition 3 size (GB)**
3. Enable **Mount Hardware**.

   If you do not enable **Mount Hardware**, the drive will not be mounted and the mount point path can be blank, but the hard drive will be formatted and partitioned.

   You can also mount the hard disk drive using the Linux Platform settings.

   The system prompts you to type the **Mount Point**.
4. In the **Mount Point** field, type `/CSIPORec`.

Related topics:

Mounting the hard disk drives on page 57
Installing and configuring Contact Recorder on page 58

Mounting the hard disk drives

Before you begin

Start Linux Platform settings for IP Office Server Edition server. For more information about Linux Platform settings, see *Deploying IP Office Server Edition* guide.

Start the Web Control Panel for the Application Server.

About this task

If you do not mount the hard disks during the Ignition process, you can mount the hard disks using the Linux Platform settings.

If you add an additional hard disk drive after Ignition and if the system recognizes the additional hard disk drive that you just added, then the system updates the **Settings** > **System** page of the Linux Platform settings or the Web Control Panel.

Procedure

1. Select **Settings** > **System**.
2. In the **Additional Hardware Settings** section the system displays the details of the hard disk drive.
3. Enable **Active**.
4. In the **Mount Point Path** filed, type `/CSIPORec`.

   If the drive is mounted, the system displays the current mount point path. If the drive is partitioned, the system displays the parent folder of the partitions' subfolders. Otherwise the **Mount Point Path** field is empty.
5. Click **Save**.

Example

To unmount the hard disk drive do not select **Activate**.

Note:

The value for **Mount Point Path** filed, must be `/CSIPORec`.

Installing and configuring Contact Recorder

The Contact Recorder rpm is not installed by default on the IP Office server. The rpm is packaged with the image and you can install Contact Recorder using IP Office Web Manager.

Before you begin

Start Linux Platform settings for the IP Office Server Edition server. For more information about Linux Platform settings, see *Deploying IP Office Server Edition* guide.

Start the Web Control Panel for the Application Server.

Procedure

1. Select **Updates**
2. Click **Install** for **Contact Recorder** application.

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After the system installs the application, the system updates the application in the **System** page. However, you will need to start the service.

Note:

Before you start the service ensure that the **Mount Point Path** filed, is set as `/CSIPORec`. For more information see, Mounting the hard disk drives on page 57.

3. To start the Contact Recorder service on the **System** page, click **Start**.

Next steps

Start the Contact Recorder Service and go to the Contact Recorder Administration page.

1. Go to **General Set up** tab and set the **Call Storage Path** to `/CSIPORec`.

Note:

You must set the **Call Storage Path** field to `/CSIPORec` for the Contact Recorder to use the additional hard disk drive.

2. Restart the Contact Recorder service using the Linux Platform settings or the Web Control Panel.

Replacing a failed hard disk drive

Before you begin

Shutdown the server using IP Office Web Manager.

Procedure

1. Remove and replace the additional hard disk drive.

   Check if the system recognizes the new hard disk drive in the BIOS settings

2. If the system recognizes the hard drive, the system updates the **Settings** > **System** tab of the Linux Platform settings.

   If the system does not recognize the hard disk drive, check if the replacement drive is of the correct type and check the BIOS settings.

3. Set the mount point to */CSIPORec*, then and save the configuration.

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Chapter 8: Initial administration

Routine maintenance

Routine maintenance checklist

Routine maintenance tasks consist of daily, weekly, and monthly backups and software version updates.

#	Task	Description	Notes	✔
1	Back up the database daily.			
2	Improve the database access time monthly or up to every 3 months.	After initial installation, when more changes typically occur, Avaya recommends a weekly interval. The interval depends on the data quantity. Smaller data quantities require longer intervals.	This process can take several hours.	
3	Reorganize the UM database monthly.	Some tables in the database are called data-only locked (DOL) tables. These tables have different structures than those used as all pages locked (APL) tables.		
4	Perform periodic database updates.			
5	Perform periodic system diagnostics.			

Related topics:

GUID-4D28F74C-6214-4801-A0D1-08340DFEA102
GUID-083C4BF3-6B10-46D9-84B7-0680F8B25D84
Backing up a database on page 62
Reorganizing the UM database on page 64
Restoring a database on page 66
Verifying server and backup page sizes on page 67
Separating log and data segments on page 68
Verifying telephony on page 71
Using database backup compression on page 81
Checking database used and free space and memory capacity on page 91

Backing up a database

Use database backups to analyze errors, to restore lost data, and to maintain transaction logs for the Sybase Adaptive Server Enterprise (ASE) system.

Tip:

You can back up a database to a file and copy it to a newly created database.

Tip:

Alternatively, you can back up all databases using a batch file. Typically, it is located at `\Utilities`.

1. Open the command prompt.
2. Copy the batch.bat file from the `\Utilities` directory to the hard disk.
3. Type `backup <password> <targetpath>`.

   Where,

   <password> is the *sa* password.

   <targetpath> is the location where you want to save the databases.

Before you begin

If you are backing up the database to a server location, ensure that the server is within the same system as the Sybase ASE installation.

About this task

You can back up a database to a file on another server in the enterprise or to a DAT tape using the Sybase Central administration tool. You can back up a database while the system is running.

Use the following guidelines for database backups:

- Complete a full backup after initial installation
- Back up all databases daily.

Tip:

If backup server space is limited, you can use backup compression. For more information, see Using database backup compression on page 81.

See the Sybase online help for more information.

Procedure

1. Click **Start** > **Sybase Central**.
2. Click **Connect** > **Connect to Adaptive Server Enterprise**.
3. In the Connect dialog box, enter the uesrname `sa`.
4. Enter the password.
   If you have forgotten the password, see Resetting the database sa password on page 87.
5. Click **OK**.
6. Right-click the database name.
7. On the pop-up menu, click **Backup**.
8. Select the database.
9. Select **Backup the entire database**.
10. Click **Next**.
11. Click **Add**.
12. Select **Explicit dump device**.
13. Enter the file name for the backup including the file path.
    For example: `z:\DBBackup\db_cc.bck`
14. Click **OK**.
15. Click **Next**.
16. Accept the defaults.
17. Click **Next**.
18. Accept the defaults.
    The backup begins. The amount of time the backup takes depends on the size of the database.
19. Click **Finish**.
20. Check the log for errors.

