

Avaya Aura® Call Center Elite Multichannel Installation Guide

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Preface

This section contains the following topics:

- Purpose on page 7
- Intended audience on page 7
- Related resources on page 7

Purpose

This document describes product overview, supported products, installation, configuration, and licensing requirements for Avaya Aura® Call Center Elite Multichannel.

Intended audience

This document is intended for solution engineers, Avaya Professional Services, business partners, and system administrators.

Related resources

This section contains the following topics:

- Support on page 7

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 1: Introduction

Avaya Aura® Call Center Elite Multichannel is a Microsoft Windows-based software suite that facilitate companies to turn one-dimension call centers into powerful multi-media contact centers.

Using the phantom call capability supported by Avaya Definity, MultiVantage and Communication Manager switches, Call Center Elite Multichannel allows your customers to make contact with you via phone, email, text or instant messaging.

Whether your customer likes text messaging on their mobile, sending emails or chatting over the internet, their method of communicating will be treated exactly the same as a traditional phone call. The phone call is placed in a priority queue and distributed to an agent with relevant skills and knowledge. The agent can also reply using the same method of contact, conducting a helpful conversation, similar to what you expect over the phone.

Easy to implement and simple to use, Call Center Elite Multichannel also delivers:

- Out-of-the-box desktop applications for supervisors
- Framework applications, including intelligent routing, interaction data and centralized configuration
- Outbound preview dialing, either automated or agent-initiated
- Powerful application development tools for complete customizing and integration
- Simple and fast wizards for desktop screen pops and routing rules

Call Center Elite Multichannel products fall into three major categories:

- **Desktop** - Call Center Elite Multichannel Desktop, Call Center Elite Multichannel Reporting, Call Center Elite Multichannel Control Panel.
- **Server** - Application Management Service, Call Routing Server, Configuration Server, Email Media Store, License Director, Task Director, Media Director, Media Proxy, Preview Contact Media Store, Voice Media Store, Virtual Agent, XML Server
    - Interaction Data Service: Interaction Data Server - Voice and Presence, Interaction Data Server - Multimedia, and Interaction Data Server - View
    - Simple Messaging Media Store: AOL-ICQ Instant Messenger Gateway, MSN Messenger Gateway, Short Message Service Gateway, Web Chat Gateway, XMPP Gateway, Communicator Gateway
    - Rules Plug-in, Script Plug-in, SOAP Plug-in, SQL Plug-in
- **Developer** - Developer.

Product Location

The installer of Avaya Aura® Call Center Elite Multichannel Release 6.2.3/6.2.5 is available in the ISO format. You must download the Avaya Aura® Call Center Elite Multichannel Release 6.2.3/6.2.5 ISO image from Avaya Licensing and Delivery System web site: https://www.plds.avaya.com.

Product Installation Directory Structure

By default, the system installs the Call Center Elite Multichannel applications in the following directories:

:

```
<C:\> Client hard drive
  Program Files
    Avaya
      Avaya Aura CC Elite Multichannel
        Desktop
          CC Elite Multichannel Control Panel
          CC Elite Multichannel Desktop
          CC Elite Multichannel Reporting
          Media Proxy Service
        Developer
          Multimedia Common Libraries
          Plugin Common Libraries
          XML Client
        Server
          Application Management Director
          Call Recording Config Service
          Call Routing Server
            Samples
              Rules Plug-in
              SQL Plug-in
          Configuration Server
            SQL Script
          Interaction Data Server - Multimedia
          Interaction Data Server - View
          Interaction Data Server - Voice and Presence
            Samples
            SQL Script
          License Director
          Media Director
          Media Gateways
            AOL-ICQ Instant Messenger Gateway
            Communicator Gateway
            MSN Messenger Gateway
            SMS Gateway
            Web Chat Gateway
            Web Chat for IIS
              WebChatASP
              WebChatWebservice
            XMPP Gateway
          Media Stores
            Email Media Store
            Preview Contact Media Store
            Simple Messaging Media Store
            SQL Script
            Voice Media Store
          Task Director
          Trace System
          Virtual Agent
          Virtual Agent Web Service
          Voice Portal Config Service
          XML Server
            XML Server Test
        Utilities
          AS Maintain Database
          Voice Portal Application Updater
```

Supported Languages

Some of the Call Center Elite Multichannel applications, such as Call Center Elite Multichannel Desktop and work items from all three media stores are available in the following languages:

- English
- Chinese (Simplified)
- French
- German
- Italian
- Portuguese (Brazilian)
- Russian
- Spanish (Columbian)

All language versions run with the following Windows operating systems in their own language:

- Microsoft Windows XP Professional SP3
- Microsoft Windows Vista
- Microsoft Windows 7

In addition, West European single-byte character set languages (Italian, Spanish, Portuguese, German and French) run with the above Windows operating systems in English.

Double-byte character set languages (Japanese, Korean, Russian, Traditional and Simplified Chinese) also run with English operating systems, but you must install the font character set for the language you want to use and change your regional and language settings to suit.

Important:
If you do not install font character set for required languages and change your regional and language settings, all non-English text is replaced with question marks.

Secondary Servers

XML Server: Fail Over

The following applications supports XML server failover:

- Media Director
- Call Center Elite Multichannel Desktop

If you have configured a secondary XML Server for any of the above application and the primary XML server fails, the application automatically connects to the secondary XML server and continues to deliver work items. You do not need to restart the application.

The time that application takes to connect to the secondary XML Server depends on the number of phantom stations you have configured. Each phantom station takes about 0.1 seconds.

If you have not configured a secondary XML Server, the Media Director or Call Center Elite Multichannel Desktop recovers the connection with the primary XML Server when it comes up again. Media Director or Call Center Elite Multichannel Desktop tries to recover the connection every 60 seconds. When the connection is recovered, Media Director continues to deliver work items and Call Center Elite Multichannel Desktop starts receiving the work items.

Upgrading to Avaya Aura® Call Center Elite Multichannel Release 6.2.3/6.2.5

For detailed step-by-step upgrade information refer to the *Avaya Aura® Call Center Elite Multichannel Upgrade and Migration Guide*.

Installation Requirements

The specifications listed here are the minimum recommended. Avaya Aura® Call Center Elite Multichannel and its components should be compatible with all higher specification hardware configurations than those listed in the following section:

Desktop

For Call Center Elite Multichannel Desktop, Call Center Elite Multichannel Reporting, Call Center Elite Multichannel Control Panel:

- **Hardware:**
  - 2.4 GHz processor (32-bit / 64-bit)
  - 2 GB RAM
  - 10 GB free hard disk space

  - DVD drive
- **Software:**
  - Microsoft Windows 7 SP1 (32-bit and 64-bit) - Professional, Enterprise, and Ultimate edition
  - Microsoft Windows Vista SP2 (32-bit and 64-bit) - Business and Enterprise
  - Microsoft Windows XP Professional SP3 (32-bit)
  - Citrix Presentation Server 4.5 or Microsoft Windows Terminal Services 32-bit
  - Microsoft Internet Explorer 8.0 (Internet Explorer 7.0 will be used on Microsoft Windows XP)
  - Microsoft Internet Explorer 9.0 (supported on Avaya Aura® Call Center Elite Multichannel Release 6.2.5)
  - Microsoft .Net Framework 3.5 SP1

Servers

- **Hardware:**
  - 2.4 GHz processor with minimum 2 processor cores.
  - 4GB RAM
  - 40 GB free disk space
  - DVD drive
- **Software:**
  - Microsoft Windows 2008 SP1 Server (Enterprise and Standard) 32-bit and 64-bit
  - Microsot Windows 2008 R2 SP1
  - Internet Information Services (IIS) 7 with IIS 6 Management Compatibility Components
  - Microsoft Internet Explorer 8.0
  - Microsoft Internet Explorer 9.0 (supported on Avaya Aura® Call Center Elite Multichannel Release 6.2.5)
  - Microsoft .Net Framework 3.5 SP1
  - Application Enablement Services (AE Services) client software release 5.2, 6.1, and 6.2

Core Server

- **One dedicated server for installing the following:**
  - License Director

  - XML Server
  - Configuration Server
  - Application Management Director
  - Media Director
  - Media Stores and Gateways
  - Call Routing Server
  - Virtual Agent
  - Task Director
- **For Email only POP3/SMTP are supported:**
  - Microsoft Exchange Server 6.5, 2003, 2007

Interaction Data Service Server

Dedicated Server for Interaction Data Service - excluding Microsoft Internet Explorer which is not required.

Database Server

- **One dedicated server on which Microsoft SQL Server 2008 Standard, Enterprise, or Express with Advance Services is installed so that you can deploy the following databases:**
  - Configuration Server (ACS)
  - ASMSControl Database
  - ASMSData{x}
  - ASContact Databases

Developers

- **Developing applications on or with:**
  - Microsoft Windows 7 SP1 (32-bit and 64-bit) - Professional, Enterprise, and Ultimate edition
  - Microsoft Windows XP Professional SP3 32-bit with Microsoft Visual Studio 2005 and 2008
  - Microsoft Windows 2008 Server 32-bit and 64-bit - Standard and Enterprise
  - Microsoft Windows 2008 R2
  - Microsoft Internet Explorer 7.0 and 8.0

- Microsoft Internet Explorer 9.0 (supported on Avaya Aura® Call Center Elite Multichannel Release 6.2.5)
- Microsoft .Net Framework 3.5 SP1
- Application Enablement Services (AE Services) client software release 5.2, 6.1, 6.2

Chapter 2: Supported products

This section contains the following topics:

- Supported Avaya products on page 19
- Supported non-Avaya products on page 20

Supported Avaya products

Avaya Aura® Call Center Elite Multichannel Release 6.2.3/6.2.5 supports the following Avaya products:

Avaya Products	Call Center Elite Multichannel
Avaya Aura® Application Enablement Services 5.2	✓
Avaya Aura® Application Enablement Services 6.1	✓
Avaya Aura® Application Enablement Services 6.2	✓
Call Center Elite 4.0	✓
Call Center Elite 5.0	✓
Avaya Aura® Call Center Elite 5.2	✓
Avaya Aura® Call Center Elite 6.0	✓
Avaya Aura® Call Center Elite 6.2	✓
Communication Manager 4.0	✓
Communication Manager 5.2	✓
Avaya Aura® Communication Manager 5.2.1	✓
Avaya Aura® Communication Manager 6.2	✓
Call Management System 15.0	✓

Avaya Products	Call Center Elite Multichannel
Call Management System 16.1	✓
Call Management System 16.3	✓
Voice Portal 5.1	✓
Avaya Aura® Experience Portal 6.0	✓
Avaya Call Recorder	✓

Supported non-Avaya products

Avaya Aura® Call Center Elite Multichannel Release 6.2.3/6.2.5, supports the following Non-Avaya products:

Non-Avaya Products	Call Center Elite Multichannel
Microsoft Windows XP SP3 (32-bit)	✓
Microsoft Windows Vista SP2: • Business (32-bit and 64-bit) • Enterprise (32-bit and 64-bit)	✓
Microsoft Windows 7 SP1: • Professional (32-bit and 64-bit) • Enterprise (32-bit and 64-bit) • Ultimate (32-bit and 64-bit)	✓
Microsoft Windows 2008 Enterprise Server: • 2008 SP2 (32-bit and 64-bit) • 2008 R2 SP1 (64-bit)	✓
Microsoft SQL Server: • 2008 Standard (32-bit and 64-bit) • 2008 Express (32-bit and 64-bit) • 2008 Enterprise (32-bit and 64-bit)	✓
• Microsoft Internet Explorer 6.0, 7.0, and 8.0 • Microsoft Internet Explorer 9.0 is supported in Call Center Elite Multichannel Release 6.2.5	✓

Non-Avaya Products	Call Center Elite Multichannel
Microsoft CRM 3.0	✓
Microsoft CRM 4.0	✓

Chapter 3: Installing and Configuring Desktop Components

This section includes the following topics:

- Installing Desktop on page 23
- Install Call Center Elite Multichannel Reporting on page 65
- Install Media Proxy on page 74

Installing Desktop

Avaya Aura® Call Center Elite Multichannel Desktop runs on various Microsoft Windows operating systems, such as XP, Vista, and Windows 7. For more information, see Supported products on page 19.

Important:
You must install Call Center Elite Multichannel Desktop on Microsoft Windows Vista or Microsoft Windows 7 as **Administrator**.

For the application to install, the system must have Microsoft .Net Framework 3.5 SP1 and Microsoft Internet Explorer 6.0 SP1 or higher. You can install .Net Framework from the **`Utilities\Microsoft .Net Redistributable`** folder available in the installer package of Call Center Elite Multichannel.

If Media Proxy is not already installed on the system, this installation automatically (and silently) installs Media Proxy, which is needed to run Call Center Elite Multichannel Desktop. By default, the proxy service is installed to **`C:\Program Files\Avaya\Avaya Aura CC Elite Multichannel\Desktop\Media Proxy Service`**.

Note:
It is possible to first install Media Proxy using Call Center Elite Multichannel's separate Media Proxy installer (see Install Media Proxy on page 74). However, if you ever uninstall the proxy at a later date, Call Center Elite Multichannel Desktop will not work. By using the silent install available through Call Center Elite Multichannel Desktop's installer, you cannot uninstall Media Proxy by itself (it does not appear in Control Panel's Add or Remove Programs).

Command Line Parameters

To find out how to automatically (silently) install this Call Center Elite Multichannel application following a set of pre-defined selection options, see Run Silent Install on page 214.

Manual Install

To manually install Call Center Elite Multichannel Desktop:

1. Close all open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Desktop**.
5. Click **CC Elite Multichannel Desktop**.

   The system displays the Avaya Aura Call Center Elite Multichannel **Desktop** welcome screen.
6. Click **Next** to continue.

   The system displays the **License Agreement** screen.
7. Read the license agreement and, if you agree with the licensing terms, click **Yes**.

   The system displays the **Call Recording Server** screen.
8. In the **Server** and **Port** fields, enter the host name or IP address and port number of the Call Recording server and click **Next**.

   For more information on Call Recording, see *Avaya Aura® Call Center Elite Multichannel Control Panel User Guide*.
9. Keep the check box selected and click **Next**.

   The system uses the local `.ini` file of the Desktop application to source the configuration data. For more information on the configuration file, see Desktop configuration file on page 175.

   To use the Configuration Server to source configuration data:

   a. Clear the check box.

      The other text fields on the screen are enabled.

b. Use the following definitions to specify the values in the fields.

Field	Description
Application Name	The name of the application that Configuration client requests configuration information for.
Server Name or IP Address	Enter the IP address or the name of the Configuration server that Configuration client connects to for configuration information.
Port Number	If you do not want to use the prescribed TCP/IP port number (29091), type the port number to be used for communication between the Configuration server and the Configuration client.
Configuration Filters	The configuration filter is used in conjunction with the application name to locate a unique user and their configuration data from the Configuration Server. You must use **User,** or **Machine Name**, or both. • If you want to use the user's network login name as a configuration filter, type `%%U` in the **User** text box. If you do not want to use the user name as a filter, leave the text box empty. • If you want to use the name of the system as a configuration filter, type `%%M` in the **Machine Name** text box. If you do not want to use the system name as a filter, leave the text box empty.

10. Click **Next** to continue.
11. Keep the default location and click **Next** to continue.

    To select a different location, click **Browse**.
12. Configure Media Director, License Director, and XML Server as mentioned in the below table:

Note:

The system save the information that you enter on this screen in the Desktop configuration file. If you want to enter the data directly in the configuration file at a later time, click **Next** to skip this step and continue the installation.

Field	Description
Media Director IP	The IP address of the Media Director
Media Director Port	The IP port number of the Media Director. The default port is: 29087.
XML Server IP	The IP address of the XML Server

Field	Description
XML Server Port	The IP port number of the XML Server The default port is: 29096.
License Director IP	The IP address of the License Director **Note:** When the IP address is entered, the Connect License Director parameter in the application's configuration file changes from False to True
License Director Port	The IP port number of the License Director. The default port is: 29095.

13. Click **Next** to continue.
14. Keep the **iClarity** feature selected to install the iClarity plug-in and click **Next**.
15. Click **Next** to continue
16. Clear the check box to install Call Center Elite Multichannel Desktop without a shortcut on the system desktop and click **Next**.
17. Check your installation settings and click **Next**.

    Note:
    If you receive an `Add Provider Error` message dialog box during installation, click **Ok**.
18. Click **Finish**.
19. If you are asked to restart your system, which may happen if some application components need updating or registering, click **Yes**.

Configuring Desktop

In Avaya Aura® Call Center Elite Multichannel Desktop, you can configure the features and options from the **Tools** > **Options** dialog box. To configure any parameters that are not available on the Options dialog box, you need to open `ASGUIHost.ini` and specify your settings in that file. For more information, see Desktop configuration file on page 175.

display the **Options** dialog box in the Desktop interface, select **Tools** > **Options** from the menu bar.

This section discusses the configuration of following components:

- Media Director on page 27
- Presence on page 28
- Session Notes on page 29

- Telephony on page 30
- User on page 31
- Voice on page 34
- IDS View Client on page 35
- Directory on page 36
- Enhanced Dial on page 37
- Quick Dial on page 37
- Custom Buttons on page 38
- Email on page 39
- Simple Messaging on page 40
- HTML Editor on page 41
- Wallboard on page 42
- iClarity on page 51
- Microsoft CRM on page 53
- .Net Remote Connection on page 56
- Customizing a Language on page 56
- Managing Rules on page 59
- Integrate Microsoft CRM on page 62
- Integrate IronPython Script on page 62

Media Director

To configure Media Director:

1. Click the **Media Director** tab.
2. In the **Connection** section:
    1. In the **Media Director IP** field, enter the IP address of the Media Director.
    2. In the **Media Director port** field, enter the port number of the Media Director. Default: 29087.
    3. In the **Media Proxy IP** field, enter the IP address of the Media Proxy. Default: localhost.
    4. In the **Media Proxy port** field, enter the port number of the Media Proxy. Default: 29079.

5. Select the **Enable connection to Media Director** check box to enable multimedia functionality within the Desktop application.

Note:
If you do not select this check box, you can use Desktop application only to receive voice work items.

6. Select the **Connect to Media Director when agent logs in** check box to make the application connect to Media Director when an agent logs into the switch.

Note:
If you do not select this check box, the application automatically connects to Media Director immediately after it starts.

3. In the **Remoting Channel** section:
   1. In the **Channel Type** field, enter the communication channel that Media Director uses.

      Default: `gtcp`.

Presence

On the Presence tab, you can select agents to view their activities and their work status. To view the activity of an agent, you need to specify the Station DN and Agent ID of an agent.

If you configure the IDS View Client tab, Desktop automatically displays a list of stations that Interaction Data Server - View monitors and agents currently logged into the switch that Interaction Data Server - View monitors.

To configure Presence:

1. Click the **Presence** tab.
2. On the **General** tab:
   a. Click the **Group name** arrow to select a group name that you want to monitor.

      You must already setup the group names in the AS Contact Database.

   b. In the **Display Mode** section, select **Normal** or **Supervisor** as a display mode.

      With the Supervisor mode, the supervisor can view detailed statistical data, which is not related to the everyday Agent activities.

   c. In the **Column Names In Database** section:
      - Click the **Station DN** arrow to select the station DN.
      - Click the **Agent ID** arrow to select the agent ID.

   d. In the **General** section:
      - In the **Maximum tabbed groups** field, enter the maximum number of tabs you want to view.

        Default: 20

- In the **Maximum group members** field, enter the maximum number of group members you want to view.

  Default: 50

- Click the **Alternate line color in display window** arrow to select the display color for displaying alternate lines in the Presence window.

e. In the **Time Display Style** section, select a style to display time.

f. In the **Error Log** section, select the **Enable error logging** check box to write plug-in error information to an error log file.

3. On the **Update Intervals** tab:

   - In the **Update Last State Time Interval** field, enter the time interval in seconds

     This time interval indicates the time after which the Presence window refreshes the information, which includes the agent state in the Presence plug in.

   - In the **Contact Synchronize Interval** field, enter the time interval in seconds.

     This time interval indicates the time after which the contacts in the ASContact database are synchronized with the Presence window. If the ASContact database has a new contact in a group that you have selected for Presence, the Presence window displays the new contact after synchronizing with the ASContact database.

Session Notes

To configure Session Notes:

1. Click the **Session Notes** tab.
2. In the **File location** field, enter the path.

   The session notes files, in .rtf format, are saved to and restored from this path. Click **Browse** to select path.

   Note:
   If you left the **File location** field blank, the session notes are save to or retrieved from a default location, which is the `My Documents` folder of the currently logged in agent.

3. In the **Enable automatic saving** field, enter the time in minutes.

   This time indicates the interval after which the contents of the session notes are automatically saved to the specified path.

4. Select the **Enable error logging** check box to write application error information to error log files.

Telephony

To configure telephony:

1. Click the **Telephony** tab.
2. In the **Station** section:
   - In the Station DN field, enter the phone number of an agent.

     The Desktop application on the system associates with the specified phone number.
3. In the **Error Log** section:
   - Select the **Enable error logging** check box to write plug-in error information to error log files.
4. In the **Primary Telephony Link** section:
   - In the **XML Server IP** field, enter the IP address of a primary XML server.
   - In the **XML Server port** field, enter the port number of a primary XML server.

     The default port of naming service is 29096.
   - Click the button next to the **Link** arrow to list the currently configured XML interfaces, which you can use for the telephony service.
   - Click the **Link** arrow to select the primary XML interface link that the Desktop application can use to connect to the Avaya Telephony server and switch.
5. In the **Secondary Telephony Link** section:
   - In the **XML Server IP** field, enter the IP address of a secondary XML server.
   - In the **XML Server port** field, enter the port number of a secondary XML server.

     The default port of naming service is 29096.
   - Click the button next to the **Link** arrow to list the currently configured XML interfaces, which you can use for the telephony service.
   - Click the **Link** arrow to select the secondary XML interface link that the Desktop application can use to connect to the Avaya Telephony server and switch.
6. In the **Poll Agent Status** section:
   - Select the **Poll Agent status** check box to enable polling the status of an agent.
   - In the **Polling interval** field, enter or select the time interval, in seconds, after which the application polls the agent status.

     To reduce the network traffic, specify the larger time interval.
7. In the **Poll Station Status** section:
   - Select the **Poll Send All Calls status** check box to enable polling the status of all the calls that an agent sends.

- Select the **Poll Call Forward status** check box to enable polling the status of all the calls that an agent forwards.
- Select the **Poll Message Waiting status** check box to enable polling the status of waiting message at an agent station.
- In the **Polling interval** field, enter or select a time interval, in seconds, after which the application polls the status of an agent station.

  To reduce the network traffic, specify the larger time interval.

8. In the **Other** section:
   - Select the **Enable trace** check box to send application error information to the debug window.
   - In the **Reconnect interval** field, enter or select the time interval, in seconds, the telephony plug-in wait before retrying to connect to the XML server after it fails for the first time.

     Default: 15.

User

To configure user:

1. On the **General** Tab:
   1. In the **Toolbar Position** section, select the position of the toolbar on the application interface from the following options:
      - **Top first.** First toolbar from the top
      - **Top second**. Second toolbar from the top
      - **Bottom.** Toolbar at the bottom of the screen
   2. In the **Error Log** section, select the **Enable error logging** check box to write plug-in error information to an error log file.
   3. In the **Login Style** section, select the **Use advanced login style** check box that helps an agent to change their login from the User toolbar.
   4. In the **Agent** section:
      - In the **Agent ID** field, enter the agent login ID as configured in the switch.
      - In the **Agent password** field, enter the password associated with the agent ID.
      - Click the **Login** mode arrow to select a work mode that is automatically set to an agent after the log into the Desktop application.

        Following are the working modes available for an agent:
        - **Auxiliary.** Makes an agent unavailable to receive calls so that they do work, which is not related to a call. For example, tea break or lunch.

  - **After Call Work.** Makes an agent unavailable to receive calls so that they can do the after call work, for example, filling a form or updating customer details.
  - **Available.** Makes an agent available to receive calls.

- Click the **Available mode** arrow to select how an agent becomes available to receive another call after the current call ends.

  Following are the modes available:

  - **Auto-In.** The system places an agent automatically in the **Available** mode after a current call ends.
  - **Manual-In.** The system places an agent automatically in the **After Call Work** mode after the current call ends. To further receive calls, an agent must manually change the work mode to Available.

- In the **Voicemail DN** field, enter a phone number to which an agent wants the system to send all the incoming calls when they enables the **Send All Calls** button on the User toolbar.

  This DN connects the caller to the voicemail of an agent.

5. In the **Miscellaneous** section:

   - Select the **Display ACW button** check box to display the After Call Work (ACW) button on the application interface.

     If you do not select this check box, the ACW functionality is not be available to an agent.

   - Select the **Display AUX button** check box to display the Auxiliary (AUX) button on the application interface.

     If you do not select this option, the Auxiliary mode is not be available to an agent.

   - Select the **Disable ACW button when in After Call Work mode** check box disable the ACW button on the application interface when an agent is in the ACW mode.

     Selecting this check box restricts an agent from using the ACW button when they are in the ACW mode, thereby prevents an agent to extend the time they spend in the After Call Work mode.

   - Select the **Disable AUX button when in Auxiliary mode** check box to disable the AUX button on the application interface when an agent is in the Auxiliary mode.

     Selecting this check box prevents an agent from changing the reason code they selected while changing the work mode to Auxiliary.

   - Select the **Allow user-selected work mode** check box to help an agent to select the Auto-In or Manual-In work mode while they change the mode to Available.

     If you do not select this check box, the application automatically uses the default work mode that you set on the **General** tab.

- Select the **Force reason code selection when changing to Auxiliary mode** check box to force an agent to select a reason code while changing to Auxiliary mode.

  If you do not select this check box, an agent can either select a reason code from the drop-down list or click the **AUX** button and use the default reason code specified in the configuration file of the application. For more information, see **Default AUX Reason Code** parameter in Desktop configuration file on page 175.

- Select the **Force reason code selection when logging out** check box to force an agent to select a reason code from a drop-down list while logging out from the application.

  If you do not select this check box, an agent can either select a reason code from the drop-down list or click the **Logout** button and use the default reason code specified in the configuration file of the application. For more information, see **Default Logout Reason Code** parameter in Desktop configuration file on page 175.

2. On the **Reason Codes** tab, you can set the reason codes that you can use when you logout from the application or change to the auxiliary mode:
   1. In the **Logout Reason Codes** section, click the **Mode** arrow to select following options:
      - Disable reason codes
      - Use reason codes when logging out
   2. In the **Aux Reason Codes** section, click the **Mode** arrow to select following options:
      - Disable reason codes
      - Use reason codes when changing to Auxiliary mode
   3. Add reason codes for Logout and Auxiliary:

      After you select the **Use reason codes when changing to Auxiliary mode** and **Use reason codes when changing to logging out** option from the respective **Mode** arrow, you can add different reason codes and their description.

      1. Click **Add**.
      2. In the **Reason code ID** field, enter a unique identifier for a reason code.
      3. In the **Reason code description** field, enter the reason description that the system displays why an agent changes to the Auxiliary mode or log out from the application.
      4. Click **OK**.
      5. Repeat the steps 1 to 4 to add more reason codes.

Note:

You can also edit or remove a reason code. Click **Edit** to edit a reason code and click **Remove** to delete a reason code.

Voice

To configure voice:

1. Click the **Voice** tab.
2. In the **Toolbar Position** section, select the position of the toolbar on the application interface from the following options:
   - **Top first.** First toolbar from the top
   - **Top second**. Second toolbar from the top
   - **Bottom.** Toolbar at the bottom of the screen
3. In the **General Options** section:
   - Select the **Enable error logging** check box to write plug-in error information to an error log file.
   - Select the **Make call active when work item tab clicked** check box to make a voice call active when you click the tab for a voice work item.

     Selecting this check box:

     — Answers an alerting call

     — Unholds a call that is on hold

     Clearing this check box makes an agent to click the work item tab and then click the **Answer** or **Unhold** button on the toolbar.
   - Select the **Automatically hold active call on dial** check box to automatically place the current call on hold if an agent dials another call.
   - Select the **Lock window layout** check box to lock the layout of your voice work item tabs so that an agent can not change the size and position of the tab.
   - Select the **Bring forward work item if call answered by other means** check box to make phone calls that an agent answers from the physical phone or by any other means outside this application active within Desktop.
   - Select the **Drop phantom call(s) when application closes** check box to drop phantom calls from the physical phone of an agent when an agent closes the Desktop application.
4. In the **Smart Dial** section:
   - Select the **Enable Smart Dial** check box to enable the Smart Dial option in the Directory window.
   - Select the **Dial local area code** check box to force Smart Dial to use the local area code specified in the phone number, even when Smart Dial recognizes the same code in the **Local area codes** field.

- Select the **Dial outside line access code** check box to force Smart Dial to use the outside line access code for all external phone calls.

  Selecting this option overrides any contradictory behavior set in a switch.
- In the **International access code** field, enter a code required to make an international call.
- In the **Long distance access code** field, enter a code required to make a national call.
- In the **Outside line access code** field, enter a code required to dial an outside line.
- In the **Minimum length for outside call** field, enter the minimum number of digits required to make an outside call.

  This is a number more than the number of digits that make up your internal extension numbers.
- In the **Local exchange codes that require long distance access code** field, enter any local exchange codes you want Smart Dial to automatically precede with the long distance access code. You can specify multiple exchange codes. You must separate the exchange codes by a comma and a space.

  For example, 23, 27, 31.
- In the **Local country code** field, enter your local country code.
- In the **Local area codes** field, enter your local area code or local area codes if applicable.

  A list of area codes are separated by a comma and space.

  For example, 9, 3, 4.

IDS View Client

To configure Interaction Data Server - View Client:

1. Click the **IDS View Client** tab.
2. In the **Multicast IP** field, enter the IP address that is used to multicast between applications.

   Default: `239.29.9.67`.

   When the Desktop application starts, it joins the multicast address and receive packet information from Interaction Data Server - View.
3. In the **Multicast port** field, enter the port number that is used to multicast between applications.

   Default: 29084.

4. In the IDS View URL field, enter the URL for connecting to Interaction Data Server - View.

   The URL must use the following format:

   `gtcp://localhost:29076/InteractionDataServiceView.rem`.

5. Select the **Enable trace** check box to send application error information to the debug window.
6. Select the **Receive by multicast** check box to enable IDS View Client to receive data from the Interaction Data Server - View by multicasting.
7. Select the **Enable error logging** check box to write plug-in error information to an error log file.

Directory

To configure Directory:

1. Click the **Directory** tab.
2. In the **Database server name** field, enter the name of the server on which the ASContact database is located.
3. In the **Database name** field, enter the name of the database.

   When you run the database script, the database is automatically named as ASContact.
4. In the **Database user name** field, enter the user name to whom you want to give an access the database.
5. In the **Database user password**, enter the password associated with the database user name.

   Before encryption, the default user name for a new databases is: CCEUser0.
6. In the **Columns Displayed** section, click the **Get Column Display IDs** button and select the ID of the column displayed in the Directory window.

   These IDs indicate the column headings set in the ASContact Database.
7. In the **Initial Default Search** section, select the **Enable initial default search** check box to force the application to display the directory contents based on the search criteria that an agent has used earlier.

   If an agent has not specified the search criteria in the last search, the Directory window displays a list of all the contacts in the directory when the application starts.
8. In the **Default search criteria** field, enter the default search criteria to force the application to use that search criteria when the application starts.

Enhanced Dial

With Enhanced Dial you can add agent information in a new outbound call, transfer call, or conference a call. This enhances the dialing so that the customer or another agent knows brief information about the caller.

To configure Enhanced Dial:

1. Click the **Enhanced Dial** tab.
2. In the **Before Dial** section, click the button next to **UUI Format** field to specify the call related information in the UUI Format field.

   The system displays this information when an agent makes an outbound call.

   The system displays the **UUI Format Options** dialog box.
3. Click the arrow and select an appropriate option.
4. Repeat the step 3 to add more format option.
5. In the **Before Transfer** and **Before Conference** sections, click the button next to UUI Format to specify the call related information in the UUI Format field.

   The system displays the information specified in the UUI Format field when an agent transfers or conferences a call respectively.
6. (Optional) select the **Insert data only if existing UUI is empty** check box to add the user-to-user information only when the existing UUI associated with a call is empty.
7. Click the **OK** button.

Quick Dial

With Quick Dial, you can create the quick dial buttons that the Desktop interface displays to an agent.

An agent can click these quick dial buttons to quickly dial a contact with whom they interact regularly. This saves the time that agent requires to type a phone number or search a contact in a directory.

Note:
Clicking a quick dial button inserts the phone number of a contact in the **Dial** field. Agent can click the **Dial** button or press **Enter** key to initiate the call.

To create quick dial buttons:

1. Click the **Quick Dial** tab.
2. In the **Toolbar Position** section, select the position of the toolbar on the application interface from the following options:

- **Top first.** First toolbar from the top
- **Top second**. Second toolbar from the top
- **Bottom.** Toolbar at the bottom of the screen
- **Left.** Toolbar at the left of the screen
- **Right.** Toolbar at the right of the screen

3. In the **Add New Quick Dial** section:
    1. In the **Number** field, enter the phone number of a contact.
    2. In the **Name** field, enter the name of a contact.

        If you have enabled the Smart Dial functionality, see Voice on page 34.

        - Do not use PSTN, STD, or IDD access codes in the phone number.

            PSTN is the code required to dial an outside line, STD is the code required to make a national call, and IDD is the code required to make an international call.
        - Use a single space, hyphen, or parentheses to separate area codes from the local number.

            For example, 3 4770576, 3-4770576, (3) 4770576, or (3)4770576.
        - Prefix all country codes with +.

            For example: +64 3 4770576, +64-3-4770576, +64 (3) 4770576 or +64(3)4770576

        If you have not enabled the Smart Dial functionality, an agent must enter phone numbers exactly the way they would dial them, that is, they must include the PSTN, IDD, or STD access codes, the country codes, and the area codes to the phone number.

        For example: 14770576, 103 4770576 or 10064 3 4770576.
    3. In the **UUI** field, select the appropriate format options.

        For more information, see Enhanced Dial on page 37.
    4. Click **Add**.

        The new quick dial details are added to the table in the **Current Quick Dials** section.
    5. Repeat the steps 1 to 4 to add more quick dial buttons.
    6. Click **OK**.

Custom Buttons

On the Custom Buttons tab, you can create buttons that the Desktop interface displays to an agent. An agent can click these buttons to perform an action. When an agent click a custom button, a rule associated with that button is executed.

The Custom Buttons plug-in works in conjunction with the Rules plug-in.

To create custom buttons:

1. Click the **Custom Buttons** tab.
2. In the **Toolbar Position** section, select the position of the toolbar on the application interface from the following options:
   - **Top first.** First toolbar from the top
   - **Top second**. Second toolbar from the top
   - **Bottom.** Toolbar at the bottom of the screen
3. In the **Add New Custom Button** section:
   1. In the **Event name** field, enter the name of the event that the system executes agent click a customer button.

      In the Rules window, you can see the event name in the **When** drop-down list in a format: `CustomButton.event_name`.
   2. In the **Button text** field, enter the text to appear on a custom button.
   3. In the **Icon name** field, enter the icon name including the path where the icon file is stored.

      You must copy the icon file to the main directory of Call Center Elite Multichannel. The icon that you specify replaces the default icon on a custom button.
   4. Click **Add**.
   5. Repeat the steps 1 to 4 to add more custom buttons.
   6. Click **OK**.

Note:
To create a rule and associate it with a custom button, see Managing Rules on page 59.

Email

To configure email:

1. Click the **Email** tab.
2. In the **Toolbar Position** section, select the position of the toolbar on the application interface from the following options:
   - **Top first.** First toolbar from the top
   - **Top second**. Second toolbar from the top
   - **Bottom.** Toolbar at the bottom of the screen

3. In the **Error Log** section, select the **Enable error logging** check box to write plug-in specific error information to an error log file.
4. In the **Miscellaneous** section, select the **Always open attachments** check box to enable opening an attachment in an email.

   If you select this check box, the system does not display the file **Save** dialog box to save the attachment before opening it.
5. In the **External Application** section:
   a. Select the **Enable external application** check box to enable opening an external application when an email work item is received.
   b. In the **External application file name** field, enter the executable file name of an application that you want to open.
   c. In the **XML file name** field, enter the name of an XML file, which is used to share the work item information with the external application.

      For more information on the **External Application Execute** plug-in, see the *Avaya Aura® Call Center Elite Multichannel Desktop User Guide*.
6. Click **OK**.

Simple Messaging

To configure simple messaging:

1. Click the **Simple Messaging** tab.
2. In the **Error Log** section, select the **Enable error logging** check box to write plug-in specific error information to an error log file.
3. In the **Document Activity Indication** section:
   a. Select from the following options how you want the system to indicate the document activity.
      - Scroll
      - Fade
   b. In the **Indication Interval msec** field, enter the indication interval in milliseconds.
4. In the **External Application** section:
   a. Select the **Enable external application** check box to enable opening an external application when an agent receives a simple messaging work item.
   b. In the **External application file name** field, enter the executable file name of an application that you want to open.

c. In the **XML file name** field, enter the name of an XML file, which is used to share the work item information with the external application.

   For more information on the **External Application Execute** plug-in, see the *Avaya Aura® Call Center Elite Multichannel Desktop User Guide*.

5. In the **Agent Specific Welcome Message** section, enter the welcome message that you want to display to a customer.

   The system displays the welcome message to the customer when an agent accepts the work item from the customer.

6. Click **OK**.

HTML Editor

To configure HTML Editor:

1. Click the **HTML Editor** tab.
2. In the **Error Log** section, select the **Enable error logging** check box to write plug-in specific error information to an error log file.
3. In the **Toolbar Position** section, select the position of the toolbar on the application interface from the following options:
   - **Top first.** First toolbar from the top
   - **Top second**. Second toolbar from the top
   - **Bottom.** Toolbar at the bottom of the screen
4. Select the appropriate check boxes to display the corresponding button on the HTML editing toolbar.
5. Click **OK**.

Language

To change the default language:

1. Click the **Language** tab.
2. Click the **Language** arrow to select the required language for the Desktop application interface.

   Note:
   You must restart the Desktop application to apply the language you have selected.

3. Click **OK**.

Wallboard

The information that Wallboard plug-in displays depends on a connection to IDS View Client. Therefore, you must configure the IDS View Client before configuring the Wallboard plug-in. For more information, see IDS View Client on page 35.

On the Wallboard tab, there are five tabs that you can access to configure Wallboard.

To configure Wallboard:

1. Click the **Wallboard** tab.
2. On the **General** tab:

   The General tab gives you various options to configure the look and feel of Wallboard.

   a. In the Marquee Style section, select an option for displaying the information on the Wallboard.

      Following are the available options:

      — **Right to Left.** The information is scrolled from the right side to the left side

      — **Left to Right**. The information is scrolled from the left side to the right side

      — **Still.** The information is displayed without moving from left to right or right to left

   b. In the **Marquee Speed** section, move the slider to select the speed for scrolling the information.

      Moving the slider to the left side reduces the scrolling speed and moving the slider to the right side increases the scrolling speed.

   c. In the **Text Size** section, click the **Display text size** arrow to select the size of the text in the information.

   d. In the **Color** section, click the **Text color** and **Background color** arrows to select a text color for the information that Wallboard displays and a background color for the Wallboard window.

   e. In the **Time Display Style** section, select from the two options for displaying the time:

      — **Seconds only.** Displays time in seconds.

      — **Minutes and seconds.** Displays time in minutes and seconds.

   f. In the **General Options** section:

      1. Select the **Enable error logging** check box to write plug-in specific error information to an error log file.
      2. Select the **Connect to IDS View** check box to connect Wallboard to IDS View Client for getting the information.
      3. Select the **Suppress IDS connection messages** check box to disable displaying the messages when Wallboard connects to the IDS View Client.

3. On the **Agent** tab:

   You can configure the agent information that Wallboard displays for an agent.

   If you have configured the IDS View Client, you can view a list of agents currently logged into the switch that Interaction Data Server - View is monitoring.

   a. In the **Agent Settings** section, select an agent whose information you want to display on Wallboard.

   b. In the **Agent ID** field, enter the agent ID of an agent whose details you want to display on Wallboard and click **Add**.

      The agent ID is added in the agent list. Select the newly added agent to display the details on Wallboard.

Note:
You need to add the agent ID when the agent is not available in the **Agent list** and you want to display the details of that agent when that agent logs into the Desktop application.

   c. In the table for list of agent details, select an appropriate check box as explained in the following table:

Information Type	Description
Agent ID	The ID of an agent.
Agent name	The name of an agent.
Station DN	The station number of an agent.
Split / skill	The skill or split groups an agent is logged into.
Agent state	The state in which an agent is in. The state can be Auto in, Manual in, Logged out, Auxiliary (AUX), or After Call Work (ACW). **Note:** If an agent is on a phone, Wallboard displays the agent state as **On call**.
Agent work mode	The current work mode of an agent. The work mode can be Auto in, Manual in, Logged out, AUX, or ACW.
Agent talk state	The current talk state of an agent. The state can be **Idle** or **On call**.
Reason code	The last reason code that an agent has used.
Pending work mode	The pending work mode of an agent.
Calls per hour	The total number of calls that an agent received during the current statistical interval.

Information Type	Description
Average talk time	The average length of time an agent has spent in a call, during the current statistical interval.
Average AUX time	The average length of time an agent has spent in the Auxiliary mode, during the current statistical interval.
Average Available time	The average length of time, in seconds, an agent has spent in Available mode, during the current statistical interval.
Average ACW time	The average length of time an agent has spent in the After Call Work (ACW) mode, during the current statistical interval.
Shift average AUX time	The average length of time an agent has spent in the Auxiliary mode, during a shift.
Shift average Available time	The average length of time an agent has spent in the Available mode, during a shift.
Shift average ACW time	The average length of time an agent has spent in the After Call Work (ACW) mode, during a shift.
Shift average talk time	The average length of time an agent has spent in a call, during a shift.
Shift total calls	The total number of calls that an agent has handled during a shift.

d. Right-click an agent detail and select **Edit** to change the display text that precedes with each piece of information.

e. Select an agent detail and click the UP and DOWN arrows to change the order in which the Wallboard displays information.

f. Select the **Display always** check box to display agent information on startup.

   If you clear this check box, the system displays agent information on Wallboard after startup.

4. On the **VDN** tab:

   You can configure the VDN information that Wallboard displays for a particular VDN.

   If you have configured the IDS View Client, you can view a list of VDNs that Interaction Data Server - View is currently monitoring.

   a. In the **VDN Settings** section, select the VDN for which you want to display information on Wallboard.

b. In the table for list of VDN details, select an appropriate check box as explained in the following table:

Information Type	Description
VDN number	The extension number of a VDN.
VDN name	The name of a VDN.
Calls waiting	The number of calls currently waiting and to be answered for a specific VDN.
Longest call	The length of time a first call is waiting in a queue.
Average talk time	The average length of time an agent is talking to a callers on a specific VDN, during the current statistical interval.
Average wait time	The average length of time, during the current statistical interval, a caller calling to a VDN is waiting before their call is answered.
Abandoned calls	The number of calls coming to a VDN abandoned during the current statistical interval.
Average abandon time	The average length of time, during the current statistical interval, a caller calling to a VDN is waiting before their call is abandoned.
Shift abandoned calls	The number of calls coming to a VDN, during a shift, are abandoned.
Shift average abandon time	The average length of time, during a shift, a caller calling to a VDN is waiting before their call is abandoned.
Shift average talk time	The average length of time, during a shift, an agent logged into a VDN is talking to a caller.
Shift average wait time	The average length of time, during a shift, a caller calling to a VDN is waiting before their call is answered.
Shift service level	The percentage of calls that are coming to a VDN are answered within the service level time specified in the Interaction Data Server - Voice and Presence.
Shift total calls	The number of calls made to a VDN during a shift.

c. Right-click a VDN detail and select **Edit** to change the display text that precedes with each piece of information.

d. Select a VDN detail and click the UP and DOWN arrows to change the order in which the Wallboard displays information.

e. Select the **Display always** check box to display an VDN information on startup.