Improving database access time

When you make data changes in the database tables, the database access time increases over time, specifically for reporting tables. To counteract this performance loss, Avaya recommends that you update the index reporting at regular intervals.

About this task

This process can take several hours.

Procedure

1. Click **Start** > **Run...** and enter `c:\Windows\system32\cmd.exe` to open the MS-DOS Command Prompt window. Click **OK**.
2. At the command prompt, type `isql –U sa –P` *`password`* and press **Enter**.

   If you have forgotten the password, see Forgotten the password to login as sa on page 87.
3. At the command prompt, type `use` *`dbname`*, where *dbname* is the name of the database you want to improve, and press **Enter**..
4. Type `go` and press **Enter**.
5. Type `exec sp_m_updatestatus` and press **Enter**.
6. Type `go` and press **Enter**.

Reorganizing the UM database

Some database tables are called data only locked (DOL) tables. These tables have different management structures than the all pages locked (APL) tables. Avaya recommends that you maintain DOL tables monthly to ensure that they function efficiently. The DOL tables are:

- C3K_ADDRESSEE
- C3K_DOCPROP
- C3K_DOCUMENT
- C3K_DOCUMENT_INDEX
- C3K_EVENT
- C3K_METAREQUEST
- C3K_REQUEST

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About this task

Use Microsoft Windows Task Scheduler or create a Scheduled Task in Windows 2003 to run a script to reorganize the DOL tables.

Procedure

1. Using a text file editor, create a SQL script called `reorgC3K.sql`.
   The text file should contain the following lines:

   ```
   use c3k
   go
   reorg conpact C3K_ADDRESSEE
   go
   reorg conpact C3K_DOCPROP
   go
   reorg conpact C3K_DOCUMENT
   go
   reorg conpact C3K_DOCUMENT_INDEX
   go
   reorg conpact C3K_EVENT
   go
   reorg conpact C3K_METAREQUEST
   go
   reorg conpact C3K_REQUEST
   go
   ```

2. Using a text file editor, create a batch file called `reorgC3K.bat` that runs the new `reorgC3K.sql` file.
   For example:

   ```
   @ECHO OFF
   setlocal ENABLEEXTENSIONS ENABLEDELAYDEXPANSION

   set UID=sa
   set PWD=PASSWORD

   echo ------------------------------------------
   echo REORG BEGIN %date% %time:~0,8%
   echo.
   isql -Jutf8 -U%UID% -P%PWD% -ireorgC3K.sql -p
   echo.
   echo REORG END     %date% %time:~0,8%
   echo.
   endlocal
   ```

   where *PASSWORD* is the sa password for your system.

3. Save both files to a folder.

For example: `c:\reorg_task`

4. Start **Task Scheduler** in Windows.
5. Create a new task to run the batch file on a monthly schedule.
   For example:

   ```
   c:\reorg_task\reorgC3K.bat>> reorg.log 2>% 1
   ```

Restoring a database

Before you begin

- Stop the Watchdog service.
- Ensure that the following database size settings match:
  - Size of the database device
  - Size of the log device
  - Page size
- Ensure that no active database connection exists.

Procedure

1. Click **Start** > **Sybase Central**.
2. Click **Connect** > **Connect to Adaptive Server Enterprise**.
3. In the Connect dialog box, enter the uesrname `sa`.
4. Enter the password.
   If you have forgotten the password, see Resetting the database sa password on page 87.
5. Click **OK**.
6. On the pop-up menu, click **Restore**.
7. Select **Restore the entire database**.
8. Click **Next**.
9. Click **Add**.
10. Click **Next**.
11. Click **Add**.
12. Select **Explicit dump device**.
13. Enter the file name for the backup including the file path.
    For example: `z:\DBBackup\db_cc.bck`

14. Click **OK**.
15. Click **Next**.
16. Accept the defaults.
17. Click **Next**.
18. Accept the defaults.
19. Click **Finish**.
20. Right-click the database.
21. On the pop-up menu, click **Online**.

Next steps

If you restore a database to a new computer, for example, in the case of a hardware replacement, then you must separate the log and data segments.

If problems occur after you restore a database, see Problems after restoring a database on page 98.

Related topics:

Verifying server and backup page sizes on page 67
Separating log and data segments on page 68

Verifying server and backup page sizes

About this task

Procedure

1. Click **Start** > **Run...** and enter `c:\Windows\system32\cmd.exe` to open the MS-DOS Command Prompt window. Click **OK**.
2. At the command prompt, type `isql –U sa –P` *`password`* and press **Enter**.

   If you have forgotten the password, see Forgotten the password to login as sa on page 87.
3. At the command prompt, type `select @@maxpagesize` and press **Enter**.
4. Type `go` and press **Enter**.
   The screen displays one of the following:
   - 2048 for a server page size of 2K
   - 8192 for a server page size of 8K
5. To verify the backup page size, at the command prompt, type `load database` *`dbname`* `from 'pfadname\filepath' with headeronly` and press **Enter**.

6. Type `go` and press **Enter**.
   As an example, the screen displays the following information:

```
Backup Server session id is:    5.  Use this value when executing the
'sp_volchanged' sysetm stored procedure after fulfilling any volume change
request from the Backup Server.
...
Oct 01 20:05:. Database page size is 8192.
Database contains 156672 pages; checkpoint RID=(Rid pageid = 0x23alf; row
num = 0x3a); next object ID=157292639; sort order ID=101, status=12;
charset id=190
...
```

Separating log and data segments

If you restore a database to a computer other than the one on which you created the database, then it is possible that log and data segments are no longer separated on the appropriate devices. When the log and data segments are not separate, performance reduction and extended start times may occur. Restore the separation between the log and data segments.

About this task

The following steps use the cc database as an example. Replace *cc* in the steps below with the name of the database that you are trying to repair.

Procedure

1. Click **Start** > **Run...** and enter `c:\Windows\system32\cmd.exe` to open the MS-DOS Command Prompt window. Click **OK**.
2. At the command prompt, type `isql –U sa –P` *`password`* and press **Enter**.
   If you have forgotten the password, see Forgotten the password to login as sa on page 87.
3. At the command prompt, type `sp_helpdb` *`dbname`* and press **Enter**.
4. Type `go` and press **Enter**.
   As an example, the screen displays the following information:

```
name                            db_size
                owner                           dbid
                created
                durability
                lobcomplvl
                inrowlen
                status
------------------------------------------------------------------
------------------------------------------------------------------
cc                               1700,0 MB
                cuser
                Mar 26, 2014
                full
                       NULL
                     NULL
```

```
                trunc log on chkpt, ddl in tran, abort tran on log full,
mixed log and data
```

If `mixed log and data` appears in the output, then log and data segments are not separated.

5. Ensure that no other users are logged in to the database. At the command prompt type `sp_m_connections` and press **Enter**.
6. Type `go` and press **Enter**.
7. Type `sp_sh_dboption` *`dbname`*`, single, true` and press **Enter**.
8. Type `go` and press **Enter**.
9. Type `use` *`dbname`* and press **Enter**.
10. Type `go` and press **Enter**.
11. Log in to Sybase Central with the **sa** user ID.
12. Open the folder Databases.
13. Right click on **database cc** and select **Properties**.
14. Select the **Options** tab and check **single user**.
15. Click **Apply**.
16. Click the **Devices** tab and select **cclogdev** and then click **Move log**.
17. Click **OK**.
18. Expand the navigation tree entry for **database cc**.
19. In the **Segments** folder, right click **logsegment** and select **Properties**.
20. In the **Devices** folder, select **ccdev** and click **Remove**.
21. Click **OK**.
22. Right click **database cc** and select **Properties**.
23. Click the **Options** tab and uncheck **single user**.
24. Click **OK**.
25. Open a command window, type `isql -Usa -P<sybasepassword>` and press **Enter**.
26. Type `use cc` and press **Enter**.
27. Type `go` and press **Enter**.
28. Type `sp_dropsegment 'logsegment', 'cc', 'ccdev'` and press **Enter**.
29. Type `go` and press **Enter**.
30. Type `sp_extendsegment ,default', cc, ccdev` and press **Enter**.
31. Type `go` and press **Enter**.

32. Type `sp_extendsegment ,system', cc, ccdev` and press **Enter**.
33. Type `go` and press **Enter**.
34. Type `quit` and press **Enter**.

Chapter 9: Post-installation verification

Logging in as an agent

Procedure

1. Select **Start** > **Programs** > **Avaya IP Office Contact Center** > **User Interface**.
   The system displays the Avaya IP Office Contact Center login page.
2. Select **Agent1** from the **Username** drop-down list.
   You can choose *Agent1*, or *Agent2*, or *Agent3*.
3. Type the default password *cc123456*.
4. Select the IP Office extension of the agent from the **Telephone Extension**.
5. Click **Login**.
   The system displays the IP Office Contact Center window.

Related topics:

Verifying telephony on page 71
Verifying chat functionality on page 72
Verifying email on page 72

Verifying telephony

Procedure

1. Login as a *Agent*
2. Select **Go to** > **Telephony**.
3. Select **Sign on all AGs**.
4. Make test calls.

Verifying chat functionality

Procedure

1. Login as a *Agent*
2. Select **Go to** > **Chat**.
3. Select **Sign on all AGs**.
4. Open chat requests to the XMPP server with a chat client such as *Gajim*

Verifying email

Procedure

1. Login as a *Agent*
2. Select **Go to** > **email**.
3. Select **Sign on all AGs**.
4. Send emails to the IP Office Contact Center system.

Logging in as a supervisor

Procedure

1. Select **Start** > **Programs** > **Avaya IP Office Contact Center** > **User Interface**.
   The system displays the Avaya IP Office Contact Center login page.
2. Select **Supervisor** from the **Username** drop-down list.
3. Type the default password *cc123456*.
4. Select the IP Office extension of the supervisor from the **Telephone Extension**.
5. Click **Login**.
   The system displays the IP Office Contact Center window.

Related topics:

Verifying realtime information on page 73

Verifying realtime information

Procedure

1. Login as a *Supervisor*
2. Select **Go to** > **Realtime information**.
3. Select **AG_Default** in **Predefined.**.
4. Select an *AG*.
5. Check the realtime information.
6. Select **Topic_Default** in **Predefined.**
7. Select a *Topic*.
8. Check the realtime information.

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Chapter 10: Installation on a virtual server

You can install IP Office Contact Center on a VMware virtual server. The Open Virtualization Archive (OVA) file contains a pre-installed IP Office Contact Center instance that can be deployed on VMware Hypervisor.

In this OVA distribution, automatic Windows updates are not enabled. If you want to turn on automatic Windows updates, choose the option to **Download updates but let me choose whether to install them**. Download only important updates.

In this OVA distribution, remote connections to the IP Office Contact Center server are allowed.

Installing the OVA file on VMware

Before you begin

The following requirements must be met.

- VMware ESXi 5.1 or greater installed and configured
- You must use the ESXi hardware with a CPU clock speed greater than or equal to 2.4 GHz. For full performance, use ESXi Hardware with a CPU clock speed greater than or equal to 3 GHz.
- Virtualized IP Office Contact Center needs the following resources on the VMware host:
  - 250 GB disk space, thick provisioning
  - 8 GB memory
  - 1 CPU, 4 core

  Reserve memory and CPU resources using vSphere Client for the IP Office Contact Centerserver. Select **Edit settings** > **Resources** or create an own resource pool for the IP Office Contact Center server. Reserve a minimum of 6 GB Memory and 4x max. CPU clock. For example: For ESXi hardware with a CPU of 2.4 GHz clock speed, you must reserve 9600 MHz.
- **Note:**

  To activate the Windows 2012 operating system you need a valid product registration key. Contact Microsoft or an authorized reseller to procure the Windows operating system.

  Microsoft operating system licenses are specific to the hardware and limited to only 4 processors on that hardware. If you run the software on more than 4 processors, then you need additional licenses.