If you clear this check box, the system displays VDN information on Wallboard after startup.

5. On the **Queue** tab:

You can configure the information for a particular skill, split group, or a multimedia queue.

If you have configured the IDS Voice and Presence, you can view a list of split groups, skills, queues that Interaction Data Server - Voice and Presence is currently monitoring.

a. In the **Queue Settings** section, select skills, split groups, or queues whose information you want the Wallboard to display.

b. In the **Queue ID** field, enter the queue ID of a queue whose details you want the Wallboard to display and click **Add**.

The queueID is added in the queues list. Select the newly added queue to display the details on Wallboard.

Note:
You need to add a queue ID when the queue is not available in the **Queues list** and you want to display the details of that queue when that agent logs into the Desktop application.

c. In the table for list of agent details, select an appropriate check box as explained in the following table:

Information Type	Description
Queue ID	• Queue: A unique identifier of a multimedia queue. • Split/skill: An extension number of a skill or a split group.
Queue name	• Queue: The name of a multimedia queue. This parameter is blank for multimedia queues. • Split/skill: The name of a skill or split group.
Agents staffed	• Queue: The total number of agents associated with a queue. This parameter is blank for multimedia queues. • Split/skill: The total number of agents, available or unavailable, logged into the skill or split group.
Agents available	• Queue: The total number agents available for a queue. This parameter is blank for multimedia queues. • Split/skill: The number of agents logged into a skill or a split group and are available to take calls. For example, an agent in the Available mode.

Information Type	Description
Interactions waiting	• Queue: The total number of work items waiting to be processed by a queue along with the work items that an agent has suspended. • Split/skill: The total number of interactions waiting at a skill or a split group.
Oldest interaction	• Queue: The length of time the oldest work item was waiting for a service. This does not include work items that are delivered to agents and then agent suspended these work items to process in future. • Split/skill: The length of time the oldest work item was waiting at a skill or a split group. This parameter is blank for splits and skills.
Total interactions in progress	• Queue: The total number of work items delivered to agents for processing. This number includes work items that an agent has not yet accepted. • Split/skill: The total number of work items that are delivered to a skill or a split group. This parameter is blank for splits and skills.
Total interactions arrived this shift	• Queue: The total number of new work items arrived at a queue during a shift. • Split/skill: The total number of new work items that are arrived at a skill or a split group. This parameter is blank for splits and skills.
Total interactions arrived this interval	• Queue: The total number of new work items arrived at a queue during a current statistical interval. • Split/skill: The total number of calls made to a split group or a skill during a current statistical interval.
Total interactions arrived this hour	• Queue: The total number of new work items arrived at a queue in a current hour. **Note:** The current hour starts on the hour (for example: 9am) and ends at the current time (for example: 9.37am). Strictly speaking, the statistic is generated for the current 'part' hour. • Split/skill: Total number of new work items arrived at a split group or a skill in a current hour. This parameter is blank for splits and skills.

Information Type	Description
Total interactions arrived last hour	• Queue: Total number of new work items arrived at a queue in a last hour. **Note:** This is not the current hour (see Total interactions arrived this hour) but the hour previous to that. For example, if the current hour is 9am to 9.37am, the previous hour is 8am to 9am. • Split/skill: Total number of new work items arrived at a split group or a skill in a last hour. This parameter is blank for splits and skills.
Total interactions suspended	• Queue: The total number of work items that are currently suspended for a queue. • Split/skill: Total number of work items that are currently suspended for a split group or a skill. This parameter is blank for splits and skills.
Total interactions suspended this interval	• Queue: The total number of work items suspended for a queue, during a current statistical interval. • Split/skill: Total number of work items suspended for a split group or a skill, during a current statistical interval This parameter is blank for splits and skills.
Average wait time	• Queue: The average length of time, work items arriving to a queue, during the current statistical interval, are waiting before being answered. The time does not include the length of time a work item was suspended. • Split/skill: The average length of time callers calling to a skill or a split group, during the current statistical interval, are waiting before their call is answered.
Average handle time	• Queue: The average length of time work items arrived to a queue, during the current statistical interval, are active at an agent before being closed. • The time does not include work items that are not closed. • Split/skill: The average length of a call to a split group or a skill during a current statistical interval.

Information Type	Description
Total abandoned interactions	• Queue: The number of work items arrived to a queue, during the current statistical interval, that have been abandoned before being delivered to an agent for processing. This value is valid only for session-based media stores. For example, Web chat and MSN. • Split/skill: Total number of calls arrived to a skill or split group during a current statistical interval, are abandoned.
Average abandon time	• Queue: The average length of time work items arrived to a queue are waiting before they are being abandoned. This value is valid only for session-based media stores. For example, web chat and MSN. • Split/skill: The average length of time callers calling to a skill or split group, during a current statistical interval, are waiting before their calls are abandoned.
Shift abandoned calls	• Queue: Total number of calls to a queue that are abandoned. This parameter is blank for multimedia queues. • Split/skill: Total number of calls arrived to a skill or a split group, during a shift, are abandoned.
Shift average abandoned time	• Queue: The average length of time callers calling to a queue, during a shift, are waiting before their calls are abandoned. This parameter is blank for multimedia queues. • Split/skill: The average length of time callers calling to a skill or a split group, during a shift, are waiting before their call is abandoned.
Shift average talk time	• Queue: The average length of time an agent is talking to callers, during a shift. This parameter is blank for multimedia queues. • Split/skill: The average length of time an agent, who is logged into a skill or a split group is talking to callers, during a shift.
Shift average wait time	• Queue: The average length of time callers calling to a queue, during a shift, are waiting before their call is answered. This parameter is blank for multimedia queues. • Split/skill: The average length of time callers calling to a split group or a skill, during a shift, are waiting before their call is answered.

Information Type	Description
Shift service level	• Queue: The percentage of calls to a queue that are answered within the service level time specified in the Interaction Data Server - Voice and Presence. This parameter will be empty for multimedia queues. • Split/skill: The percentage of calls to a split group or a skill that are answered within the service level time specified in the Interaction Data Server - Voice and Presence.
Shift total calls	• Queue: Total number of calls made to a queue, during a shift This parameter will be empty for multimedia queues. • Split/skill: Total number of calls made to a skill or a split group, during a shift.

Note:
If any information type is disabled, you cannot apply that information type to a selected queue, split group, or a skill.

d. Right-click a Queue detail and select **Edit** to change the display text that precedes with each piece of information.

e. Select a Queue detail and click the UP and DOWN arrows to change the order in which the Wallboard displays information.

f. Select the **Display always** check box to display the queue information on Wallboard at startup.

If you clear this check box, the system displays queue information on Wallboard after startup.

6. On the **Agent** tab:

You can set Wallboard notifications that displays an alert message whenever a set numerical threshold level, related to the numerical data variables under the Agent, VDN, or Queue tabs is reached.

a. In the **Alert name** field, enter the name for an alert.

b. In the **Level** field, enter a value that sets the numerical threshold at which an alert is activated. For example, you can enter a value 10 to display an alert when 10 there are 10 incoming calls.

c. In the **Weight** field, enter a value that sets a relative importance of an alert that you have set versus any other alerts you have set.

The higher value indicates more importance to an alert.

d. Click the **Text color** arrow to select color for the text on an alert.

e. Click the **Background color** arrow to select background color for an alert window.

f. Click the **Marquee Style** arrow to select the scrolling effect for the text on an alert.

g. Click **Add**.

7. Click **OK**.

To activate an alert:

1. On the **Wallboard** tab, click the appropriate tab to set an alert.
2. From the Agent, VDN, or Queue list, select an ID.
   a. From the corresponding details list, select a field to which you want to apply an alert.
   b. Click **Add Alert**.
   c. Click the **Alert name** arrow to select an alert name.
   d. Click **OK** to apply the selected alert.

Note:
You cannot add an alert to non-numerical fields.

Any alert value that you apply to a time related field, defines the threshold only in seconds. Therefore, if you want to set 3 minutes, you must set the level to 180 seconds.

iClarity

Important:
By default, iClarity is disabled in Call Center Elite Multichannel Desktop.

When you first open ASGUIHost.ini, iClarity Plug-in is disabled by preceding it with a semicolon. in the **Plug In Assembly List** section. You must remove the semicolon to enable iClarity Plug-in and display the iClarity tab in the Options dialog box.

To configure iClarity Plug-in:

1. Click the **iClarity** tab.
2. In the **Toolbar Position** section, select the position of the toolbar on the application interface from the following options:
   - **Top first.** First toolbar from the top
   - **Top second**. Second toolbar from the top
   - **Bottom.** Toolbar at the bottom of the screen

3. In the **iClarity Wizards** section, click a button to perform an action explained in the below table:

Button	Description
Log in	Logs into the communication manager server
Contents	Displays iClarity online help
About	Displays the copyright and version information of iClarity features.
Audio Options	Displays the options to set the volume of the speakers of your system or headset connected to your system.
Tuning Wizard	Displays options for tuning the audio of the playback and recording devices connected to your system.
Login Settings	Displays options to modify the log in, call server, audio, call control, emergency call handling, and VPN information.
Login Wizard	Displays a wizard to configure iClarity to log into a call server.
Language	Displays a dialog box to select a language. The selected language is applied to the dialog boxes that opens when you click a button in the **iClarity Wizards** section.
Enable Logging	Enables logging of error message for iClarity to an error log file.

4. In the **Record** section:
   a. Click the button next to the text field and enter a file name with a .wav extension.
   b. Click **Start Record** to start the recording of the welcome greeting.
   c. Start talking in front of your recording device to save the welcome greeting in a file mentioned in the text field.
   d. Click **Stop Record** to stop the recording.
   e. Select the **Overwrite** check box to overwrite the existing file with a new recording.

Note:
If you specify an existing filename to overwrite with a new welcome greeting, you must select the **Overwrite** check box before you click **Start Record**.

5. In the **Play** section:

a. Click the button next to the text field to select a .wav file in which you have recorded a welcome greeting.

   The welcome greeting from this file is played on a system at the customer side.

b. Select the **Play greeting automatically** check box to play the greeting at customer side after you answers an incoming call.

6. Select the **Log in automatically when agent starts up** check box to log an agent to the call server as soon an agent starts Desktop.
7. Select the **Enable error logging** check box to write plug-in error information to an error log file.
8. Click **OK**.

Microsoft CRM

Note:
When you first open the ASGUIHost.ini file, the MS CRM GUI plug-in is disabled in the **Plug In Assembly List**, by preceding it with a semicolon. For example, ;MS CRM GUI Plugin = MS CRM GUI Plugin.

You must remove the semicolon to enable MS CRM GUI plug-in and display the **Microsoft CRM** tab in the **Options** dialog box.

To configure Microsoft CRM:

1. On the **Main** tab:

   On this tab, you can configure options to connect to your Microsoft CRM environment.

   1. In the **MS CRM Server** section:
      1. In the **Name** field, enter the name of the MS CRM server.
      2. In the **Domain** field, enter the domain in which the MS CRM server present.
   2. In the **CRMService URL** field, enter the URL of the file where the CRM service file is available.
   3. In the **MetadataService URL** field, enter the URL of the file where the metadata service file is available.
   4. In the **Login** section:
      1. Enter the user name and password to access the MS CRM server.
      2. Select the **Login using default credentials** check box to use the default user name and password to access MS CRM server.

2. On the **Identification** tab:

   You can specify the ASContact database that CC Elite Multichannel Desktop can search when a work item is received.

   If you select ASContact Database, you must transfer or synchronize contact and account data from your Microsoft CRM database into the ASContact Database. On this tab, you can also control the types of work items that Call Center Elite Multichannel Desktop can search to match the details with an existing database record.

   You can use Directory in Desktop to search a Microsoft CRM customer record. The Directory offers more benefits over the Microsoft CRM database. In Directory, you can search by many data types, such as name, phone number, and email address. In Microsoft CRM, you can only search by name.

   In ASContact database the searching is fast as compared to searching in Microsoft CRM database, which is a Web-based database.

   1. In the **Inbound Contact Identification** section, select from the following contact identification options:
      - Contact Database
      - MS CRM Directly
      - Disable, only use Rules
   2. In the **Enable Identification Channels** section, select the channels for which you want to search the database when you receive a work item.

3. On the **Contact DB** tab:

   Note:
   You can view this tab only if you select the ASContact Database on the **Identification** tab.

   You can define an action that Desktop performs when the details from an inbound work items matches with the details of a single or multiple contacts in the ASContact database.

   You also define an action that Desktop performs when the details from an inbound work item does not match with any of the record in the ASContact database. In such case, you can also define not to perform any action or opens a blank account record or contact record.

   1. In the **Contact Database** section:
      1. In the **Server** field, enter the name of the database server.
      2. In the **Name** field, enter the name of the database.

         Default: ASContact.
      3. In the **Username** and **Password** fields, enter the user name and password to access the database.
      4. Click **Test Connection** to test if Desktop can successfully connects to the database server that you mentioned.

2. In the **Lookup Contacts** section:
    1. Click **No Match Action** arrow to select an action when the details from a work item does not match with any contact records in the database.
    2. Click **Single Match Action** arrow to select an action when the details from a work item matches with a contact in the database.
    3. Click **Multiple Match Action** arrow to select an action when the details from a work item matches with multiple contacts in the database.

4. On the **MS CRM** tab:

    You select options to search Microsoft CRM accounts, Microsoft CRM contacts, or both when an inbound work item arrives. You can select particular fields for accounts and for contacts.

    Note:
    You can view the MS CRM tab only if you select the **MS CRM directly** option on the **Identification** tab.

    1. Select the **Look MS CRM Account** check box to add the fields for CRM accounts.

        When a work item is received, the details from the work item are matched with the details in the Microsoft CRM account fields that you added.
    2. Click the arrow to select a field and click **No Match Action**, **Single Match Action**, and **Multiple Action arrows** to select appropriate action for the selected field.
    3. Click **Add** to add the field in the list.
    4. Select the **Look MS CRM Contact** check box to add the fields for CRM contacts.

        When a work item is received, the details from the work item are matched with the details in the Microsoft CRM contact fields that you added.
    5. Click the arrow to select a field and click **No Match Action**, **Single Match Action**, and **Multiple Action arrows** to select appropriate action for the selected field.
    6. Click **Add** to add the field in the list.

5. On the **Synchronization** tab:

    You can click the **Synchronize now** button to initially synchronize all the data from your Microsoft CRM database with the ASContact database that Desktop uses to store contact information.

    After the initial synchronization, if there are any changes in the Microsoft CRM accounts or contacts, the MS CRM Phonebook Synchronizer application, which is installed on the Microsoft CRM server automatically synchronizes the records with the ASContact database.

    The time required for synchronizing depends on the number of records available in the MS CRM database. For example, synchronizing 70,000 records can take up to 20 minutes.

.Net Remote Connection

All the Call Center Elite Multichannel applications and services that use .Net remote connection, automatically uses the `ASGUIHost.exe.config` configuration file to control their remote connection. This file specifies the gtcp channel and default port number.

Note:
You must not change any information in this file.

Customizing a Language

By default, the custom language control uses the `StringDataDoc.txt` text file. This is a sample text file that contains strings in English. Call Center Elite Multichannel uses the strings from this file.

To customize a language:

1. Browse to a folder that contains a text file that you want to use to create your customized language.

   Note:
   By default, the text files are located in the same directory where the Call Center Elite Multichannel Desktop executable is present.

   The location is: `C:\Program Files\Avaya\Avaya Aura CC Elite Multichannel\Desktop\CC Elite Multichannel Desktop`.

   You can find the following files in the directory:

   - StringDataDoc.txt (English)
   - StringDataDocCh.txt (Chinese: Simplified)
   - StringDataDocFr.txt (French)
   - StringDataDocGm.txt (German)
   - StringDataDocIta.txt (Italian)
   - StringDataDocJp.txt (Japanese)
   - StringDataDocKr.txt (Korean)
   - StringDataDocPort.txt (Portuguese: Brazilian)
   - StringDataDocRu.txt (Russian)
   - StringDataDocSp.txt (Spanish: Castilian)
   - StringDataDocSpCol.txt (Spanish: Colombian)

- StringDataDocTradCh.txt (Chinese: Traditional)

2. If you want to use strings from a language other than English:
   1. Rename the `StringDataDoc.txt` file to other name. For example, `StringDataDocEng.txt`.
   2. Rename the file that you want to use, for example, `StringDataDocRu.txt` to `StringDataDoc.txt`.
   3. Open the renamed `StringDataDoc.txt` file.

      In the file, you can view the order of parameters as LANGUAGE, LOCALE, FONT1 to FONT4, and strings.

      The format for parameters is:

      `[KEY NAME WITHOUT A SPACE][space or tab][STRING IN DOUBLE QUOTES].`

      For example, LANGUAGE Japanese.
   4. Change the language name.

Note:
You can specify any name. If you want to create entirely a new language, for example, Dutch, specify Dutch to the LANGUAGE parameter.

If you are modifying an existing language to suit your dialect, keep the existing language name.

   5. Change the locale appropriately to suit your new language.

Note:
You can specify the locale in Hex format. For example, you can use 0x0409 for 1033.

When you change the locale, ensure that your system has the appropriate operating system and character sets for that language to work.

   6. Change the fonts appropriately.

      For example:

      FONT1 Lucida Sans Unicode, 7, FW_NORMAL, SHIFTJIS_CHARSET, FALSE, FALSE, FALSE

      In the above example:

- Lucida Sans Unicode is the font name.
- FW_NORMAL refers to the weight of the font. Higher value indicate bold.
- SHIFTJIS_CHARSET is the character set of the font. In this example, a Japanese character set.
- FALSE, FALSE, FALSE refers to Italics, Underline, and Strikethrough effects respectively.

Note:
You must specify at least one font. The application ignores more than four fonts.

7. Change the strings appropriate to your language and locale.

Note:
In the file, you must change the strings only for the existing numbers. The language control does not recognize the new numbers and strings that you add in the file.

3. Save the file.

To customize a language for an agent:

1. In Desktop, click **Tools** > **Options**.
2. Click the **Language** tab.
3. Click the **Language** arrow to select your custom language.

   If the name of your custom language is `Japanese`, the Language arrow displays `Custom Japanese` in the list.

   In the Language arrow, if you see `Custom Unknown`, you can consider the following:

   - The text file does not have a language name or the language keyword is deleted.
   - The text file is not named `StringDataDoc.txt`.
   - The text file is not at the correct location where the application executable is available.
   - The text file is not in the correct format.
4. Click **OK**.

To customize a language for Desktop:

1. Open the `ASGUIHost.ini` configuration file for Desktop.
2. Specify your custom language to the **Language Parser** parameter.

   You must precede the language name with the word Custom.

   For example: `Custom Japanese` in case of `Japanese` language.
3. Restart the Desktop application to display the text on the interface in the new language.

   If the Desktop application does not display the fonts appropriately, ensure that your system has the appropriate operating system and character sets for your language to work.

Managing Rules

In Desktop, you can use the Rules window to create rules that automatically perform actions on the call events that meets a specified criteria. For example, you can create a rule to transfer calls coming from a specific phone number to the voicemail, or to display automatic dialog boxes containing information.

When you create a rule by specifying different parameters, the Desktop application understands that rule as a complete statement, such as *When a certain event occurs and a call property matches with the mentioned value, perform the mentioned action and either continue rules processing, or jump to another rule, or stop*. In the configuration file of Desktop, the rules are stored as simple text strings.

In the Rules window, you can create multiple rules for a call event. The Rules plug-in processes these rules in the order in which they are listed in the Rules Window. Once a correct match is found, the specified action is performed and no further rules are processed. You can change the processing order at any time.

This rule functionality is similar to the email rules functionality in Microsoft Outlook.

For example:

- **Rule1:** When an agent receives an external phone call, the following rule forces the application to create an inbound Microsoft CRM phone call activity and display it.

```
When Voice.WIDelivered And CallerDN > Nothing And CallerDN > 99999 Do
ReturnEvent
MSCRM.CreateThenScreenpop,phonecall,description|directioncode|from|phonen
umber|subject|to,%UserEnteredCode%|0|%CallerDN%|%CallerDN%|%UUI%|%CalledD
N% Then Continue
```

- **Rule2:** When an agent receives an external phone call, the following rule forces the application to look up a contact in the contact directory, try to match the phone number, and display a message on the screen.

```
When Voice.WIDelivered And CallerDN > Nothing and CallerDN > 99999 Do
ReturnEvent
MSCRM.LookupThenScreenpop,contact,mobilephone|telephone1|telephone2|telep
hone3,%CallerDN%,1,1,2,1 Then CONTINUE.
```

For more information on how to create rules using the different key words and events available in the Rules Window, see the *Avaya Aura® Call Center Elite Multichannel Rules Plug-in User Guide*.

Creating a rule

To create a rule:

1. In Desktop, click **Tools** > **Rules** on the menu bar.
2. Click the **New** button.
3. Create a trigger.
    1. In the **Rules** window, click the **When** arrow to select an event for which you want to execute a rule.
4. Create a filter.
    1. Select the **Always** check box if you do not want to set a condition to execute a rule for a selected event.

       The system disables the **And** text field. Selecting the **Always** check box also indicates that a rule you select is always executed when the selected event occurs.
    2. Clear the **Always** check box if you want to set a condition to execute a rule when a selected event occurs.
    3. In the **And** text field, enter a condition for rule or click the button next to the text field to select a condition from the drop-down list.

       When you select a condition, the system displays a key and value pair for the selected condition in the **And** text field. The event keys are compared with the literal strings or the keyword **Nothing**.

       In the **And** text field, you can add multiple conditions and combined them with the And clause.

       For example: `CallerDN = 4567 And UUI > Nothing`.

    Note:
    If you enter an invalid condition, the system displays an error icon on the button next to the **And** text field.

    4. If you want to compare a key with literal string, enter the required literal string after the keyword operator.

       For information on key, values, and keyword operators, such as <, >, and =, see the *Avaya Aura® Call Center Elite Multichannel Rules Plug-in User Guide*.
5. Set an action for a selected event and conditions.

1. Click the **Do** arrow to select an action.

   The selected action is performed when the selected event and conditions are met.

   Based on an action you select, the application displays the related text fields to provide supporting attributes to an action. Some actions have a single attribute and some actions have multiple attributes.

   For example:

Action	Attribute 1	Attribute 2
Open	**Target.** Enter a file or application that you want to open	**Command Line Arguments.** Enter the command line arguments
Alert	**Caption.** Enter the text that appears on the title bar of the Alert dialog box.	**Message.** Enter the text that is displayed on the Alert dialog box.

2. Enter the appropriate values in the respective text fields.

6. Set the work that you want a rule to do after performing an action.

   1. Click the **Then** arrow and select an appropriate action for a rule to perform when the selected conditions are matched.

      The available options are: Continue, GotoRule, Stop.

      The **Warning** tab at the bottom of the **Rules** windows displays warning messages when you select an option, which is invalid for the rule you select.

   2. Click the **Else** arrow and select an appropriate action for a rule to perform when the selected conditions does not match.

   3. Click **OK**.

      Ensure that an application creates a valid rule. The **Warning** tab at the bottom of the **Rules** windows displays warning messages if an invalid rule is created.

      A valid rule appears in the left-hand panel of the Rules Window.

7. Repeat the procedure to create more rules.

8. Select a rule and click **Up** and **Down** buttons to change the sequence in which the application searches the rules.

   Note:
   The Rules plug-in processes rules in an order in which they are listed in the **Rules** window. Once a match is found, a rule is executed and no further rules are processed.

9. Select a rule and click **Delete** to delete a rule.

10. Click **OK** to close the **Rules** window.

Storing a rule

In the Rules window, a rule that you create is saved in the configuration file of Desktop, in a text format.

In the configuration file, each rule is stored on a separate line. The Rules plug-in access the configuration file to execute a rule that matches the specified criteria.

Note:

You must correctly enter the event parameters with appropriate uppercase and lowercase letters and without spaces between the words. For more information on parameters, see the *Avaya Aura® Call Center Elite Multichannel Rules Plug-in User Guide*.

Integrate Microsoft CRM

If you use Microsoft Business Solutions CRM in your organization and you want to use Call Center Elite Multichannel's multimedia technology to distribute Microsoft CRM activities to your call center agents, you must configure Call Center Elite Multichannel Desktop's MS CRM GUI Plug-in and Preview Contact Media Store's MS CRM Svc Plug-in. For more information, see Microsoft CRM on page 53.

To learn how to configure MS CRM Svc Plug-in and to set up a program especially for Microsoft CRM activities, refer to the *MS CRM GUI Plug-in User Guide*.

To learn how to customize the Microsoft CRM Server so that dial buttons appear on Microsoft CRM web pages, refer to the *MS CRM GUI Plug-in Guide*. This guide also tells you how to install MS CRM Phonebook Synchronizer, which automatically updates the ASContact Database when changes are made to the Microsoft CRM database.

Integrate IronPython Script

Using Python Breakout Plug-in, a developer can invoke IronPython scripts when Call Center Elite Multichannel Desktop events are triggered.

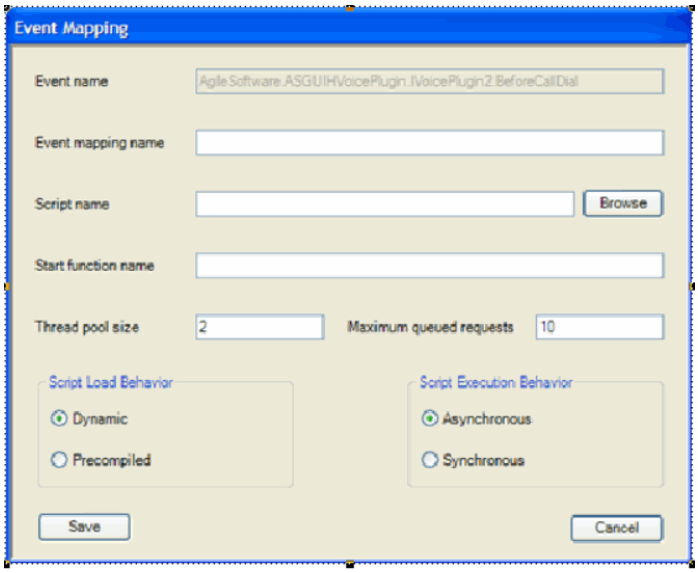
To map an IronPython script to a Call Center Elite Multichannel Desktop event:

1. Enable Python Breakout Plug-in in the Desktop configuration file.
2. Click **Tools** > **Python Breakout** > **View by Event** from the menu bar.

   A list of events belonging to all plug-ins registered to Call Center Elite Multichannel Desktop displays.

3. Select a Call Center Elite Multichannel Desktop event from the list and click **Add**.

   The system displays the **Event Mapping** screen.



4. Type a unique name for your event mapping.
5. Click **Browse** and locate your IronPython script.
6. If required, type the name of a function in your script that will act as a starting point when the script is run.

   The name of the function must match what is specified in the event/script mapping definition. The names of the parameters can be whatever you wish but there must be three of them and they will be supplied in the order - sender, eventArgs, PIMBroker.

   - sender - this is passed through from the event handler arguments. The specific type of this object will be determined by the generator of the event. IronPython will cast this to the correct type for you, but you will need to know the definition of the object to figure what members and methods it has.
   - eventArgs - this is passed through from the second argument of the event handler. Again the specific type of this object will be determined by the generator of the event but it will be derived from the .Net EventArgs class. IronPython will cast this to the correct type for you, but you will need to know the definition of the object to figure what members and methods it has.
   - PIMBroker - this is a class of type IASPIMBroker. It is the PIMBroker object used by the ASPythonBreakoutPlugin executing the Python script. You can access any public method or member within this class.

   An example function definition is: def EntryFunction(sender, eventArgs, PIMBroker):

   If you do not enter the script via a function, three global variables will be supplied. These are named sender, eventArgs, and PIMBroker. They have the same definitions as above.

7. Select if you want scripts run dynamically or pre-compiled. If run dynamically, the script will be recompiled every time it is executed. This is slower but allows you to modify scripts and execute the new scripts without having to restart Call Center Elite Multichannel Desktop. If run pre-compiled, the scripts are compiled on startup. This will improve script performance but if you wish to modify the script, you will have to restart Call Center Elite Multichannel Desktop before the script changes are seen.
8. Select if you want scripts run synchronously or asynchronously.

   If a script is run synchronously, then if the event that triggered the event occurs again while the script is being executed, the script for the second event will not be executed until the first one has completed.

   If you want a script to run asynchronously (scripts for a given event will be run concurrently), specify the maximum number of concurrent scripts that may be executed for a specific event/script mapping in the Thread pool size text box. Any number of requests beyond this number will be queued. If the queue exceeds the number specified by the Maximum queued requests, all subsequent requests to execute scripts for that event/script mapping will be ignored. Once the number of queued requests falls below the Maximum queued requests limit, a new event will again be queued.
9. Click **Save**.

Note:
You can also use the CC Elite Multichannel Desktop Events tab to change or delete event-to-script mappings.

10. Click **Tools** > **Python Breakout** > **View by Mapping Name** from the menu bar, to view IronPython scripts that are already mapped to Call Center Elite Multichannel Desktop events.

    You can add, change or delete event-to-script mappings in the **Script Mapping Names** pane.

Sample Script

A sample script called `CESample1.py` is included in the Call Center Elite Multichannel installer.

For more information on Python, see www.python.org. For more information on IronPython, see www.codeplex.com/Wiki/View.aspx?ProjectName=IronPython.

Install Call Center Elite Multichannel Reporting

Call Center Elite Multichannel Reporting prerequisite

Avaya Aura® Call Center Elite Multichannel Reporting runs on various Microsoft Windows operating systems, such as XP, Vista, and Windows 7. For more information, see Supported products on page 19. Ensure that Microsoft IIS 6.0 or higher is installed in the system.

Important:
You must install Call Center Elite Multichannel Reporting on Microsoft Windows Vista or 7 as **Administrator**.

Before installing Call Center Elite Multichannel Reporting

A prerequisite for the installation of Call Center Elite Multichannel Reporting is the installation of SQL Server with Advance Services with Microsoft SQL Server Reporting Services and configured with client accounts.

For information on Microsoft SQL Server Reporting Services refer to your Microsoft SQL documentation.

Install SQL Server for Call Center Elite Multichannel Reporting Service

Important:
Installation of SQL Server with Advanced Services is required to leverage the Reporting Services that comes within the Advanced Services package for SQL Server. This is required for the reporting capabilities within Call Center Elite Multichannel suite. For more information, see Install SQL Server 2008 on page 124.

There are following essential pre-requisites to install SQL Server for CC Elite Multichannel Reporting Service:

For Microsoft SQL Server 2008 with Advance Services:

- Microsoft .Net Framework 3.5 SP1
- Internet Information Services
- Windows Installer 4.5

- Power shell 1.0

To install Microsoft SQL Server 2008 with Advance Services refer to section Install SQL Server 2008 on page 124.

Configure SQL Server for Call Center Elite Multichannel Reporting

To configure the SQL Server for Call Center Elite Multichannel Reporting, refer Configure SQL Server 2008 on page 138.

Run Call Center Elite Multichannel Reporting installer

If Media Proxy is not already installed on the system, this installation automatically (and silently) installs Media Proxy, which is needed to run Call Center Elite Multichannel Reporting. The proxy service is installed by default to `C:\Program Files\Avaya\Avaya Aura CC Elite Multichannel\Desktop\Media Proxy Service`.

Note:
It is possible to install Media Proxy first using Call Center Elite Multichannel's separate Media Proxy installer, however, if you ever uninstall the proxy at a later date, Call Center Elite Multichannel Reporting will not work. By using the silent install available via Call Center Elite Multichannel Reporting's installer, you cannot uninstall Media Proxy by itself (it does not appear in Control Panel's Add or Remove Programs).

To install Call Center Elite Multichannel Reporting:

1. Close all open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Desktop**.
5. Click **CC Elite Multichannel Reporting**.
6. Click **Next** to continue.

   The system displays the **License Agreement** screen.
7. If you agree with the licensing terms and conditions, click **Yes**.

   The system displays the **Voice Portal Service Dialog** screen.

8. In the **Server** and **Port** fields, enter the host name or IP address and port number of the Voice Portal server and click **Next**.

   Important:
   To enable the Voice Portal Express menu on the menubar of the Reporting application, specify the correct IP address or hostname of the Voice Portal server in the Voice Portal Service IP configuration key of the Voice Portal Plugin section on the Configuration server.

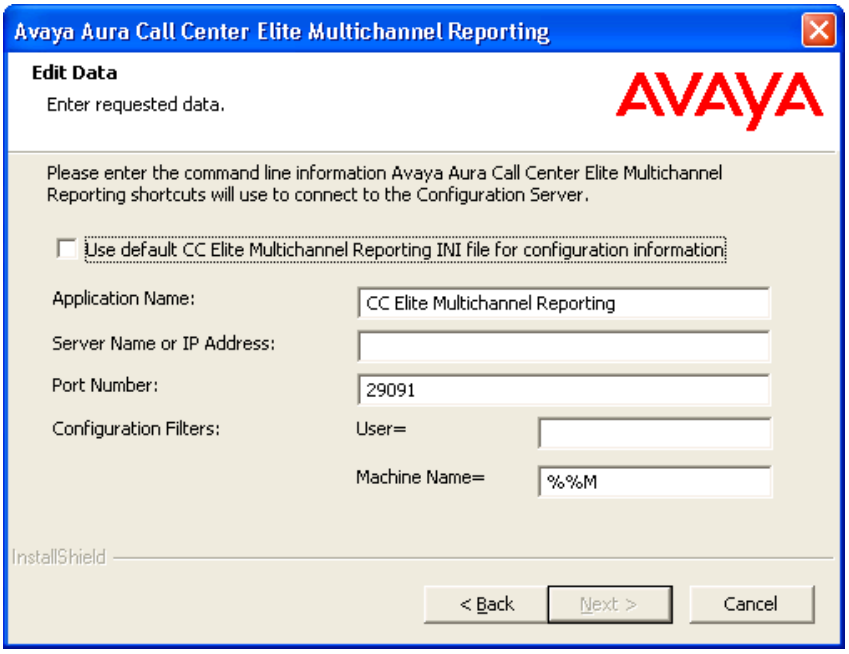
9. Keep the check box selected and click **Next**.

   The system uses the local configuration file to source the configuration data.

   To use the Configuration Server to source configuration data:

   a. Clear the check box.

      The other text fields on the screen are enabled.



   b. Use the following definitions to specify the field values on this page.

Field	Description
Application Name	This is the name of the application that Configuration Client will request configuration information for.
Server Name or IP Address	Type the IP address or the name of the Configuration Server that Configuration Client will connect to for configuration information.

Field	Description
Port Number	If you do not want to use the prescribed TCP/IP port number (29091), type the port number to be used for communication between the Configuration Server and the Configuration Client.
Configuration Filters	The configuration filter is used in conjunction with the application name to locate a unique user and their configuration data from the Configuration Server. You must use **User,** or **Machine Name**, or both. • If you want to use the user's network login name as a configuration filter, type `%%U` in the **User** text box. If you do not want to use the user name as a filter, leave the text box empty. • If you want to use the name of the system as a configuration filter, type `%%M` in the **Machine Name** text box. If you do not want to use the system name as a filter, leave the text box empty.

10. Click **Next** to continue.

    To select a different install location, click **Browse**.

11. Keep the default location and click **Next** to continue.

    To select a different location, click **Browse**.

12. Use the following definitions to configure CC Elite Multichannel Reporting.

Note:
The information you enter in this screen is saved into the application's configuration `.ini` file. If you want to enter the data directly into the `.ini` file at a later stage, click **Next** to skip this step and continue the installation.

Field	Description
Media Director IP	The IP address of the Media Director
Media Director Port	The IP port number of the Media Director. The default port is: 29087.
XML Server IP	The IP address of the XML Server
XML Server Port	The IP port number of the XML Server The default port is: 29096.

Field	Description
License Director IP	The IP address of the License Director **Note:** When the IP address is entered, the Connect License Director parameter in the application's configuration file changes from False to True
License Director Port	The IP port number of the License Director The default port is: 29095.

13. Keep the **iClarity** feature selected to install the iClarity plug-in and click **Next**.
14. Click **Next** to continue

    To install Call Center Elite Multichannel Desktop without a shortcut on a desktop, clear the check box and click **Next** to continue.
15. Check your installation settings and click **Next**.

Note:
If you receive an `Add Provider Error` message dialog box during installation, click **Ok**.

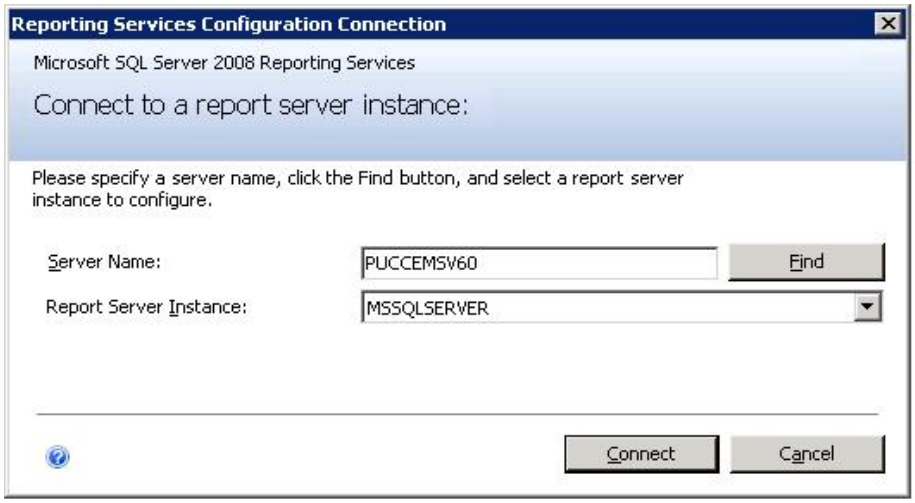
16. Click **Finish**.
17. If you are asked to restart your system (this will happen if some application components need updating or registering), click **Yes**.

Verify the Microsoft SQL Server Reporting Services

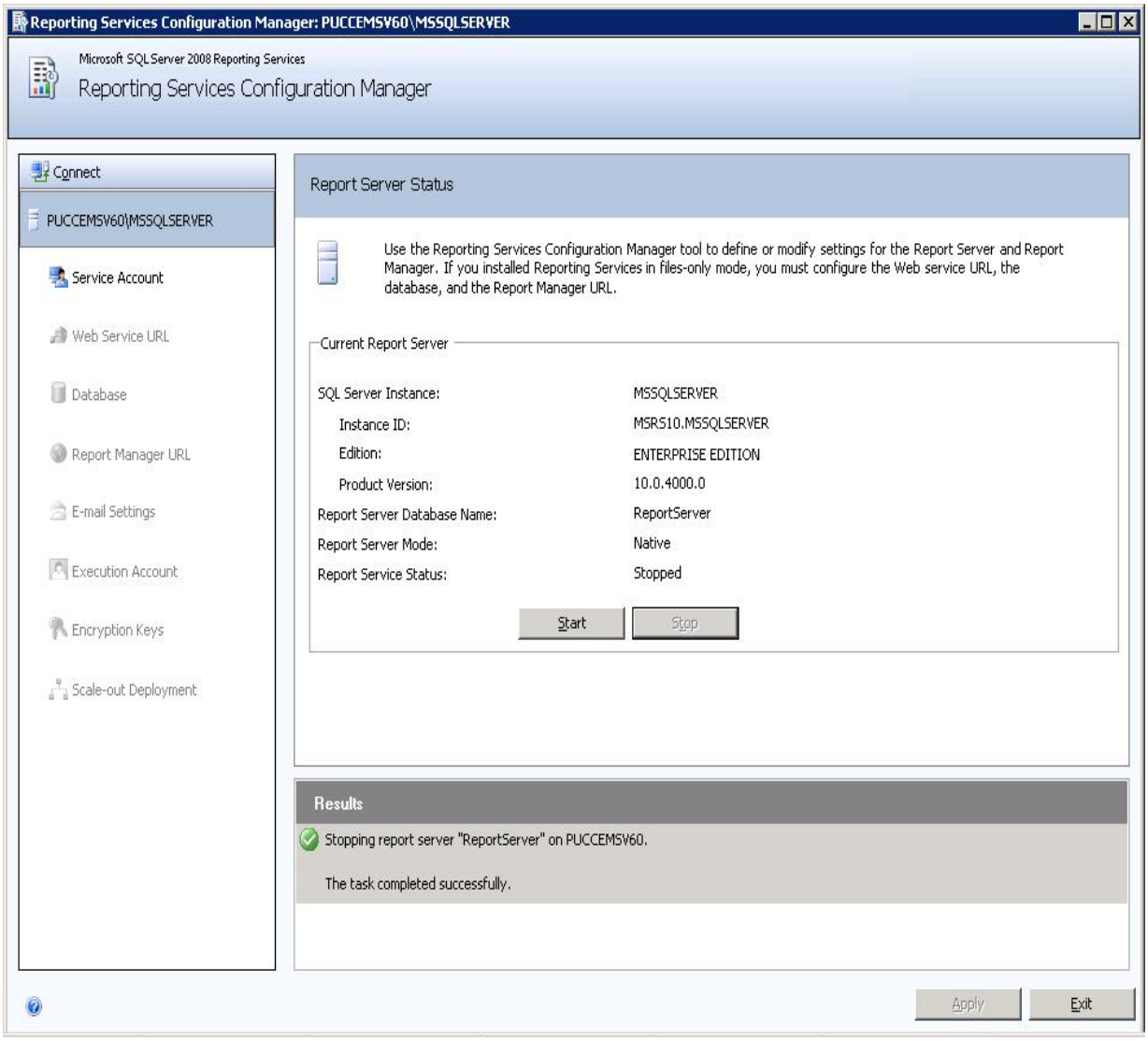
Note:
This example is based on the SQL Server 2008 installation and assumes that SQL Server 2008 has been installed and configured with a Default instance, and that Microsoft SQL Server Reporting Services has been installed. For more details, refer to Microsoft SQL Server Reporting Services documentation.