Procedure

1. Start the VMware vSphere client.
2. Log in to the vCenter server with a user ID that has permission to deploy new virtual machines.
3. From the **File** menu, select **Deploy OVF Template** and the load the IP Office Contact Center OVA file.
4. Enter a name and location for the IP Office Contact Center server.
5. For storage, choose the local storage device or a SAN storage device.
6. For the disk format, the following options are supported.
    - Thick Provisioning Lazy Zeroed
    - Thick Provisioning Eager Zeroed
7. Start the IP Office Contact Center virtual server machine.
8. Launch the virtual machine console from the vSphere client.
9. During the initialization of Windows, you must enter the following information.
    - Country or region.
    - App language (you must select English).
    - Keyboard layout
    - Product key (if you don't have a product key, you can skip this setting.
    - A password for the **Administrator** user.
10. After Windows initialization is complete, log in as **Administrator**.
11. Locate the `readme.rtf` file on the desktop. Open the `readme.rtf` file and follow the instructions.

Setting up the network

Procedure

1. In the Windows task bar, in the system tray, right click **Network and Sharing Center**.
2. In the Network and Sharing Center window, click **Ethernet**.
3. Click **Properties**.

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4. Click the check box to uncheck **Internet Protocol Version 6 (TCP/IPv6)**.
5. Click the check box to check **Internet Protocol Version 4 (TCP/IPv4)**.
6. Click **Properties**.

   Note:

   Do not activate **Obtain an IP address automatically**.
7. Enter the appropriate information for the following fields:
   - **IP Address**
   - **Subnet Mask**
   - **Default Gateway**
   - **Preferred DNS Server**
8. Click **OK**.
9. Click **Close** and then click **Close** again.

Setting the computer name and activating Windows

Before you begin

Note:

To activate the Windows 2012 operating system you need a valid product registration key. Contact Microsoft or an authorized reseller to procure the Windows operating system.

Procedure

1. Open a Windows Explorer window.
2. Right click **This PC** and then select **Properties**.
3. Click on the **Change Settings** link associated with **Computer Name**.
4. Click **Change**.
5. Enter a computer name and click **OK**.

   Use only computer names with the numbers 0-9 and letters A-Z, a-z. Do not use special characters.
6. You receive the prompt **You must restart your computer to apply these changes**. Click **Restart Later**.
7. Click **Activate Windows**.

Ensure that you have access to the internet.

8. Enter the Windows product key and then click **Close**.
9. Reboot the machine.

Applying the configuration changes

Procedure

1. Log in to Windows.
2. On the desktop, double click the **Services** shortcut.
3. Stop the **IPOCC Watchdog** service.
4. Close the applications **TT Display** and **TT Console**.
5. From the Windows Start menu, open Control Panel.
6. Click **Phone and Modem**.
7. Click the **Advanced** tab and then select **Avaya IP Office TAPI2 Service Provider**.
8. In the **Switch IP Address** field, enter the IP address of the IP Office system.
9. The **Switch Passwor**d field is set to the default value **password**. This value must match the IP Office system password.

   On IP Office, the system password is set at **Security Settings** > **System** > **Unsecured Interfaces** > **System** > **Password**
10. On the desktop, double click `AdjustHostname.exe`.
11. Once the configuration has been applied, you are prompted for the user name and password for **Database Access**. Enter the user name **sa** and enter the password **Administrator**.

    Ensure that the password that you set for *sa* user and the *WebLM* is the same.
12. Click **Apply**.
13. Once the AdjustHostname process has completed, reboot the machine.

Importing customer data

Before starting this procedure, wait for complete start of IP Office Contact Center processes. You can verify process start with TT Display.

In this procedure, you will use the Data Import Tool (DataImport.exe) which you have created with the Excel template `Avaya_IP_Office_Contact_Center_Configuration.xltm` to import your customer data.

Procedure

Use the DataImport tool to import customer data.

Installing a license

Before you begin

In order to generate a valid license, you need the MAC address of the virtual server. You can determine the MAC address using the vSphere client.

1. Select **Edit Settings** and then click on the **Hardware** tab.
2. Click **Network Adapter 1** and then look for the **MAC Address**.

Use the Avaya Product Licensing and Delivery System (PLDS) at https://plds.avaya.com to generate and download license files. PLDS is an online, Web-based tool for managing license entitlements and electronic delivery of software and related license files.

Procedure

1. On the IP Office Contact Centerserver, open a web browser and connect to WebLM using the address `https://<hostname>:8443/WebLM`.

   Where <hostname> is the host name of the IP Office Contact Centerserver.

   Note that WebLM is case sensitive.
2. Login with the user ID **admin** and the password **weblmadmin**.
3. You must change the password after the first login and then log in with the new password.

   Ensure that the password that you set for *sa* user and the *WebLM* is the same.
4. Click **Install license**.
5. Navigate to your license file and click **Install**.

6. Click **Licensed Products** to check your license.
7. Restart the IPOCC Watchdog process.

Chapter 11: Optimization

Database optimization

Creating a connection profile in Sybase Central

About this task

Create a connection profile for the CC database in Sybase Central to start the application without the need to enter the sa user ID each time.

Procedure

1. Start Sybase Central.
2. On the **Tools** menu, select **Connection Profile**.
3. Click **New**.
4. Enter a name for the profile. For example, `cc`.
5. Click **OK**.
6. Select the new connection profile.
7. Click **Start enable**.
8. Click **Close**.

Using database backup compression

If your backup server space is limited, compression allows you to store larger databases without using large amounts of hard drive space.

Before you begin

- Ensure that you have network access to a backup server.

Tip:

Set up an account in the service manager to allow the **SybaseBckServer** service to access the network backup server. The folder address for the backup files must be an UNC address. For example: `\\myServer\myPath\myFile`.

About this task

You can choose from different compression levels between 1 and 9: 1 is the smallest amount of compression and 9 is the largest. Higher compression levels require more time for the backup to complete. You can also choose compression level 100 or 101 which use less CPU-intensive compression algorithms and work more quickly.