To verify the Microsoft SQL server reporting services:

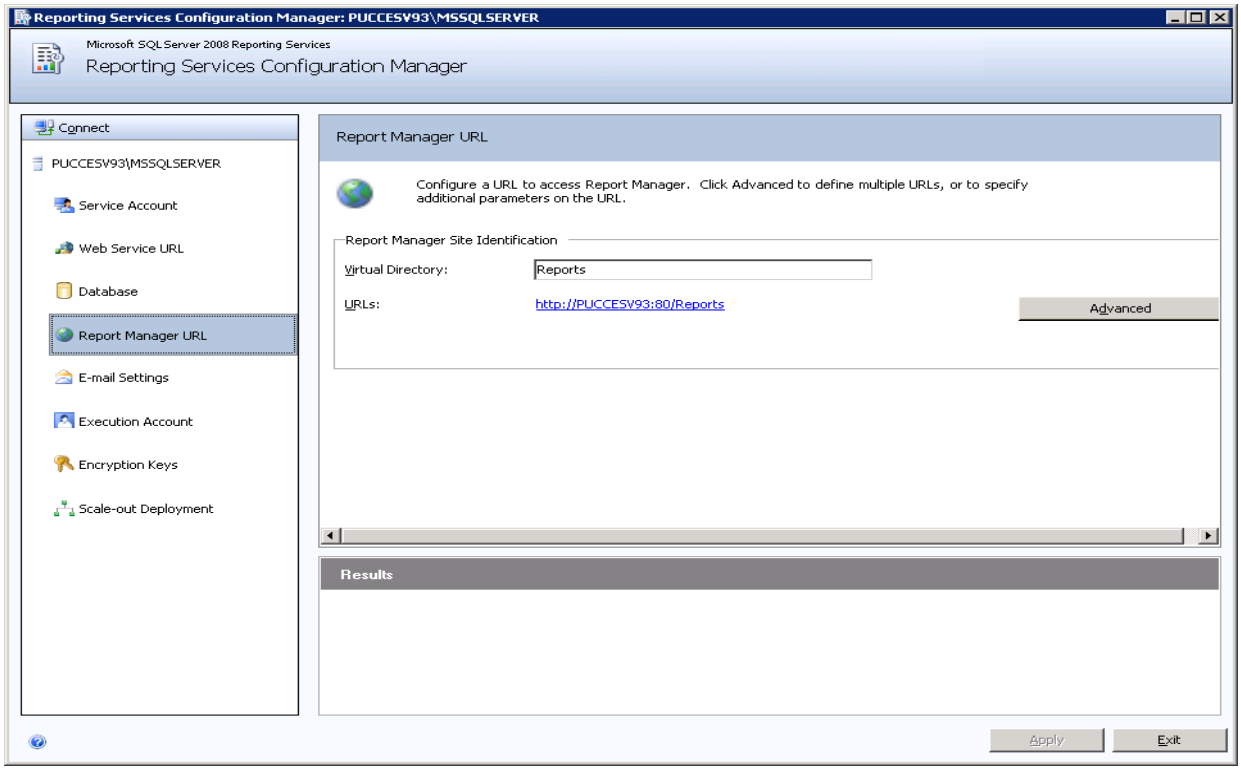
1. From the Windows **Start** menu, select **All Programs** > **Microsoft SQL Server 2008** > **Configuration Tools** > **Reporting Services Configuration Manager**.



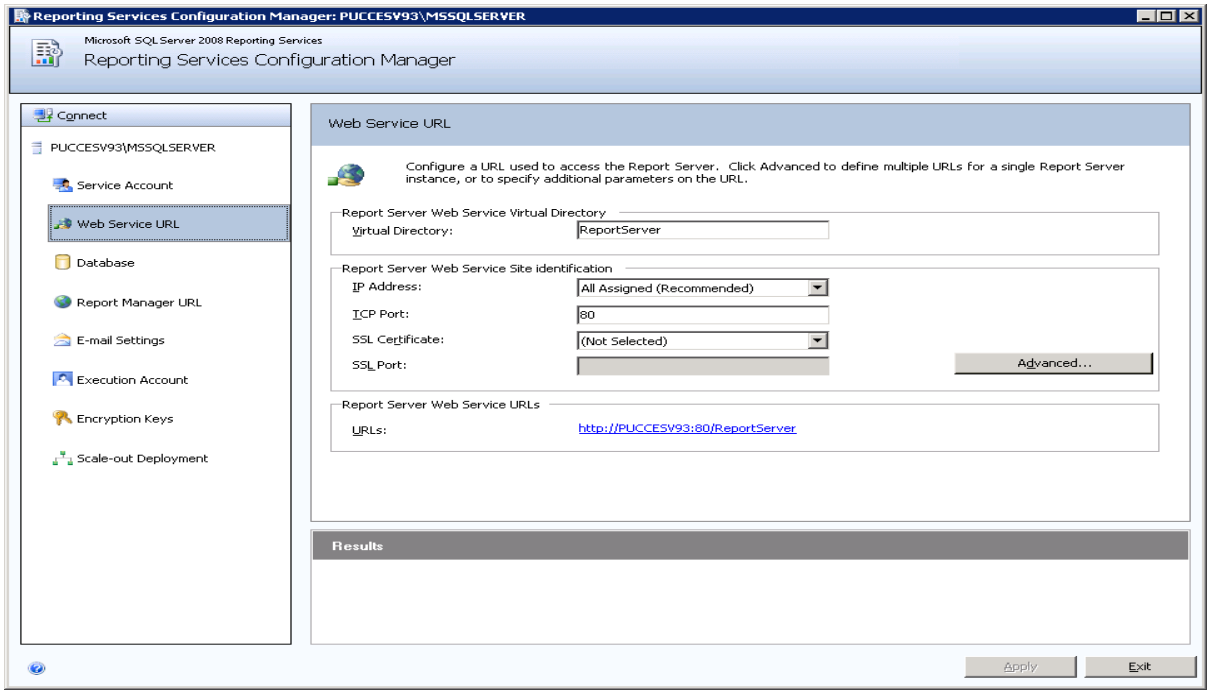
2. Select the correct system name and instance name, and click **Connect**.
   If the report services have been stopped, start them by clicking **Start**.



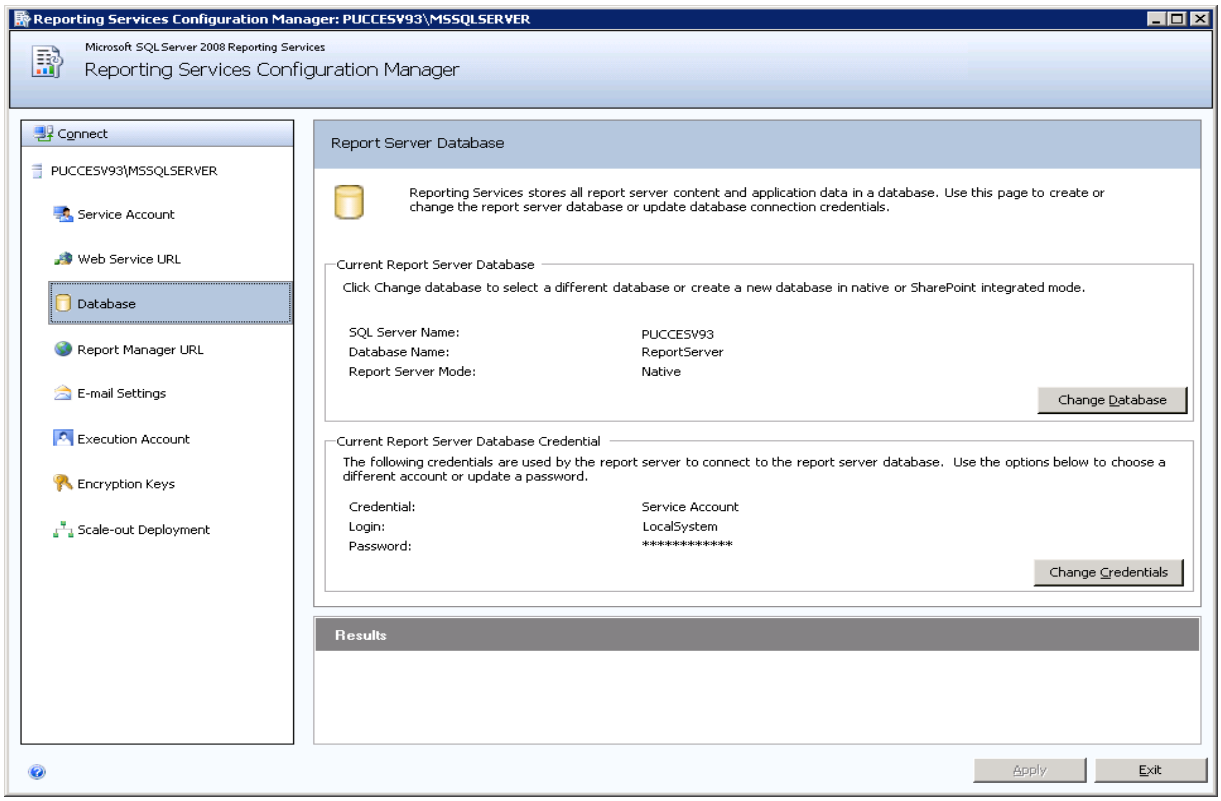
3. In the left pane, click **Report Manager URL**. Verify the Report Manager Site Identification.



4. In the left pane, click **Web Service URL**. Verify the Report Server Web Service Virtual Directory, Report Server Web Service Site Identification, and Report Server Web Service URLs.



5. In the left pane, click **Database**.Verify that the Current Report Server Database and Current Report Server Database Credential.



6. Click **Exit** to close the Microsoft SQL Server Reporting Services configuration application.

Install Media Proxy

This installation has been provided if you have developed your own contact center software using Developer's multimedia components and that software relies on Media Proxy to run.

If you are installing Call Center Elite Multichannel Desktop or Call Center Elite Multichannel Reporting (both of which need Media Proxy to run), it is recommended that you do not install Media Proxy first using this procedure, but that you let the Call Center Elite Multichannel Desktop or Call Center Elite Multichannel Reporting installer automatically (silently) install the proxy as part of a merged-application install.

If you install Media Proxy first using this procedure and then uninstall the proxy at a later date, Call Center Elite Multichannel Desktop will not work. If you install Media Proxy as part of a merged-application install, you cannot uninstall Media Proxy by itself (it does not appear in Control Panel's Add or Remove Programs).

Media Proxy runs on Microsoft Windows operating systems, such as XP, Vista, Windows 7, and so on. For more information, see Supported products on page 19.

For the application to install, the system must have Microsoft .Net Framework 3.5 SP1 and Microsoft Internet Explorer 6.0 SP1 or higher. You can install .Net Framework from the **`Utilities\Microsoft .Net Redistributable`** folder available in the installer package of Call Center Elite Multichannel.

Manual install

To manually install Media Proxy:

1. Close all open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Desktop**.
5. Click **Media Proxy**.
6. From the drop-down list, select the language you want to use for the installation and click **OK**.
7. Click **Next** to continue.

   The system displays the **License Agreement** screen.
8. Read through the license agreement and, if you agree with the licensing terms, click **Yes**.
9. Check your install settings and click **Next** to start the install.
10. Click **Finish**.
11. If you are asked to restart your system (this happens if some application components need updating or registering), click **Yes**.

Chapter 4: Installing Server Applications

This section contains the following topics:

- Installing License Director on page 77
- Installing Call Routing Server on page 78
- Installing Configuration Server on page 80
- Installing Task Director on page 82
- Installing Interaction Data Server on page 84
- Installing Trace System on page 88
- Installing Call Recording Config Service on page 89
- Installing Voice Portal Config Server on page 90
- Installing Media Director on page 91
- Installing Virtual Agent on page 92
- Installing XML Server on page 94
- Installing Media Stores on page 95
- Installing Application Management Service on page 99

Installing License Director

License Director can be installed on the Telephony Server or on the system running Call Center Elite Multichannel server applications. A server operating system is recommended: Microsoft Windows 2008 Server (Enterprise and Standard) or Microsoft Windows 2008 R2 Server.

Note:
You must install WebLM before installing License Director. Refer Install and configure WebLM on page 147.

To install License Director:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.

3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.

4. Click **Server**.
5. Click **License Director**.

   The system displays the **License Director** setup screen.

6. Click **Next** to continue.

   The system displays the **License Agreement** screen.

7. Read the license agreement and, if you are agree with the licensing terms and conditions, click **Yes**.
8. Click **Next** to continue.

   The system displays the **Configure License Director** screen with the default WebLM URL. Change the URL in the **WebLM URL** field if you want to use a remote WebLM server.

9. Click **Next**.
10. Read the install settings and click **Next** to start the install.
11. Click **Finish**.
12. If you are asked to restart your system (this will happen if some application components need updating or registering), click **Yes**.
13. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
14. In the Services window, verify that the **AS License Director** service is running.

Installing Call Routing Server

To install Call Routing Server, a server operating system is recommended: Microsoft Windows Server 2008 (Enterprise and Standard) and Microsoft Windows 2008 R2 Server.

To install Call Routing Server:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.

3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.

4. Click **Server**.
5. Click **Call Routing Server**.

   The system displays the **Call Routing Server** setup page.

6. Click **Next** to continue.

   The system displays the **Configure Call Routing Server** page.

7. Enter the values in the fields using the definitions given in the following table:

Note:
The information you enter on this page is saved into the application's configuration `.ini` file. If you want to enter the data directly into the `.ini` file at a later stage, click **Next** to skip this step and continue the install.

Field	Description
Primary Link Name	The name of the primary link this application will use to connect to the Avaya Telephony Server and switch. **Note:** You must enter the primary link. The Call Routing server exits if you leave this field blank.
Primary User Name	The user name required to gain access to the primary link.
Primary User Password	The password associated with above user name By default, the Call Center Elite Multichannel application will encrypt this data. For more information, see the *Avaya Aura® Call Center Elite Multichannel Installation Guide* (Configuration Commands).
Secondary Link Name	The name of the secondary link this application will use to connect to the Avaya Telephony Server and switch.
Secondary User Name	The user name required to gain access to the secondary link.
Secondary User Password	The password associated with above user name By default, the Call Center Elite Multichannel application will encrypt this data. For more information, see the *Avaya Aura® Call Center Elite Multichannel Installation Guide* (Configuration Commands).

8. Click the **More >>** button to configure routing and monitored VDNs.
9. In the **Routing VDN List** field, enter the VDN number to specify for which VDNs you want the Call Routing Server to issue RouteRequest events and click **Add**.

10. In the **Monitored VDN List** field, enter the VDN number to specify for which VDNs you want the Call Routing Server to issue monitor request commands and click **Add**.
11. Select a VDN from the list and click **Delete** to delete a VDN number from the list.
12. Click the **Exit** button to return to the **Configure Call Routing Server** page.
13. Click **Next**.
14. Click **Change** to select the plug-ins you want to install.

Note:
Script Host Plug-in does not install scripting engines as a part of installation.

15. Keep the default plug-ins selected and click **Continue**.
16. Clear the check boxes for the plug-ins that you do not want to install.
17. Click **Next** to install the selected Call Center Elite Multichannel plug-ins.
18. Click **Next** to install sample applications that demonstrate how to integrate Call Routing Server with Call Center Elite Multichannel plug-ins.
19. Read the install settings and click **Next** to start the install.
20. Click **Finish**.
21. If you are asked to restart your system (this will happen if some application components need updating or registering), click **Yes**.
22. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
23. In the Services window, verify that the **AS Call Routing Server** service is running.

Installing Configuration Server

The install script for Configuration Server provides install options for Configuration Server and Configuration Manager. The Configuration Server install includes Configuration Server, related database scripts and its startup application, and Configuration Server Manager.

Note:
Your system must be running Windows Installer 4.5 before you can install Configuration Server.

If Windows Installer 4.5 is not running, this install automatically runs an install script for that application.

Configuration Manager

You can install Configuration Manager on the system where the Configuration Server is installed or separately on a client computer.

The client computer must have Microsoft Windows XP SP3, Microsoft Windows Vista, Microsoft Windows 7, Microsoft Windows Server 2008 (Enterprise and Standard) or Microsoft Windows 2008 R2 Server, as well as Microsoft Management Console (MMC) 3.0 or higher. If you do not have MMC, download it from the Microsoft web site.

Configuration Server

Configuration Server should run on a system with server operating system. For more information, see Installation Requirements on page 15.

Microsoft SQL Server 2008 with Advance Service must be installed and configured.

Note:
The SQL Server must be configured for SQL Server and Windows (mixed mode authentication) and not Windows only authentication.

To install Configuration Server, related database scripts and Configuration Manager:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Server**.
5. Click **Configuration Server**.
6. Click **Next** to continue.
7. Keep the default features selected and click **Next**.

   Note:
   The Configuration Server install option includes the Configuration Server and its startup application, Configuration Server Manager.
8. Read the install settings and click **Next** to start the install.
9. Click **Finish**.

10. If you are asked to restart your system (this will happen if some application components need updating or registering), click **Yes**.
11. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
12. In the Services window, verify that the **Active Configuration Server** service is running.

Installing Task Director

Task Director enables the Reporting Plug-in to Schedule Reports.

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Server**.
5. Click **Task Director**.
6. Click **Next**.

   The system displays the **License Agreement** screen.
7. Read the licenses terms and conditions and if you agree upon it, click **Yes**.
8. Keep the default location for installation and click **Next**.
9. Enter the following Task Director configuration details and click **Next**.

Field	Description
Domain Name	The domain name of the Windows account.
Domain User	The user name of Windows account.
Password and Confirm Password	The password of Windows account.

Note:
The task is configured against the Windows user account.

10. Check the installation settings and click **Next**.
11. Once the installation complete, click **Finish** to complete the installation.

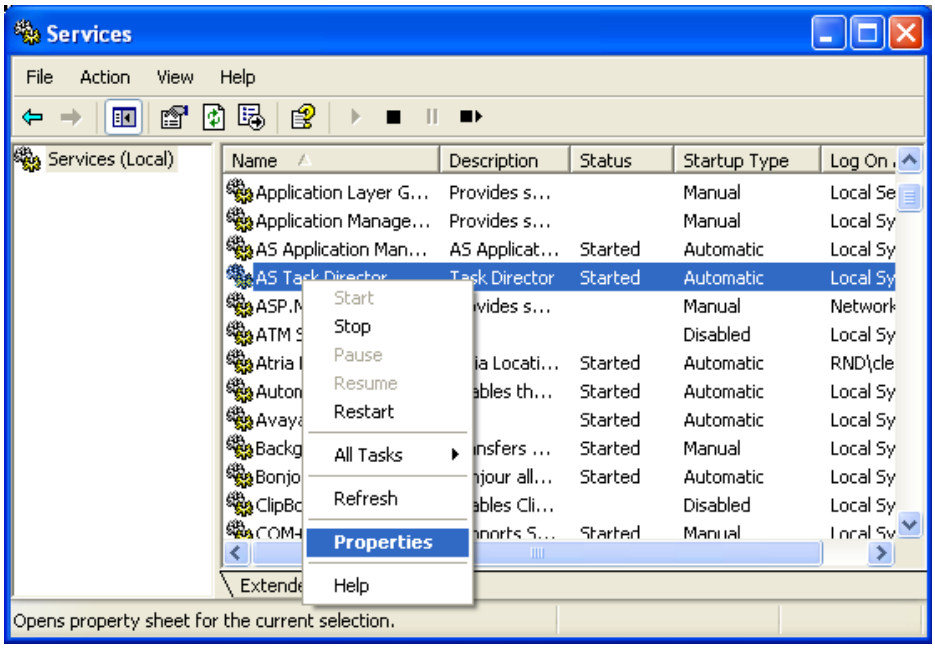
12. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
13. In the Services window, verify that the **AS Task Director** service is running.

Configure Task Director

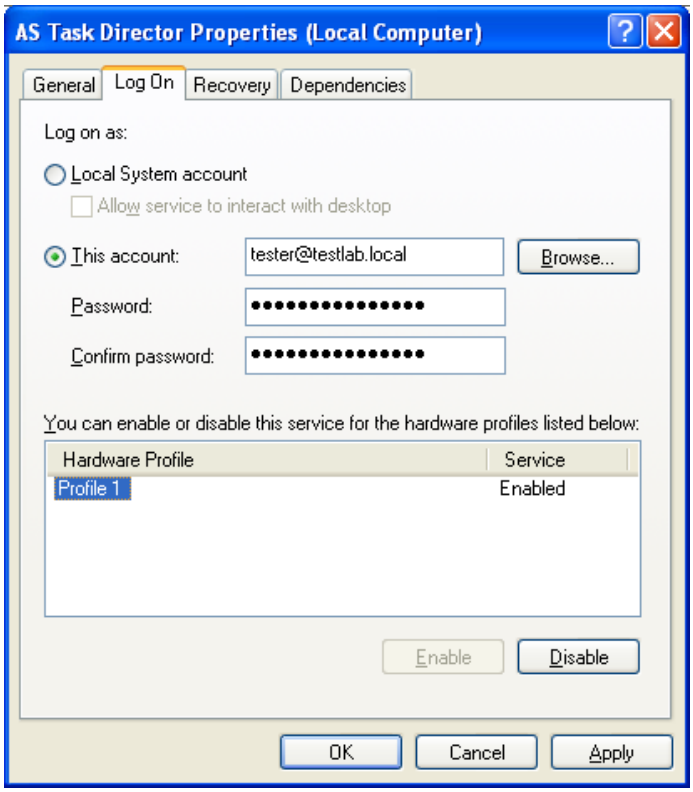
After you complete the installation of Task Director, you need to change the User.

To configure Task Director:

1. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
2. Right-click the **AS Task Director** Service and select **Properties**.



3. Add a Domain user account for the service and click **OK**.



Installing Interaction Data Server

The install script for the Interaction Data Server installs the following services:

- Interaction Data Server - Voice and Presence
- Interaction Data Server - Multimedia
- Interaction Data Server - View

The Interaction Data Service should run on a server operating system: Microsoft Windows Server 2008 (Enterprise and Standard) and Microsoft Windows 2008 R2 Server.

Microsoft SQL Server 2008 with Advance Service must be installed and configured.

Note:
The SQL Server must be configured for SQL Server and Windows (mixed mode authentication) and not Windows only authentication

To install Interaction Data Service:

For Voice and Presence, Multimedia, View, and related database scripts:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Server**.
5. Click **Interaction Data Server**.