Procedure

1. Click **Start** > **Run...** and enter `c:\Windows\system32\cmd.exe` to open the MS-DOS Command Prompt window. Click **OK**.
2. At the command prompt, type `isql –U sa –P` *password* and press **Enter**.

   If you have forgotten the password, see Forgotten the password to login as sa on page 87.
3. Optional. Set the **Allow remote access** parameter on the remote server if it has not already been set.
   a. At the command prompt, type: `sp_configure 'allow remote access', 1` and press **Enter**.
   b. Type `go` and press **Enter**.
   c. Add the following lines to the `%SYBASE%\ini\sql` file on the source server:

      ```
      master=NLWNSCK, targetserver,5001
      query=NLWNSCK, targetserver,5001
      ```
4. At the command prompt type `go` and press **Enter**.
5. To restore a database from a compressed backup file, type `load database` *dbname* `from 'path\filename'` and press **Enter**.
6. Type `go` and press **Enter**.

Moving a database to another device

Before you begin

Stop all database activities.

About this task

Use mirroring to move a database to another device. There are three main steps to moving a database using this method:

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1. Mirror the original device on a new device.
2. Define the second device as the primary device.
3. Suspend the mirroring.

In most cases data and transaction logs are on different devices. With the removal of a database you can also move the transaction log. If the data and transaction log are on different physical hard drives, then this can positively affect the performance.

Note:

The duration of the mirroring depends on the size of the device and the flow rate of the involved hard drives.

Procedure

1. Click **Start** > **Run...** and enter `c:\Windows\system32\cmd.exe` to open the MS-DOS Command Prompt window. Click **OK**.
2. At the command prompt, type `isql –U sa –P password` and press **Enter**.

   If you have forgotten the password, see Forgotten the password to login as sa on page 87.
3. At the command prompt, type `sp_configure 'disable disk mirroring', 0` and press **Enter**.
4. Type `go` and press **Enter**.
5. Type `shutdown` and press **Enter**.
6. Type `go` and press **Enter**.
7. Start the **Sybase SQL Server**.
8. At the command prompt, type `disk mirror name = 'dbname', mirror = 'new location path and .dat filename'` and press **Enter**.
9. Type `go` and press **Enter**.
10. Type `disk unmirror name = 'dbname', side = 'primary', mode = remove` and press **Enter**.
11. Type `go` and press **Enter**.
12. Type `sp_configure 'disable disk mirroring', 1` and press **Enter**.
13. Type `go` and press **Enter**.
14. Restart the **Sybase SQL Server**.

Example

The system displays status information. For example:

```
Creating the physical file for the mirror...
Starting Dynamic Mirroring of 131072 pages for logical device 'ccdev'.
          512 pages mirrored...
```

```
          1024 pages mirrored...
          1536 pages mirrored...
```


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Chapter 12: Troubleshooting

General troubleshooting information

File locations

If you are using Microsoft Windows 2008, the system files and log files are stored in the following locations:

Files	Location
All IP Office Contact Center component files	`C:\Program Files (x86)\Avaya\IP Office Contact Center\`
Watchdog files	`C:\Program Files (x86)\Avaya\IP Office Contact Center\Watchdog`
Task flow data files and recorded message files	During activation of a task flow, the task flow is exported and the exported file with suffix cfe is stored in the folder `C:\Users\Public\Documents` Voice messages recorded with the internal IVR are stored in the folder `C:\ProgramData\Avaya\IP Office Contact Center\VoiceControl\work\DefaultRecordings`
Task flow export files	If you use a User Interface on a server, the TaskFlow Editor export files will be stored here: `C:\Users\Public\Documents`.

Error dump files	`C:\Users\`*`username`*`\AppData\Local\Temp\`
	or
	`C:\ProgramData\Microsoft\Windows\WER\ReportQueue\`

Files	Location
TTrace log files	C:\ProgramData\Avaya \TTLogfiles
Exported statistic reports	C:\ProgramData\reporting data
Installation logs	SetupWizard and every setup created is stored in a log file in the folder C:\Users \<LOGGEDIN USER>\AppData \Local\Temp
Sybase Log	Logs for database issues are ASE.log and ASE_BS.log. Both in C:\Sybase \ASE-15_0\install

Creating an error dump file

An application debugging process is not available with Microsoft Windows 2008 or Windows 2012. You can create an error dump output file after an error occurs in a system component. Use this file to submit to Avaya support to help with the debugging process.

Before you begin

Edit the **HKLM\SOFTWARE\Microsoft\Windows\Windows Error Reporting** entry in the Windows registry. Change the **DWORD** parameter to ForceQueue with a value of 1.

Procedure

1. Click **Start**.
2. Enter **View all problem reports**.
3. Click **View all problem reports**.
4. To view a problem report, double-click on a report entry in the list. If a report exists, the list displays **View a temporary copy of these files**.

   For more information, see http://msdn.microsoft.com/en-us/library/bb787181%28v=VS.85%29.aspx.

Comments? infodev@avaya.com

Database diagnostics and stored procedures

Forgotten the password to log in as *sa*

If you forget the password for the sa login, you can start the server with a simultaneously generated password.

Before you begin

Stop the **Sybase SQLServer_servername** service.

About this task

This procedure produces many outputs. Set the window buffer to the maximum value of 9999. Alternatively, you can write the output to a file.

Procedure

1. Click **Start** > **Run...** and enter `c:\Windows\system32\cmd.exe` to open the MS-DOS Command Prompt window. Click **OK**.
2. At the command prompt, type `sqlsrvr –p sa` and press **Enter**.
3. Search the output for the string `New SSO password for sa:` and note the password.
4. Login using the new password.
5. Change the password.
   a. At the command prompt, type `isql –U sa –P password` and press **Enter**.
   b. Type `sp_password currentPassword, newPassword` and press **Enter**.
   c. Type `go` and press **Enter**.
   d. Type `shutdown` and press **Enter**.
   e. Type `go` and press **Enter**.
6. Restart the **Sybase SQLServer_servername** service.

Related topics:

Changing the password using Sybase central on page 87

Changing the password using Sybase central

Procedure

1. Right-click *sa* in the folder `Logins`.
   The system displays a context menu.

2. Select **Properties**.
3. Click **Register Parameters**.
4. Click **Change Password**.
5. Type the new password.
6. Click **OK**.