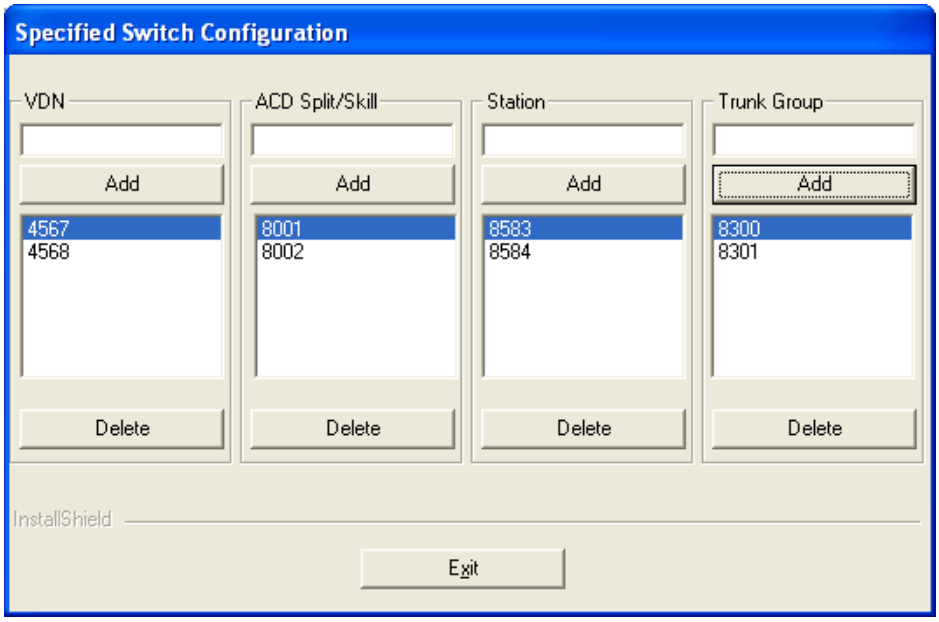
   The system displays the **Interaction Data Server** setup screen.
6. Click **Next** to continue.
7. Specify the field values to configure Interaction Data Server - Voice and Presence.

Note:
The information you enter in this screen is saved into the application's configuration `.ini` file. If you would rather enter the data directly into the `.ini` file at a later stage, click **Next** to skip this step and continue the install.

Field	Description
Interaction Data Server ID	A unique number that identifies the Interaction Data Server Voice and Presence
Interaction Data Server Port	The port number the Interaction Data Server - Voice and Presence uses to accept connections from clients and other servers The default is 29090
Switch ID	The ID number of the switch the Interaction Data Server - Voice and Presence is connected to The number should be unique The switch ID is particularly important in complex configurations, where there is a network of Interaction Data Server - Voice and Presence servers receiving information from multiple Avaya switches.
Primary Link Name	The name of the primary link this application will use to connect to the Avaya Telephony Server and switch

Field	Description
Primary User Name	The user name required to gain access to the primary link
Primary User Password	The password associated with above user name By default, the Call Center Elite Multichannel application will encrypt this data For more information, see the *Avaya Aura® Call Center Elite Multichannel Installation Guide* (Configuration Commands)

8. Click **More >>** to configure switch information.
9. In the **VDN** field, enter the VDN number that you want the Interaction Data Server - Voice and Presence to monitor and click **Add**.
10. In the **ACD Split/Skill** field, enter the hunt group extension that you want the Interaction Data Server - Voice and Presence to monitor and click **Add**.
11. In the **Station** field, enter the extension that you want the Interaction Data Server - Voice and Presence to monitor and click **Add**.
12. In the **Trunk Group** field, enter the trunk group number that you want the Interaction Data Server - Voice and Presence to monitor and click **Add**.



13. Click **Delete** to remove an item from a list.
14. Click **Exit** to return to the Configure Interaction Data Server - Voice and Presence screen.
15. Click **Next** to continue.

16. Specify the field values to configure the Interaction Data Server database and the CMS database connectivity. Use the following definitions:

Field	Description
Interaction Data Server Database	
Database Server Name	The name of your SQL server instead of the name of the server on which the 'ActiveInteractionData' database is located. You will be prompted to select the Interaction Database Sever Name. This is used by Interaction Data Server - Voice and Presence, Interaction Data Server - View and Interaction Data Server - Multimedia.
CMS Database	
Database Server Name	The name or TCP/IP address of the server on which the Avaya CMS Informix database is located. This information is used by the CMS Plug-in for Interaction Data Server - Multimedia.
Database User Name	A valid user name for the CMS Informix database
Database User Password	The password associated with the above user name.

17. Click **Next** to continue.
18. Click **Next** to install sample applications that demonstrate how to use Interaction Data Server.
19. Read the install settings and click **Next** to start the install.
20. Click **Finish**.
21. If you are asked to restart your system (this will happen if some application components need updating or registering), click **Yes**.
22. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
23. In the Services window, verify that the following services are running:
    - **AS Interaction Data Server - Multimedia**
    - **AS Interaction Data Server - Voice**
    - **AS Interaction Data Server - Voice and Presence**

Installing Trace System

In Call Center Elite Multichannel, you can install the Trace system to collect and store logs on a central server. The Trace system consists of the TTrace Server, TTrace Configuration, TTrace Console, and TTrace LogtoZip components. You can use these components to view, configure, and archive the logs stored on the TTrace server.

Important:
You must enable the Windows Firewall service before installing Trace System.

To install Trace System:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Server**.
5. Click **Trace System**.

   The system displays the **Trace System** setup screen.
6. Click **Next** to continue.

   The system displays the **License Agreement** screen.
7. Read the license agreement and, if you are agree with the licensing terms and conditions, select the **I accept the terms in the license agreement** option and click **Next**.
8. Click the **Complete** button to install all the components of Trace System.

   OR
9. Click **Custom** to select the components that you want to install.
10. Click **Install**.
11. Click **Finish** after the installation is complete.
12. Click **Yes**, if you are asked to restart your system.

    This requires if some application components need updating or registering.
13. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
14. In the Services window, verify that the **Avaya Trace Server** service is running.

Installing Call Recording Config Service

In Call Center Elite Multichannel, you can install the Call Recording Config service for agents to use call recording features. This service provides recording and replaying options for agents to record their conversation with the customer and replay the recorded conversations. For more information on Call Recording, see the *Avaya Aura® Call Center Elite Multichannel Desktop User Guide* and *Avaya Aura® Call Center Elite Multichannel Control Panel User Guide*.

To install Call Recording Config Service:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Server**.
5. Click **Call Recording Config Service**.

   The system displays the **Call Recording Config Service** setup screen.
6. Click **Next** to continue.

   The system displays the **License Agreement** screen.
7. Read the license agreement and, if you are agree with the licensing terms and conditions, select the **I accept the terms in the license agreement** option and click **Next**.
8. Click the **Complete** button to install all the components of Trace System.

   OR
9. Click **Custom** to select the components that you want to install.
10. In the **Hostname of Trace System Service** and **Port** field, enter the hostname or IP address and port number of the TTrace server and click **Next**.
11. Click **Install**.
12. Click **Finish** after the installation is complete.
13. Click **Yes**, if you are asked to restart your system.

    This requires if some application components need updating or registering.
14. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
15. In the Services window, verify that the **Avaya Call Recording Config Service** service is running.

Installing Voice Portal Config Server

In Call Center Elite Multichannel, you can install the Voice Portal Config service for agents to use Voice Portal application features inside Call Center Elite Multichannel. For more information on Voice Portal, see the *Avaya Aura® Call Center Elite Multichannel Control Panel User Guide* and *Avaya Aura® Call Center Elite Multichannel Reporting User Guide*.

To install Voice Portal Config Service:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Server**.
5. Click **Voice Portal Config Service**.

   The system displays the **Voice Portal Config Service** setup screen.
6. Click **Next** to continue.

   The system displays the **License Agreement** screen.
7. Read the license agreement and, if you are agree with the licensing terms and conditions, select the **I accept the terms in the license agreement** option and click **Next**.
8. Click the **Complete** button to install all the components of Trace System.

   OR
9. Click **Custom** to select the components that you want to install.
10. In the **Hostname of Trace System Service** and **Port** field, enter the hostname or IP address and port number of the TTrace server and click **Next**.
11. Click **Install**.
12. Click **Finish** after the installation is complete.
13. Click **Yes**, if you are asked to restart your system.

    This requires if some application components need updating or registering.
14. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
15. In the Services window, verify that the **Avaya Voice Portal Config Service** service is running.

Installing Media Director

To install Media Director, the server operating system recommended is: Microsoft Windows Server 2008 (Enterprise and Standard) and Microsoft Windows 2008 R2 Server.

For the application to install, the system must have Microsoft .Net Framework 3.5 SP1. You can install .Net Framework from the **`Utilities\Microsoft .Net Redistributable`** folder available in the installer package of Call Center Elite Multichannel.

To run Media Director, the system must also run XML Server.

To install Media Director:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Server**.
5. Click **>>**.
6. Click **Media Director**.
7. Click **Next** to continue.

   The system displays the **License Agreement** screen.
8. Read the license agreement and, if you are agree with the licensing terms and conditions, click **Yes**.
9. Click **Next** to continue.

   To select a different install location, click **Browse**.
10. Read the install settings and click **Next** to start the install.
11. Click **Finish**.
12. If you are asked to restart your system (this will happen if some application components need updating or registering), click **Yes**.
13. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
14. In the Services window, verify that the **AS Media Director** service is running.

Installing Virtual Agent

You can install Virtual Agent on a server system with recommended operating system: Microsoft Windows Server 2008 (Enterprise and Standard) and Microsoft Windows 2008 R2 Server.

Note:
Before you install Virtual Agent, ensure that Microsoft IIS 7 is installed on the system.

You must configure the following on IIS 7 before installing Virtual Agent:

- Enable various features of IIS
  - Web management tools
    - IIS 6 Management Compatibility
    - IIS 6 WMI Compatibility
    - IIS Metabase and IIS 6 configuration compatibility
  - World Wide Web Services
    - Application Development Features
      - ASP.NET
      - ISAPI Extensions
      - ISAPI Filters
    - Common Http Features
      - Default Document
      - Directory Browsing
      - HTTP Redirection
      - Static Content
    - Security
      - Windows Authentication

To install Virtual Agent:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.

3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.

4. Click **Server**.
5. Click **>>**.
6. Click **Virtual Agent**.

   The system displays the **Virtual Agent** setup screen.

7. Click **Next** to continue.

   The system displays the **License Agreement** screen.

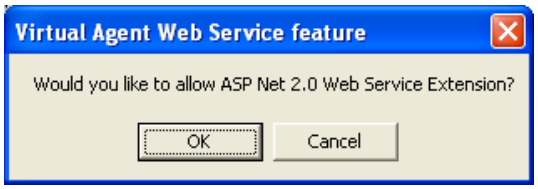
8. Read the license agreement and, if you are agree with the licensing terms and conditions, click **Yes**.
9. Keep the default location and click **Next**.

   To select a different install location, click **Browse**.

10. Keep the default feature selected and click **Next**.
11. In the **Virtual Agent Remoting IP** and **Virtual Agent Remoting Port**, specify the remote IP address and port number that the Virtual Agent Web Service uses to connect to the Virtual Agent service and click **Next**.
12. Read the install settings and click **Next** to start the install.

Note:

If the installer finds that `ASP Net 2.0 Web Service Extension` is not installed, the system displays a dialog box, which asks whether to install Web Service Extension or not. This component is required for the Virtual Agent Web Service Worker Plugin.



13. Click **OK** to continue install.

    ASP .Net 2.0 installation starts.

14. Click **Finish**.
15. If you are asked to restart your system (this will happen if some application components need updating or registering), click **Yes**.
16. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.

17. In the Services window, verify that the **AS Virtual Agent** service is running.

Installing XML Server

To install XML Server, a server operating system is recommended: Microsoft Windows Server 2008 (Enterprise and Standard) and Microsoft Windows 2008 R2 Server.

To install XML Server:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Server**.
5. Click **>>**.
6. Click **XML Server**.

   The system displays the **XML Server** setup screen.
7. Click **Next** to continue.

   The system displays the **License Agreement** screen.
8. Read the license agreement and, if you are agree with the licensing terms and conditions, click **Yes**.

   Note:
   Ensure that you have already installed the Avaya Application Enablement Services client software.
9. Click **Next** to continue.

   To select a different install location, click **Browse**.
10. Read the install settings and click **Next** to start the install.
11. Click **Finish**.
12. If you are asked to restart your system (this will happen if some application components need updating or registering), click **Yes**.
13. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
14. In the Services window, verify that the **AS XML Server** service is running.

Installing Media Stores

This section includes the following topics:

- Install Preview Contact Media Store on page 95
- Install Simple Messaging Media Store on page 96
- Install Email Media Store on page 97
- Install Voice Media Store on page 98

Install Preview Contact Media Store

The install script for Preview Contact Media Store installs Preview Contact Media Store and its related database scripts.

Preview Contact Media Store should run on a server operating system: Microsoft Windows Server 2008 (Enterprise and Standard) and Microsoft Windows 2008 R2 Server. Microsoft SQL Server 2008 with Advance Service must be installed and configured.

For the application to install, the system must have Microsoft .Net Framework 3.5 SP1. You can install .Net Framework from the **`Utilities\Microsoft .Net Redistributable`** folder available in the installer package of Call Center Elite Multichannel.

To install the Preview Contact Media Store and related database scripts:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Server**.
5. Click **>>**.
6. Click **Media Stores**.
7. Click **Preview Contact Media Store**.
8. Click **Next** to continue.

   The system displays the **License Agreement** screen.
9. Read the license agreement and, if you are agree with the licensing terms and conditions, click **Yes**.

10. Click **Next** to continue.

    To select a different install location, click **Browse**.

11. Read the install settings and click **Next** to start the install.
12. Click **Finish**.
13. If you are asked to restart your system (this will happen if some application components need updating or registering), click **Yes**.
14. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
15. In the Services window, verify that the **AS Preview Contact Media Store** service is running.

Install Simple Messaging Media Store

The install script for Simple Messaging Media Store installs Simple Messaging Media Store and its related database scripts.

Simple Messaging Media Store should run on a server operating system: Microsoft Windows Server 2008 (Enterprise and Standard) and Microsoft Windows 2008 R2 Server. Microsoft SQL Server 2008 with Advance Service must be installed and configured.

For the application to install, the system must have Microsoft .Net Framework 3.5 SP1. You can install .Net Framework from the **`Utilities\Microsoft .Net Redistributable`** folder available in the installer package of Call Center Elite Multichannel.

To install the Simple Messaging Media Store and related database scripts:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.

3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.

4. Click **Server**.
5. Click **>>**.
6. Click **Media Stores**.
7. Click **Simple Messaging Media Store**.
8. Click **Next** to continue.

   The system displays the **License Agreement** screen.

9. Read the license agreement and, if you are agree with the licensing terms and conditions, click **Yes**.
10. Click **Next** to continue.

    To select a different install location, click **Browse**.
11. Read the install settings and click **Next** to start the install.
12. Click **Finish**.
13. If you are asked to restart your system (this will happen if some application components need updating or registering), click **Yes**.
14. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
15. In the Services window, verify that the **AS Simple Messaging Media Store** service is running.

Install Email Media Store

The install script for Email Media Store installs Email Media Store and its related database scripts.

Email Media Store should run on a server operating system: Microsoft Windows Server 2008 (Enterprise and Standard) and Microsoft Windows 2008 R2 Server. Microsoft SQL Server 2008 with Advance Service must be installed and configured.

For the application to install, the system must have Microsoft .Net Framework 3.5 SP1. You can install .Net Framework from the **`Utilities\Microsoft .Net Redistributable`** folder available in the installer package of Call Center Elite Multichannel.

To install the Email Media Store and related database scripts:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Server**.
5. Click **>>**.
6. Click **Media Stores**.
7. Click **Email Media Store**.

8. Click **Next** to continue.

   The system displays the **License Agreement** screen.

9. Read the license agreement and, if you are agree with the licensing terms and conditions, click **Yes**.
10. Click **Next** to continue.

    To select a different install location, click **Browse**.

11. Read the install settings and click **Next** to start the install.
12. Click **Finish**.
13. If you are asked to restart your system (this will happen if some application components need updating or registering), click **Yes**.
14. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
15. In the Services window, verify that the **AS Email Media Store** service is running.

Install Voice Media Store

The install script for Voice Media Store installs Voice Media Store and its related database scripts.

Voice Media Store should run on a server operating system: Microsoft Windows Server 2008 (Enterprise and Standard) and Microsoft Windows 2008 R2 Server. Microsoft SQL Server 2008 with Advance Service must be installed and configured.

For the application to install, the system must have Microsoft .Net Framework 3.5 SP1. You can install .Net Framework from the **`Utilities\Microsoft .Net Redistributable`** folder available in the installer package of Call Center Elite Multichannel.

To install the Voice Media Store and related database scripts:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.

3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.

4. Click **Server**.
5. Click **>>**.
6. Click **Media Stores**.

7. Click **Voice Media Store**.
8. Click **Next** to continue.

   The system displays the **License Agreement** screen.
9. Read the license agreement and, if you are agree with the licensing terms and conditions, click **Yes**.
10. Click **Next** to continue.

    To select a different install location, click **Browse**.
11. Read the install settings and click **Next** to start the install.
12. Click **Finish**.
13. If you are asked to restart your system (this will happen if some application components need updating or registering), click **Yes**.
14. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
15. In the Services window, verify that the **AS Voice Media Store** service is running.

Installing Application Management Service

The install script for Application Management Service installs the Application Management Director and the Avaya Aura Call Center Elite Multichannel Control Panel.

Note:
You must install the Control Panel on a system where you have installed desktop components and Application management Director on a system where you have installed server components.

Avaya Aura Call Center Elite Multichannel Control Panel runs on the server side. The server side operating system recommended for Application Management Director is Microsoft Windows Server 2008 (Enterprise and Standard) and Microsoft Windows 2008 R2 Server.

To install Application Management Service:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.

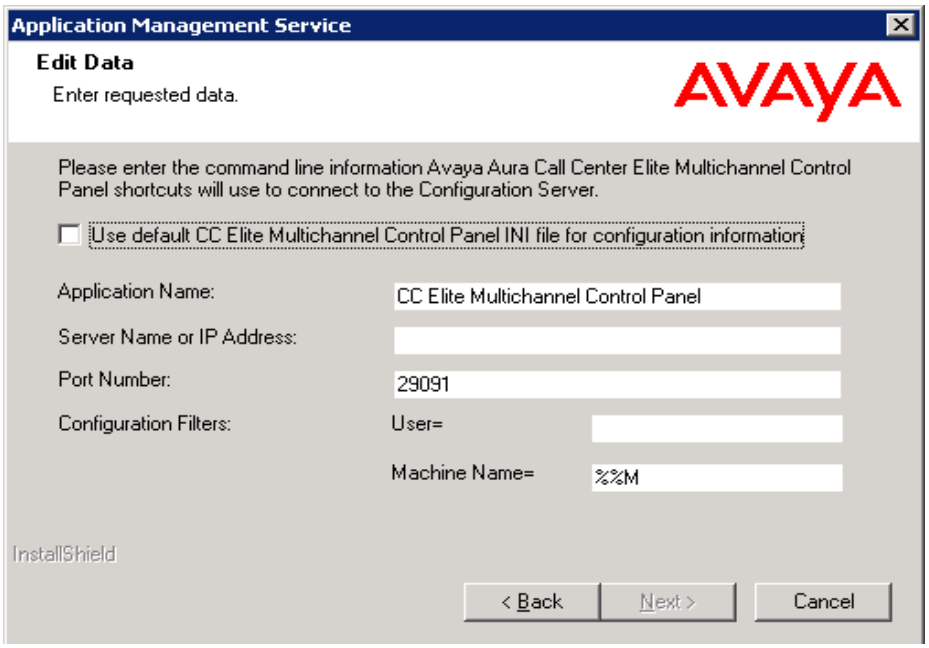
4. Click **Server**.
5. Click **>>**.
6. Click **Application Management Service**.

   The system displays the **Application Management Service** setup screen.
7. Click **Next**.

   The system displays the **License Agreement** screen.
8. Read through the license agreement and if you agree with the terms and conditions, click **Yes**.
9. Keep the default features selected and click **Next**.
10. Keep the check box for creating shortcut on a desktop selected and click **Next**.
11. Keep the check box selected and click **Next**.

    The application uses the local `.ini` file to source the configuration data.
12. To use the Configuration Server to source configuration data:
    a. Clear the check box.

       The other text fields on the screen are enabled.



    b. Use the following definitions to fill the fields information on the page.

Note:

The information you enter in this screen is saved into the application's configuration `.ini` file. If you would rather enter the data directly into the `.ini` file at a later stage, click **Next** to skip this step and continue the install.

Field	Description
Application name	This is the name of the application that Configuration Client will request configuration information for.
Server Name or IP Address	Type the IP address or the name of the Configuration Server that Configuration Client will connect to for configuration information.
Port Number	If you do not want to use the prescribed TCP/IP port number (29091), type the port number to be used for communication between the Configuration Server and the Configuration Client.
Configuration Filters	The configuration filter is used in conjunction with the application name to locate a unique user and their configuration data from the Configuration Server. You must use **User** or **Machine Name**, or both. • **User:** If you want to use the user's network login name as a configuration filter, type `%%U` in the User text box. If you do not want to use the user name as a filter, leave the text box blank. • **Machine Name:** If you want to use the name of the system as a configuration filter, type `%%M` in the Machine Name text box. If you do not want to use the system name as a filter, leave the text box blank.

13. Click **Next**.
14. Keep the default location for installation and click **Next**.

    To select a different install location, click **Browse**.
15. Check your install settings and click **Next** to start the installation process.
16. Click **Finish**.

    If you are asked to restart your system in case some application components need updating or registering, click **Yes**.
17. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
18. In the Services window, verify that the **AS Application Management Director** service is running.

Chapter 5: Developer

Install Developer

To develop contact center application using Call Center Elite Multichannel Developer, you only need to install the toolkit on a client computer having Microsoft development environment for example, Visual Basic, Visual C#. For information about Windows operating system, see Installation Requirements on page 15.

If you want to build a contact center application using Microsoft Visual Studio .Net, your system must be running Microsoft Internet Explorer 6.0 SP1 or higher.

To run the application:

- The client system must have Avaya Aura® Application Enablement Services client software.
- If the application was built using .Net, the client system must also run Microsoft .Net Framework 3.5 SP1 and Microsoft Internet Explorer 6.0 SP1 or higher.
- License Director must be installed on a dedicated Call Center Elite Multichannel Server.

Note:
Developer does not require separate licensing prior to its use. Any investment you make in applications developed with Developer is protected by the automatic use they make of Call Center Elite Multichannel run-time licenses.