Finding system information

About this task

View Sybase ASE common configuration settings.

Procedure

1. Click **Start** > **Run...** and enter `c:\Windows\system32\cmd.exe` to open the MS-DOS Command Prompt window. Click **OK**.
2. At the command prompt, type `isql –U sa –P` *password* and press **Enter**.

   If you have forgotten the password, see Forgotten the password to login as sa on page 87.
3. At the command prompt, type `sp_m_systeminfo` and press **Enter**.
4. Type `go` and press **Enter**.

Result

As an example, the system displays the following information:

```
Version Information
===================================

server: Adaptive Server Enterprise/15.5/EBF 18373 SMP ESD#3/P/NT (IX86)/Windows
2003/asear155/2531/32-bit/OPT/Fri Jan 15 01:57:26 2014

Server Configuration
===================================

page size:                8k
max memory:                262144 2k pages, 512 MB
memory left:                5372 2k pages, 10 MB
procedure cache:                24576 2k pages, 48 MB
data cache:                291260 kByte
nbr of connections:    200
max online engines:                3
engines at startup:                3

Databases
=========
name         size(MB    used(MB)     free(MB
------------------------ ------------ ----------- ------------
```


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```
adb         500    78    422
adbtmp       50     7     43
Addressbook  12     7      5
c3k        1024    65    959
c3ktmp      100     7     93
cc         1176   367    809
cctmp       200     8    192
mediastore  100    10     90
mediatmp     50     7     43
tempdb      112     8    104
tr         1400    29   1371
trtmp        50     7     43
umarchive   700    22    678
umarchivetmp  100    7     93
```

Related topics:

[Finding the error log file](#) on page 89
[Finding the database server name](#) on page 89
[Finding the database server version numbers](#) on page 90
[Finding the open server and client library version numbers](#) on page 90

Finding the error log file

Procedure

1. Click **Start** > **Run...** and enter `c:\Windows\system32\cmd.exe` to open the MS-DOS Command Prompt window. Click **OK**.
2. At the command prompt, type `isql –U sa –P` *password* and press **Enter**.

   If you have forgotten the password, see Forgotten the password to login as sa on page 87.
3. At the command prompt, type `select @@errorlog` and press **Enter**.
4. Type `go` and press **Enter**.

Example

The system displays the error log file path and filename. For example:

```
------------------------------------
C:\Sybase\ASE-15_0\install\ASE.log
```

Finding the database server name

Procedure

1. Click **Start** > **Run...** and enter `c:\Windows\system32\cmd.exe` to open the MS-DOS Command Prompt window. Click **OK**.
2. At the command prompt, type `isql –U sa –P` *password* and press **Enter**.

   If you have forgotten the password, see Forgotten the password to login as sa on page 87.
3. At the command prompt, type `select @@servername` and press **Enter**.

4. Type `go` and press **Enter**.

Example

The system displays the name of the database server. For example:

```
------------------------------
ASE
```

Finding the database server version numbers

Procedure

1. Click **Start** > **Run...** and enter `c:\Windows\system32\cmd.exe` to open the MS-DOS Command Prompt window. Click **OK**.
2. At the command prompt, type `isql –U sa –P` *password* and press **Enter**.

   If you have forgotten the password, see Forgotten the password to login as sa on page 87.
3. At the command prompt, type `select @@version` and press **Enter**.
4. Type `go` and press **Enter**.

Example

The system displays the database server version numbers. For example:

```
------------------------------------------------------------------
------------------------------------------------------------------
Adaptive Server Enterprise/15.5/EBF 17218 SMP/P/NT (IX86)/Windows 2003/ase155/2
                391/322-bit/OPT Mon Nov 09 14:18:14 2014
```

Finding the open server and client library version numbers

Procedure

1. Click **Start** > **Run...** and enter `c:\Windows\system32\cmd.exe` to open the MS-DOS Command Prompt window. Click **OK**.
2. At the command prompt, type `isql –U sa –P` *password* and press **Enter**.

   If you have forgotten the password, see Forgotten the password to login as sa on page 87.
3. At the command prompt, type `bcp –v` and press **Enter**.
4. Type `go` and press **Enter**.

Example

The system displays the database server version numbers. For example:

```
Sybase CTBCP Utility/15.5/P-EBF17949 ESD #5/PC Intel/BUILD1550-007/OPT/Tue Nov 25
00:45:29 2014
```

Checking database used and free space and memory capacity

Check the following characteristics of a database:

- Size
- Used space
- Free space

Procedure

1. Click **Start** > **Run...** and enter `c:\Windows\system32\cmd.exe` to open the MS-DOS Command Prompt window. Click **OK**.
2. At the command prompt, type `isql –U sa –P` *`password`* and press **Enter**.

   If you have forgotten the password, see Forgotten the password to login as sa on page 87.
3. At the command prompt, type `sp_m_checkspace` *`dbname`*, where *dbname* is the name of the database that you want to check, and press **Enter**.
4. Type `go` and press **Enter**.
   The system displays size, used space, and free space. For example:

```
  DB Name                                        size        used         free
------------------------------------------------ ------------
------------- -----------
cc                                            1024MB      171MB        853MB

(1 row affected)
 DB Name                                        size        used         free
------------------------------------------------ ------------
------------- -----------
cc                                                200MB        1MB
199MB
```

Setting database free memory threshold values

When the acb, cc, and tr database free memory threshold values reach 80%, 85%, and 90%, the system adds warning messages to the db_srv log file and Sybase error log file. For example:

```
free space threshold passed db-=cc, segment=default, fill level=80% (13300 pages
left), status=1
```

About this task

Set the high, medium, and low free memory threshold values to tell the system when to add warning messages to the log file. The default values are 80%, 85%, and 90%.

Procedure

1. Click **Start** > **Run...** and enter `c:\Windows\system32\cmd.exe` to open the MS-DOS Command Prompt window. Click **OK**.
2. At the command prompt, type `isql –U sa –P password` and press **Enter**.

   If you have forgotten the password, see Forgotten the password to login as sa on page 87.
3. Type `sp_m_setthresholds dbname, high, medium, low` and press **Enter**.
   For example:

   ```
   1> sp_m_setthresholds adb, 20, 15, 10
   ```

   Tip:

   Enter a `?` in place of the *dbname* to see Sybase help for the stored procedure.
4. Type `go` and press **Enter**.

Using stored procedures

You can use the stored procedures to query the database memory capacity and the connections to the database server.

See the Sybase online help for more information.

Procedure

1. Click **Start** > **Run...** and enter `c:\Windows\system32\cmd.exe` to open the MS-DOS Command Prompt window. Click **OK**.
2. At the command prompt, type `isql –U sa –P password` and press **Enter**.

   If you have forgotten the password, see Forgotten the password to login as sa on page 87.
3. At the command prompt, type the stored procedures command and press **Enter** and the required variables and values, if necessary.
4. Type `go` and press **Enter**.
   The system displays the information defined by the command.

Troubleshooting configuration errors

Error: 100011 Data not found or changed

Error code `100011 Data not found or changed`

Trigger component UMR Admin

Problem description

When trying to configure an agent's email account, the UMR Admin component displays the error message listed above or this message:
`E-Mail is already assigned to a user ...!`

While you can delete an agent in the system, the C3000 system does not allow user deletion. The C3000 system identifies users with the @ symbol and a sequential number. For example, *username@1*.

Solution

Procedure

Do not edit or select deleted agents in UMR Admin.

Error: 1205 Your server command was deadlocked

Error code `1205 Your server command (process id 127) was deadlocked with another process and has been chosen as deadlock victim. Re-run your command.`

Trigger component Sybase ASE

Problem description

In a deadlock situation, two or more processes wait for resources such as a table or an index while it is in use by another process. The process with the smallest computing time is typically terminated. Deadlocks add an error message to the db_srv log file.

Solution

About this task

If deadlocks occur frequently, you can configure the error message output to provide additional information such as current process and the SQL query to the log file. Use that information to manage database processing delays. For more information see, Database processing delays on page 95 and Multiple processor optimization.

Procedure

1. Click **Start** > **Run...** and enter `c:\Windows\system32\cmd.exe` to open the MS-DOS Command Prompt window. Click **OK**.
2. At the command prompt, type `isql –U sa –P` *password* and press **Enter**.
   If you have forgotten the password, see Forgotten the password to login as sa on page 87.
3. At the command prompt, type `sp_configure 'print deadlock information', 1` and press **Enter**.
4. Type `go` and press **Enter**.

Error: Cannot connect to Windows Firewall

Error code `Cannot connect to Windows Firewall`

Trigger component Microsoft Windows Firewall Internet Connection Sharing (ICS)

Problem description

The Naming Service and the License Client installation process accesses the Windows Firewall ICS service. If the Windows Firewall service is not active, an error occurs.

Solution

Procedure

1. Click **Start** > **Settings** > **Control Panel**.
2. Double-click **Windows Firewall**.
   If the ICS service is not running, this step will start the service.
3. Continue with the system installation.

Agent receives a winmail.dat or win.dat file

An agent may receive an email with an attached file named `winmail.dat` or `win.dat`. The agent cannot open this file using the normal method.

Solution

Microsoft uses a proprietary format called Transport Neutral Encapsulation Format (TNEF) for the attached files.

Procedure

Use an application such as Winmail Opener to open the attachment.

The application is available from the Internet. For more information, see http://support.microsoft.com/kb/241538/.

Database processing delays

If a process accesses a table, the system locks the table and its parts. If another process tries to access the same data structure, that process must wait until the lock is released. Locking can lead to processing delays. A problem can also occur if a process does not release a lock because of an error.

Solution

About this task

Determine if a process has locked a table. Assign a system process identifier (spid) to a process to be able to terminate the blocking process.

Procedure

1. Click **Start** > **Run...** and enter `c:\Windows\system32\cmd.exe` to open the MS-DOS Command Prompt window. Click **OK**.
2. At the command prompt, type `isql –U sa –P` *`password`* and press **Enter**.

   If you have forgotten the password, see Forgotten the password to login as sa on page 87.
3. Type `sp_who` and press **Enter**.
4. Type `go` and press **Enter**.

The system displays a list of existing processes and a number greater than or less than 0 in the `blk_spid` column if the process is blocked. The number corresponds to blocking process's spid.

5. Type `sp_m_connections` and press **Enter**.
6. Type `go` and press **Enter**.
7. Type `kill spid` and press **Enter**.
8. Type `go` and press **Enter**.
   The system terminates the process by rolls back the blocking transaction.

Tip:

If the process does not terminate, you can reset the ASE server.

Java does not work after hardware change

Java does not work after you change hardware components.

Solution

Java cannot access the network adapter after a hardware change.

Procedure

1. Uninstall the Java Development Kit (JDK).
2. Reinstall JDK.

Java processes do not start

If Java processes do not start it may be because the virus scanner takes longer than 30 seconds to check the processes.

Solution

Change the virus scanner scan time maximum to 30 seconds.

Procedure

1. Right-click McAfee on the task bar.

2. Select **Manage Features** > **VirusScan Enterprise** from the menu.
3. Right-click **On-Access Scanner**.
4. Click **Properties**.
5. Under **Scan time**, change **Maximum scan time (seconds)** to `30`.
6. Alternatively, you can change the following setting for all system Java processes in the `_wrapper.conf` file.

```
wrapper.startup timeout = 30
```

Messages cannot be sent through SMTP Connector

If you use McAfee 8.0 virus scanner, you cannot send messages through SMTP Connector unless it is included in the trusted program list.

Solution

McAfee blocks port 25 which is typically used for the SMTP protocol. Add the SMTP Connector as a trusted program to the McAfee trusted program list.

Procedure

1. Right-click McAfee on the task bar.
2. Select **Manage Features** > **VirusScan Enterprise** from the menu.
3. Double-click **Access Protection**.
4. Select the **Port Blocking** tab.
5. Select **Prevent mass mailing worms from sending mail**.
6. Click **Edit**.
7. Add `SMTPConnector.exe` to the list.

   If you want to send voice messages which are recorded with internal IVR, you must add `ivr.exe`.
8. Exit **VirusScan Console**.

OmniNames does not start

The Corba name services will not start if you change hardware or network settings.

Solution

Delete the log files.

Procedure

1. In the `c:\Documents and Settings\All Users\Application Data \omniORB` folder, if available, delete the following files:
   - `omninames_hostname.log`
   - `omninames_hostname.bak`
2. Delete the file `omninames.errlog`.
3. Restart the service.

Problems after restoring a database

After restoring a CC, c3k, or adb database backups to the master database, processes may not register correctly to the database. The following error message may appear:`user xy is not a valid user in database xyz`.

This can occur if you install the software, backup the database, reinstall the software, and then try to restore the backup.

Solution

Change the **suid** in the system table `sysusers` of the appropriate database. The example below refers to the CC database.

Procedure

1. Click **Start** > **Run...** and enter `c:\Windows\system32\cmd.exe` to open the MS-DOS Command Prompt window. Click **OK**.
2. At the command prompt, type `isql –U sa –P password` and press **Enter**.

   If you have forgotten the password, see Forgotten the password to login as sa on page 87.
3. At the command prompt, type `use dbname`, where *dbname* is the name of the database. Press **Enter**.
4. Type `go` and press **Enter**.
5. Type `exec sp_configure 'allow updates', 1` and press **Enter**.

6. Type `go` and press **Enter**.
7. Type `use dbname` and press **Enter**.
8. Type `go` and press **Enter**.
9. Type `update sysusers set suid = master..syslogins.suid from master..syslogins where master..syslogins.name = sysusers.name`
10. Type `go` and press **Enter**.
11. Type `exec sp_configure 'allow updates', 0` and press **Enter**.
12. Type `go` and press **Enter**.

Reporting viewer or WebLM is not working

You cannot connect to the web server when using the reporting viewer or WebLM because the browser proxy server exception is not present.

Solution

If Microsoft Internet Explorer is using a proxy server, you must configure an exception.

Procedure

1. Start Microsoft Internet Explorer.
2. Click **Tools** > **Internet Options**.
3. On the **Connections** tab, under **LAN Settings**, click **Settings**.
4. Under **Proxy server**, click **Advanced**.
5. Under **Exceptions**, enter the following exceptions where *PC host name* is the host name of the computer running the reporting viewer or WebLM:
   - `PC host name:8443` for WebLM.
   - `PC host name:8080` for reporting viewer.
6. Click **OK**.
7. Click **OK**.
8. Click **OK**.

Tomcat applications are not running

Tomcat applications will not run in Secure Socket Layer (SSL) mode if the host name is not in the trusted site list.

Solution

Procedure

Add the Tomcat server host name as a trusted site in the Microsoft Internet Explorer configuration on the agent's computer.

Unable to enter the terminal when you start the User Interface of the IP Office Contact Center server.

The User Interface of the IP Office Contact Center server is to configure the active Taskflow as an Administrator. However, to enable an agent to enter the terminal number on the server for test calls:

1. Select **Start** > **Control Panel** > **Programs** > **Programs and Features**.
2. Select **IP Office Contact Center User Interface**.
3. Click **Change**.
4. Click **Next**.
5. Click **Modify**.
6. Click **Next**.
7. Click **Next**.
8. Enable **Activate terminal selection**.
9. Click **Next**.
10. Click **Change**.
11. Click **Finish**.

Voice Control does not load IVR script

Voice Control does not run an IVR script.

Solution

Procedure

Ensure that references used in scripts, variables, and tags, etc. are available and defined.

Voice Control Logic element condition not processed correctly

The system processes a condition in a Voice Control Logic element incorrectly.

Solution

Procedure

Do not use the words `lower` or `upper` as part of the variable name.

Appendix A: IP Office Contact Center processes

Processes that are started with Watchdog

The following processes are started by Watchdog:

- omniORB Naming service
- lna
- TRDB
- MediaStoreDB
- Tomcat
- TaskserverManager
- CHAP
- IPOTaskserver
- Avaya Chap Sync
- Avaya VEA
- chat
- reconstr
- Kernel
- vectors
- VC
- Monitor
- Statistic
- TRS
- SessionManager
- StatGen
- ADB
- c3kDB-Server
- c3kLNA-Server
- C3000 Server
- UmrConfigServer
- UmrTaskserver

- C3000 ClientAdapter
- SMTP Connector
- POP3IMAP$Client
- Text TemplateServer
- Rod CommandExecuter
- Rod Achie
- Rod Rodomat
- Rod Scheduler Server
- Rod Reposerv
- lad
- OD
- disk

Glossary

CHAP	CHAP stands for Common Hardware Abstraction Platform. CHAP is an abstraction layer that supports different types of hardware such as ISDN, OpenH323, TAPI, and TSAPI.
HTTP	HTTP stands for HyperText Transfer Protocol. HTTP is a general, status-less, object-oriented protocol for data transfer within the framework of the World Wide Web (WWW)
HTTPS	HTTPS stands for Hypertext Transfer Protocol Secure and is a network protocol that enables a secure HTTP connection between computers. The data are encoded via SSL to make them tap-proof.
Internet Protocol	A connectionless protocol that operates at Layer 3 of the Open Systems Interconnect (OSI) model. Internet Protocol (IP) is used for Internet addressing and routing packets over multiple networks to a final destination. IP works in conjunction with Transmission Control Protocol (TCP), and is identified as TCP/IP.
ODBC	ODBC stands for Open DataBase Connectivity. ODBC is a standardized database interface that uses the SQL database language.
PBX	PBX stands for Private Branch eXchange or a telecommunications system. It is a device for connecting internal telephones to each other and to the public telecommunications network. It can also have data transfer functions.
SIP	Session Initiation Protocol. Mostly used protocol for telephony systems.
TCP	TCP stands for Transmission Control Protocol. TCP is a connection-oriented transmission protocol for use in packet-switched networks. This protocol is based on IP protocol, supports transport layer functions and establishes a secure connection between the instances before transferring data.
UDP	UDP stands for User Datagram Protocol.
UMR	UMR stands for Unified Messaging Routing.

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