When you install Call Center Elite Multichannel Developer, the following components are installed:

- XML Client
- Multimedia Common Libraries
- Plug-in Common Libraries

XML Client

XML Client encompasses following developer components:

- XML Client

  The **`ASXMLClient`** object for the **`XML Client`** component contains the following classes under the **`AgileSoftware.Developer`** namespace.

  - ASXMLClient

- ASXMLRouting
- ASXMLStation
- ASXMLVDN

- CSTA Schemas

Note:
The XML Client feature will be installed only if you install AES Client.

Multimedia Common Libraries

The Multimedia common libraries encompasses the components that interacts with Media Director and Media Stores.

Plug-in Common Libraries

The Plug-in common libraries encompasses the components that are used for developing custom plug-ins that can be use with the AS GUI Host plug-in architecture, like Call Center Elite Multichannel Desktop, Reporting, or Call Center Elite Multichannel Control Panel.

Standard install

To manually install Call Center Elite Multichannel Developer:

1. Close all open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Developer**.

   The system displays the **Developer** setup screen.
5. Click **Next** to continue.

   The system displays the **License Agreement** screen.

6. Read the license agreement and if you agree with the licensing terms and conditions, click **Yes**.

   Click **Browse** to select a different install location.
7. Keep the default features selected and click **Next**.
8. Read the install settings and click **Next**.
9. Click **Finish**.
10. If you are asked to restart your system (this will happen if some application components need updating or registering), click **Yes**.

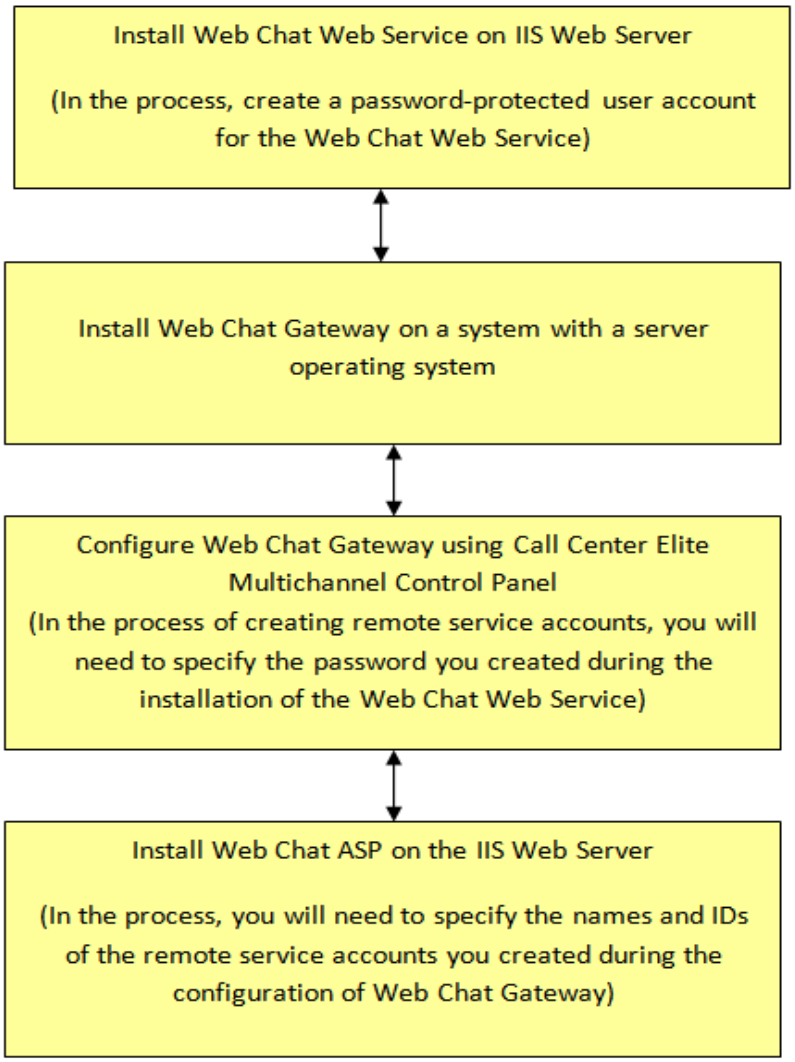
Chapter 6: Media Gateways

This section includes the following topics:

- Web Chat Gateway on page 108
- Install MSN Messenger Gateway on page 116
- Install AOL-ICQ Instant Messenger Gateway on page 117
- Install Communicator Gateway on page 118
- Install Short Message Service Gateway on page 119
- Install XMPP Gateway on page 120

Web Chat Gateway

To install, configure and operate Web Chat Gateway, you should follow the following sequence of steps:



Note:

The Web Chat Web Service and Web Chat ASP application must be installed on the same IIS web server.

Install Web Chat for IIS

The install script for Web Chat for IIS installs the Web Chat Web Service on the IIS web server.

The web server must be running Microsoft Windows 2008 Server software and Microsoft IIS 7.

The server must also have Microsoft .Net Framework 3.5 SP1 and Microsoft Internet Explorer 8.0. You can install .Net Framework from the **`Utilities\Microsoft .Net Redistributable`** folder available in the installer package of Call Center Elite Multichannel.

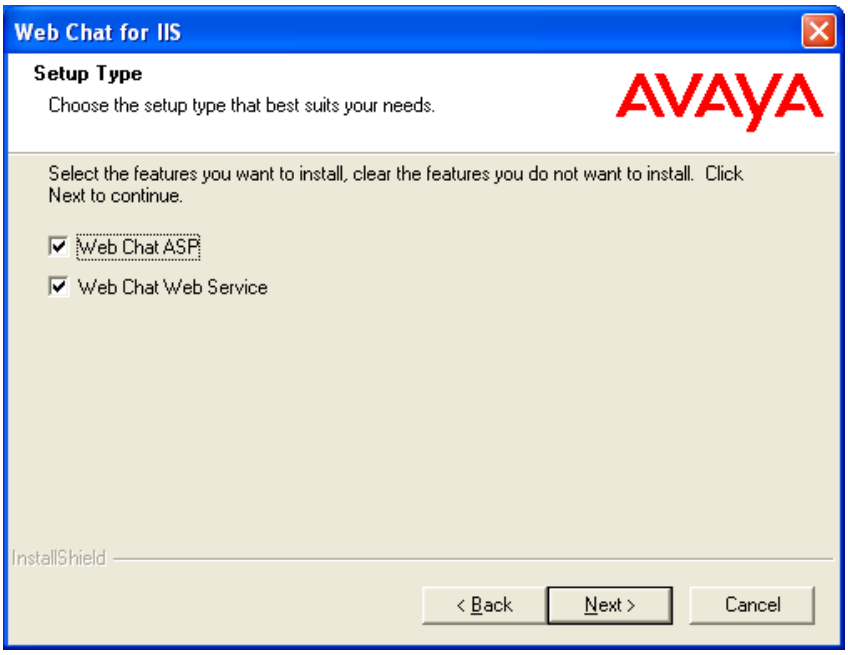
To install Web Chat Web Service:

1. Close all the open applications.
2. Run the `setup.exe` file.

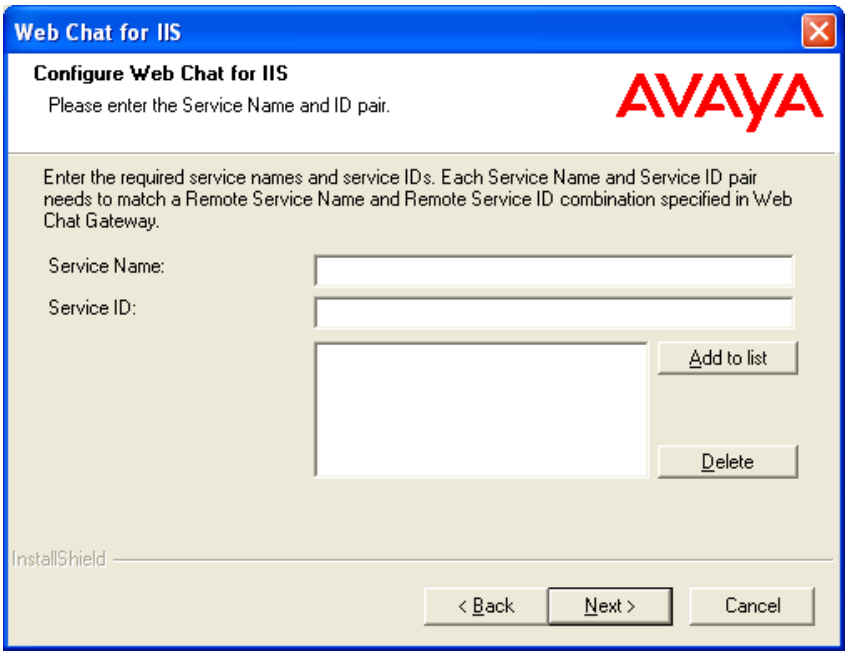
   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Server**.
5. Click **>>**.
6. Click **Media Gateways**.
7. Click **Web Chat for IIS**.

8. Click **Next** to continue.



9. Keep the default features selected and click **Next**.



10. Specify the following fields using the description given in the following table and click **Add to list** to add the values in a list:

Field	Description
Service Name	A user-friendly name for a remote service. This name must match with the Remote Service Name configured in Web Chat Gateway.
Service ID	A unique service identifier for the remote service. This service ID must match a Remote Service ID configured in Web Chat Gateway.

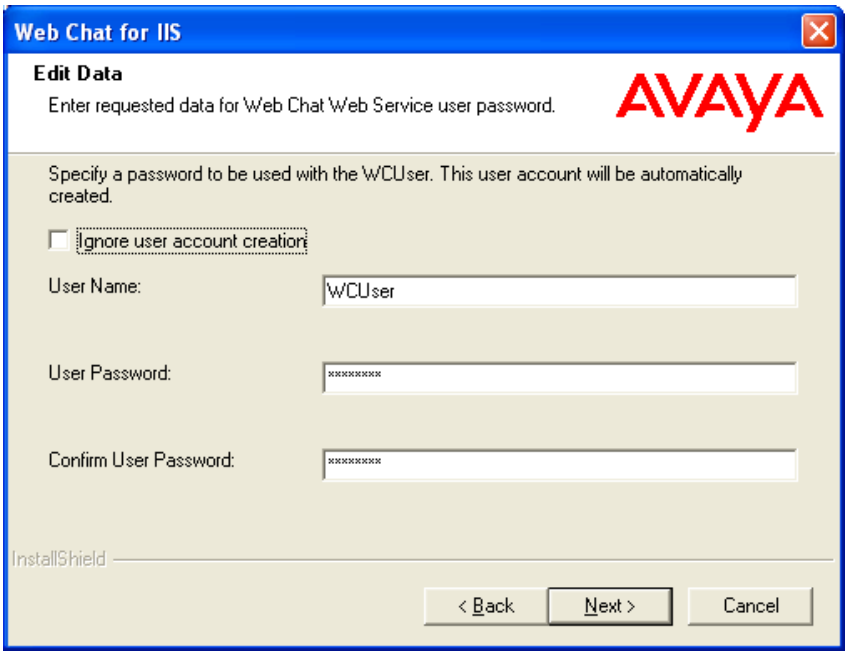
You can click **Delete** to delete the vales added in the list.

Note:

On this page, you have to add the remote services configured for Web Chat Gateway. Each **Service Name** and **Service ID** pair must match a **Remote Service Name** and **Remote Service ID** combination that can be configured in Web Chat Gateway through Call Center Elite Multichannel Control Panel.

You can add the Web chat for IIS Service Name and Service ID pair later in the `web.config` file, which is by default present at `C:\Program Files\Avaya\Avaya Aura CC Elite Multichannel\Server\Media Gateways\Web Chat For IIS\WebChatASP`.

11. After you complete adding all the required service names and service IDs, click **Next**.



12. Clear the **Ignore user account creation** check box and create a password-protected user account for the Web Chat Web Service.

    Use the information given in the following table:

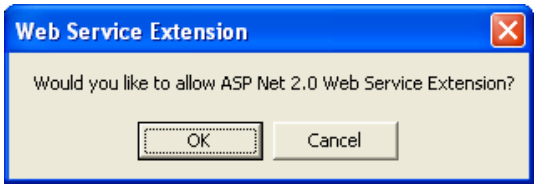
Note:

The user name is saved into the `web.config` file for the Web Chat Web Service. Both user name and password are saved as a legitimate Windows user account.

You can skip this step by selecting the **Ignore user account creation** check box. However, password-protected user access for the Web Chat Web Service is highly recommended. If you skip this step and later require Web Chat Gateway authentication for the Web Chat Web Service, you must open the `web.config` file and specify a legitimate Windows user account there.

Field	Description
User Name	A name of your choice for your user account. The default is `WCUser`.
User Password	A strong password for your user account. The default is `CCEUser0`.
Confirm User Password	The same password as above

13. To select a different install location, click the **Browse** button. Otherwise, click **Next** to continue.
14. Read the install settings and click **Next** to start the install.



15. Click **OK** to enable ASP .Net Web Service Extension.

    You may have to wait for a while to complete this process.
16. Click **Finish**.
17. If you are asked to restart your system (this will happen if some application components need updating or registering), click **Yes**.

Note:

In general, if you enter the remote service names and IDs during the installation of the Web Chat ASP, you do not need to change the default configuration data in the application's `web.config` file. If, for some reason, you require to change the configuration file, refer the *Avaya Aura® Call Center Elite Multichannel Web Chat for IIS User Guide*.

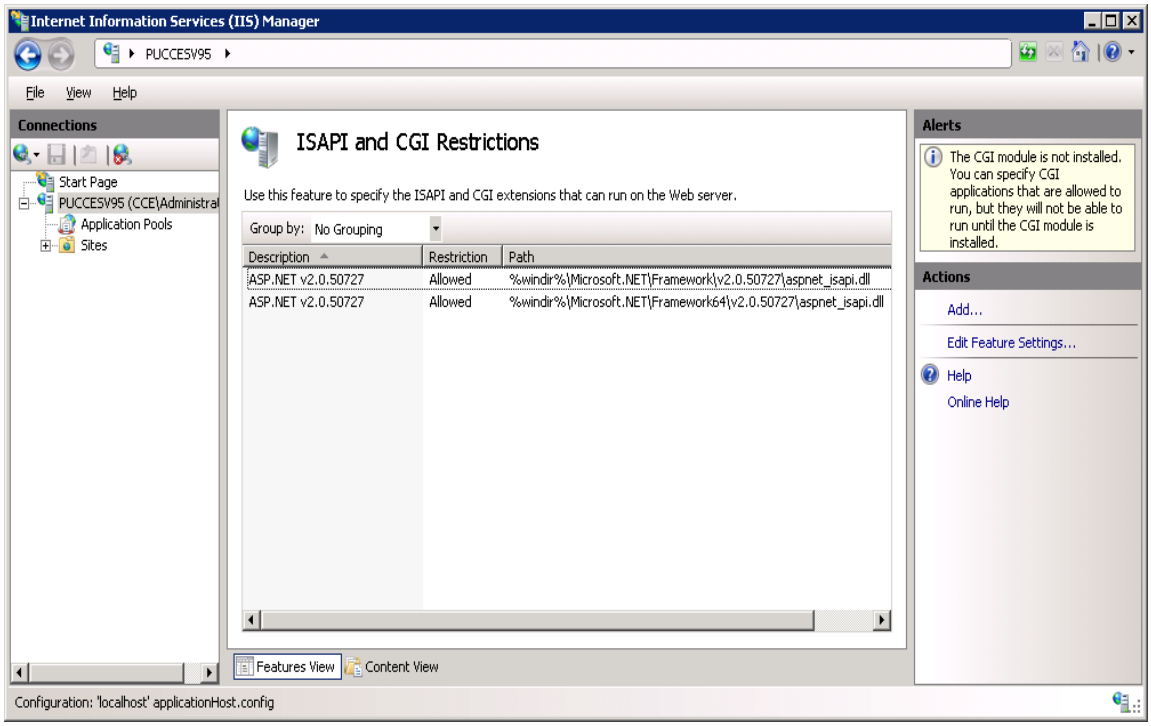
Post install instructions for Web Chat Web Service

To deploy Web Chat Web Service on the IIS web server:

1. Open Internet Information Services Manager (IIS) Manager.

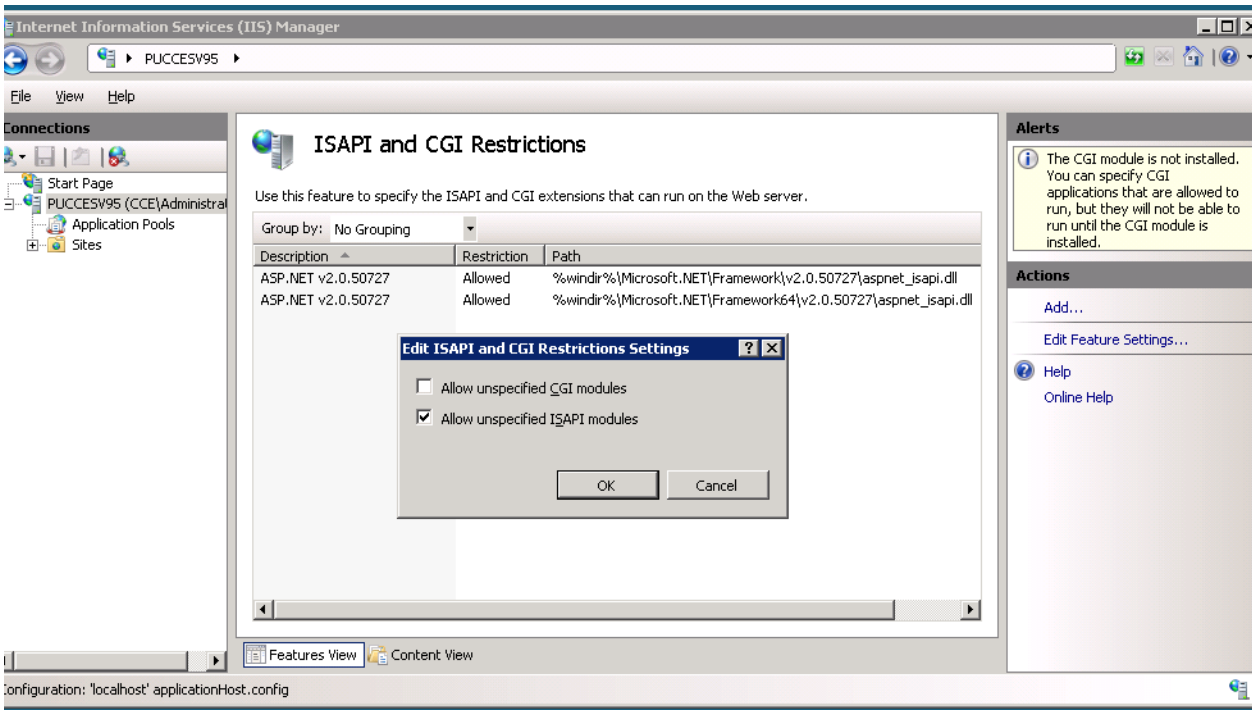
   Run the **`inetmgr`** command from the **Start** > **Run** dialog box.
2. In the left pane, select the computer name.
3. In the **Features** view, Double-click **ISAPI and CGI Restrictions**.
4. In the **ISAPI and CGI Restrictions** pane:
   a. Verify that the **ASP .NET** Restriction is set to **Allowed**.

f



   b. If ASP Net 2.0 does not display in the list of **ISAPI and CGI Restrictions**:
      1. In the right pane, under **Actions**, click **Add...**.
      2. In the **Add ISAPI and CGI Restrictions** window, click **...** to browse for the .dll file.
      3. Browse to `C:\Windows\Microsoft.Net\Framework\v2.0.50727\aspnet_isapi.dll`.
      4. Click **OK**.
      5. In the Features pane, select **ASP.NET v2.0.50727.**
      6. In the right pane, under **Actions**, click **Allow**.

c. In the right pane, under **Actions**, click **Edit Feature Settings...**.



d. In the **Edit ISAPI and CGI Restrictions Settings** window, verify that the **Allow unspecified ISAPI modules** option is selected.

5. **Configure WebChatASP application on IIS:**

   a. In the left pane, navigate to the **Web Sites** > **Default Web Site**.

   b. Under **Default Web Site**, select **WebChatASP**.

   c. In the right pane, under **Actions**, click **Basic Settings...**.

   d. In the **Edit Application** window, click **Select...**.

   e. In the **Select Application Pool** window, under **Application pool:**, select **Classic .NET AppPool**.

   f. Click **OK**.

   g. Click **OK**.

6. **Configure WebChatWebService application on IIS:**

   a. In the left pane, navigate to the **Web Sites** > **Default Web Site**.

   b. Under **Default Web Site**, select **WebChatWebService**.

   c. In the right pane, under **Actions**, click **Basic Settings...**.

   d. In the **Edit Application** window, click **Select...**.

e. In the **Select Application Pool** window, under **Application pool:**, select **Classic .NET AppPool**.

f. Click **OK**.

g. Click **OK**.

Install Web Chat Gateway

To install Web Chat Gateway, a server operating system is recommended: Microsoft Windows Server 2008 (Enterprise and Standard) and Microsoft Windows 2008 R2 Server.

For the application to install, the system must have Microsoft .Net Framework 3.5 SP1 and Microsoft Internet Explorer 8.0. You can install .Net Framework from the **`Utilities\ Microsoft .Net Redistributable`** folder available in the installer package of Call Center Elite Multichannel.

To install Web Chat Gateway:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Server**.
5. Click **>>**.
6. Click **Media Gateways**.
7. Click **Web Chat Gateway**.
8. Click **Next** to continue.

   The system displays the **License Agreement** screen.
9. Read the license agreement and, if you are agree with the licensing terms and conditions, click **Yes**.
10. Click **Next** to continue.

    To select a different install location, click **Browse**.
11. Read the install settings and click **Next** to start the install.
12. Click **Finish**.
13. If you are asked to restart your system (this will happen if some application components need updating or registering), click **Yes**.

14. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
15. In the Services window, verify that the **AS Web Chat Gateway** service is running.

Install MSN Messenger Gateway

To install MSN Messenger Gateway, a server operating system is recommended: Microsoft Windows Server 2008 (Enterprise and Standard) and Microsoft Windows 2008 R2 Server.

For the application to install, the system must have Microsoft .Net Framework 3.5 SP1. You can install .Net Framework from the **`Utilities\Microsoft .Net Redistributable`** folder available in the installer package of Call Center Elite Multichannel.

To install MSN Messenger Gateway:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Server**.
5. Click **>>**.
6. Click **Media Gateways**.
7. Click **MSN Messenger Gateway**.
8. Click **Next** to continue.

   The system displays the **License Agreement** screen.
9. Read the license agreement and, if you are agree with the licensing terms and conditions, click **Yes**.
10. Click **Next** to continue.

    To select a different install location, click **Browse**.
11. Read the install settings and click **Next** to start the install.
12. Click **Finish**.
13. If you are asked to restart your system (this will happen if some application components need updating or registering), click **Yes**.

14. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
15. In the Services window, verify that the **AS MSN Messenger Gateway** service is running.

Install AOL-ICQ Instant Messenger Gateway

To install AOL-ICQ Instant Messenger Gateway, a server operating system is recommended: Microsoft Windows Server 2008 (Enterprise and Standard) and Microsoft Windows 2008 R2 Server.

For the application to install, the system must have Microsoft .Net Framework 3.5 SP1. You can install .Net Framework from the **`Utilities\Microsoft .Net Redistributable`** folder available in the installer package of Call Center Elite Multichannel.

To install AOL-ICQ Instant Messenger Gateway:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Server**.
5. Click **>>**.
6. Click **Media Gateways**.
7. Click **AOL-ICQ Instant Messenger Gateway**.
8. Click **Next** to continue.

   The system displays the **License Agreement** screen.
9. Read the license agreement and, if you are agree with the licensing terms and conditions, click **Yes**.
10. Click **Next** to continue.

    To select a different install location, click **Browse**.
11. Read the install settings and click **Next** to start the install.
12. Click **Finish**.
13. If you are asked to restart your system (this will happen if some application components need updating or registering), click **Yes**.

14. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
15. In the Services window, verify that the **AS AOL-ICQ Instant Messenger Gateway** service is running.

Install Communicator Gateway

The Communicator Gateway is a server application that provides conversion from Office Communicator Server to Call Center Elite Multichannel Simple Messaging Media Store enabling communication with any number of Office Communicator Clients. To install Communicator Gateway a server operating system is recommended: Microsoft Windows Server 2008 (Enterprise and Standard) and Microsoft Windows 2008 R2 Server.

To install Communicator Gateway:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Server**.
5. Click **>>**.
6. Click **Media Gateways**.
7. Click **Communicator Gateway**.
8. Click **Next** to continue.

   The system displays the **License Agreement** screen.
9. Read the license agreement and, if you are agree with the licensing terms and conditions, click **Yes**.
10. Click **Next** to continue.

    To select a different install location, click **Browse**.
11. Read the install settings and click **Next** to start the install.
12. Click **Finish**.
13. If you are asked to restart your system (this will happen if some application components need updating or registering), click **Yes**.

14. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
15. In the Services window, verify that the **AS Communicator Gateway** service is running.

Install Short Message Service Gateway

To install Short Message Service Gateway, a server operating system is recommended: Microsoft Windows Server 2008 (Enterprise and Standard) and Microsoft Windows 2008 R2 Server.

For the application to install, the system must have Microsoft .Net Framework 3.5 SP1. You can install .Net Framework from the **`Utilities\Microsoft .Net Redistributable`** folder available in the installer package of Call Center Elite Multichannel.

To install Short Message Service Gateway:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Server**.
5. Click **>>**.
6. Click **Media Gateways**.
7. Click **Short Message Service Gateway**.
8. Click **Next** to continue.

   The system displays the **License Agreement** screen.
9. Read the license agreement and, if you are agree with the licensing terms and conditions, click **Yes**.
10. Click **Next** to continue.

    To select a different install location, click **Browse**.
11. Read the install settings and click **Next** to start the install.
12. Click **Finish**.
13. If you are asked to restart your system (this will happen if some application components need updating or registering), click **Yes**.

14. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
15. In the Services window, verify that the **AS SMS Gateway** service is running.

Install XMPP Gateway

The XMPP Gateway is a server application that provides conversion from XMPP (Extended Messaging and Presence Protocol) to Call Center Elite Multichannel Simple Messaging Media Store. XMPP supported features:

- Instant messages
- Call Center Elite Multichannel Presence in XMPP Customer's client
- Outbound sessions
- Outbound session - checks actual presence of the contact

To install XMPP Gateway, a server operating system is recommended: Microsoft Windows Server 2008 (Enterprise and Standard) and Microsoft Windows 2008 R2 Server.

To install XMPP Gateway:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Server**.
5. Click **>>**.
6. Click **Media Gateways**.
7. Click **XMPP Gateway**.
8. Click **Next** to continue.

   The system displays the **License Agreement** screen.
9. Read the license agreement and, if you are agree with the licensing terms and conditions, click **Yes**.
10. Click **Next** to continue.

    To select a different install location, click **Browse**.

11. Read the install settings and click **Next** to start the install.
12. Click **Finish**.
13. If you are asked to restart your system (this will happen if some application components need updating or registering), click **Yes**.
14. Open the Windows Services application by running `services.msc` command in the **Start** > **Run** dialog box.
15. In the Services window, verify that the **AS XMPP Gateway** service is running.

Chapter 7: Utilities

This section includes the following topics:

- Install SQL Server on page 123
- Install and configure WebLM on page 147
- Install AES Client on page 157
- Quick Installer - Server Edition Overview on page 158
- Install Voice Portal Application Updater on page 160
- Implement and Customize Microsoft Dynamics CRM Server on page 163

Install SQL Server

Avaya Aura® Call Center Elite Multichannel supports standard, express, and enterprise editions for Microsoft SQL Server 2008.

Before you install SQL Server

There are following essential pre-requisites to install Microsoft SQL Server 2008:

- Microsoft .Net Framework 3.5 SP1
- Windows Installer 4.5
- Windows PowerShell 1.0
- Internet Information Services 7

On Internet Information Server (IIS) version 7, configure the following before installing the SQL Server with the Reporting Services:

- Enable various features of IIS
  - Web management tools
    - IIS 6 Management Compatibility
    - IIS 6 WMI Compatibility
    - IIS Metabase and IIS 6 configuration compatibility
  - World Wide Web Services

- Application Development Features
  - ASP.NET
  - ISAPI Extensions
  - ISAPI Filters
- Common Http Features
  - Default Document
  - Directory Browsing
  - HTTP Redirection
  - Static Content
- Security
  - Windows Authentication

To install a 32-bit version of Reporting Services on a computer that is running a 64-bit version of Internet Information Server (IIS) version 7, you have to do the following additional settings after you configure the IIS 7.

1. In the IIS Manager, click **Application Pools**.
2. In the **Actions** pane, click **Set Application Pool Defaults**.
3. In the **General** section, set the **Enable32bitAppOnWin64** option to **True**.

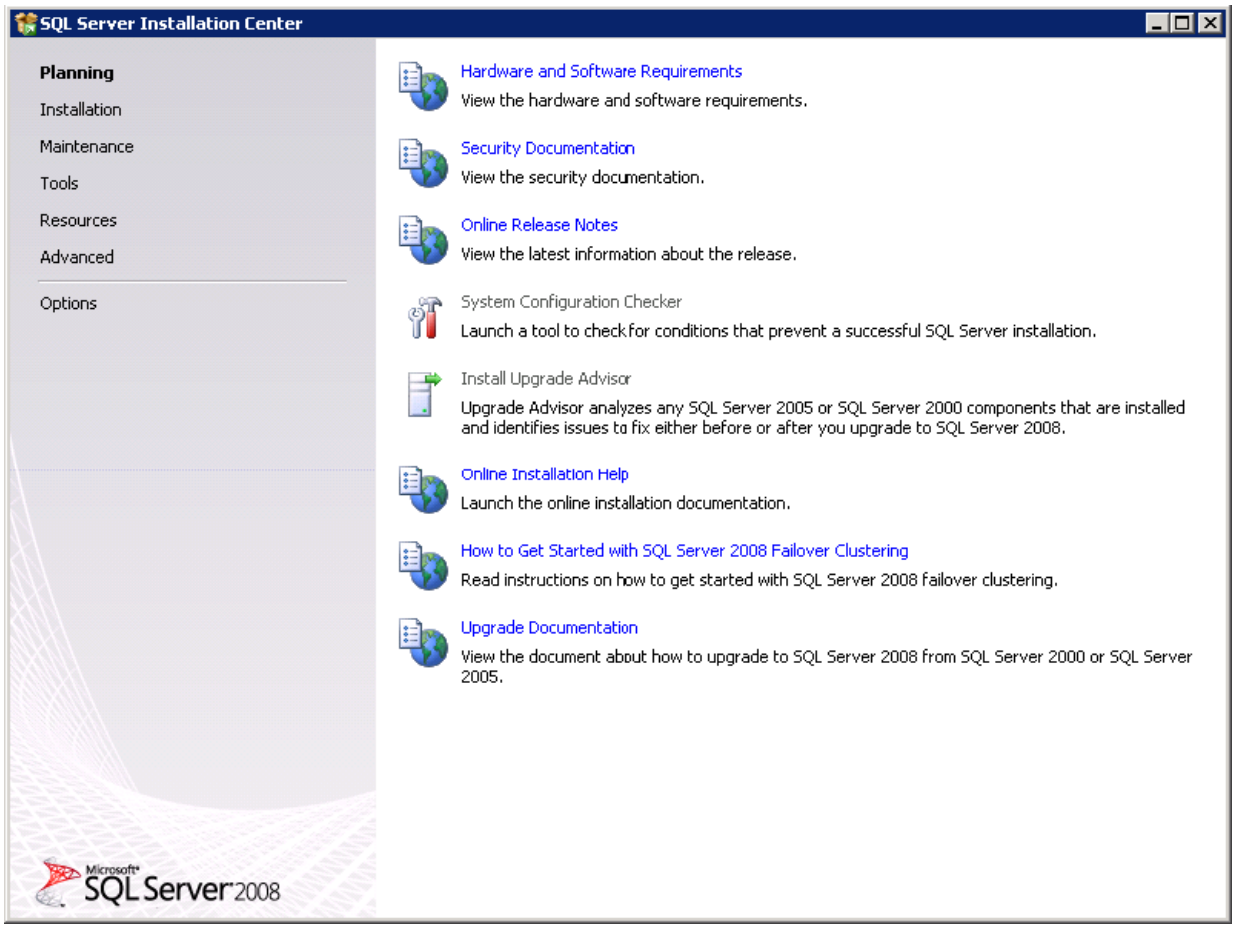
Install SQL Server 2008

You can obtain the SQL Server 2008 as either a 32-bit or 64-bit application depending on the operating system that you have used.

To install SQL Server 2008:

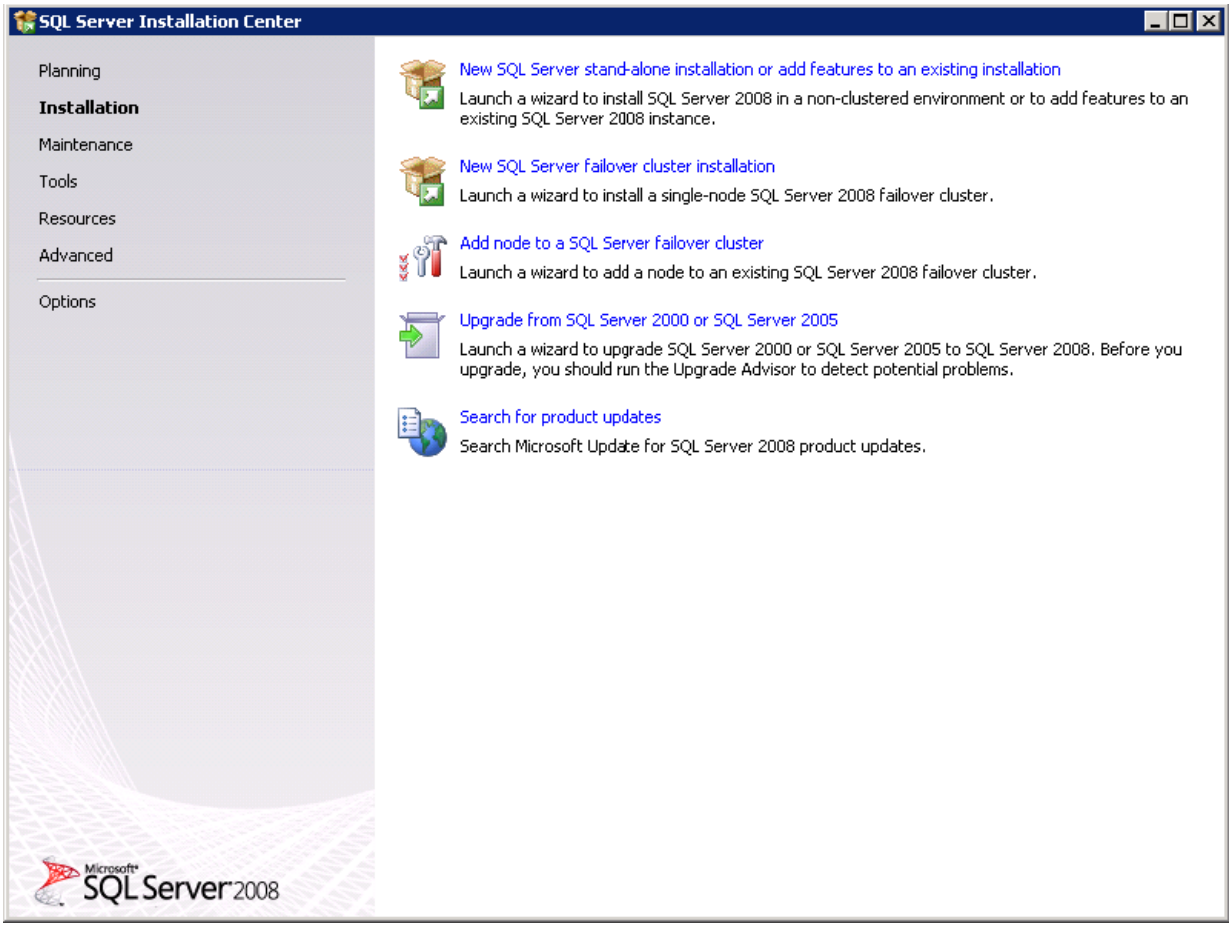
1. Run the setup for **SQL Server 2008**.

   The system displays the **Microsoft SQL Server 2008 Setup** screen.

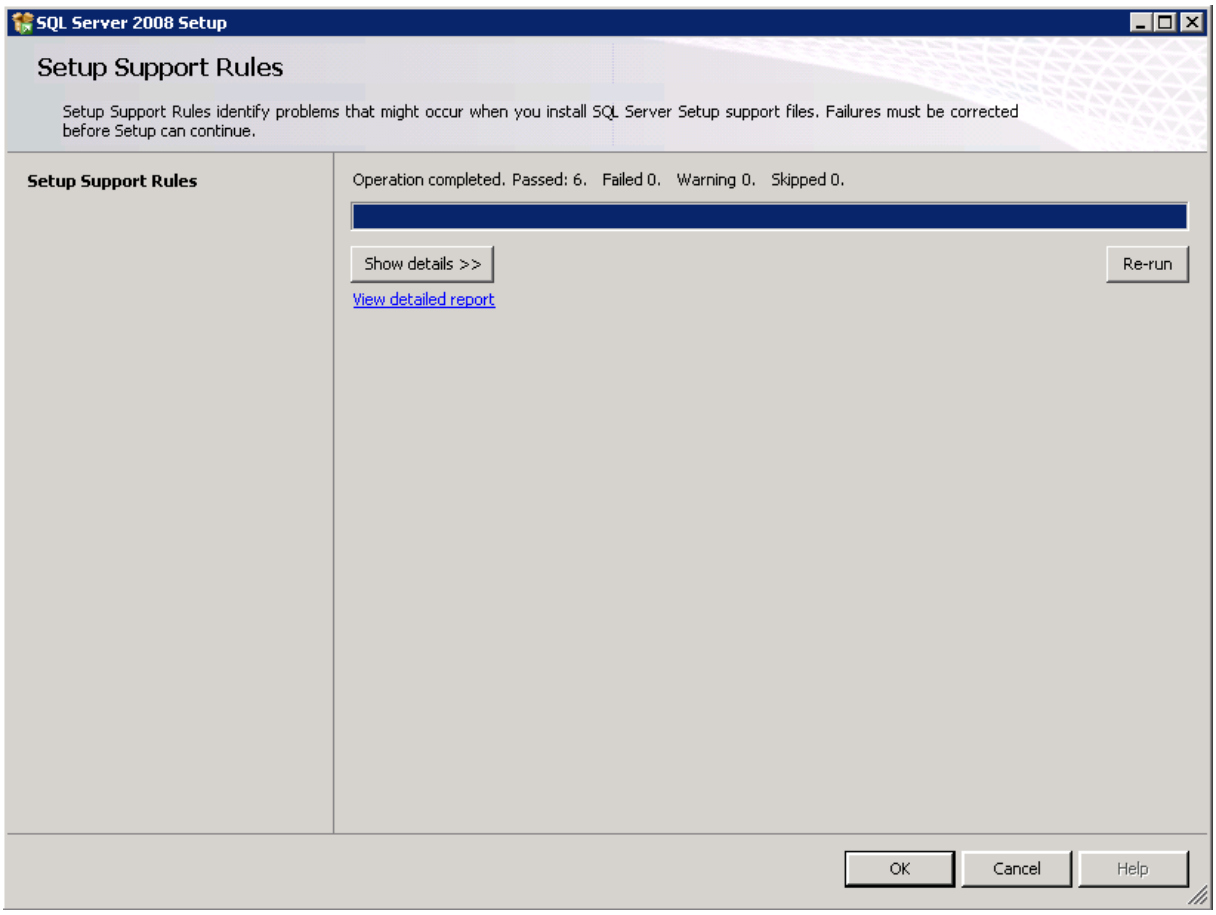


2. In the left pane, click **Installation** to continue

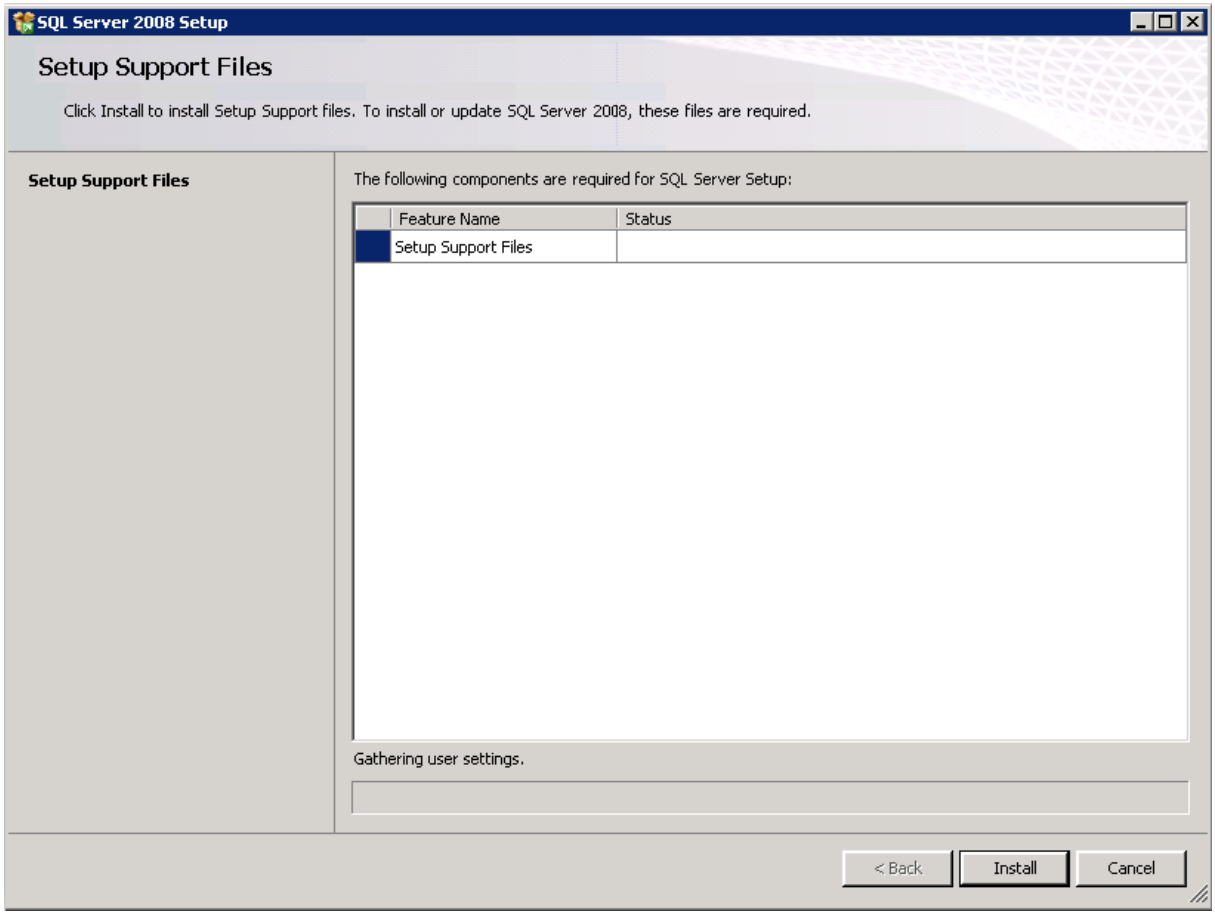
3. In the right pane, click the **New SQL Server stand-alone installation or add features to an existing installation** link.



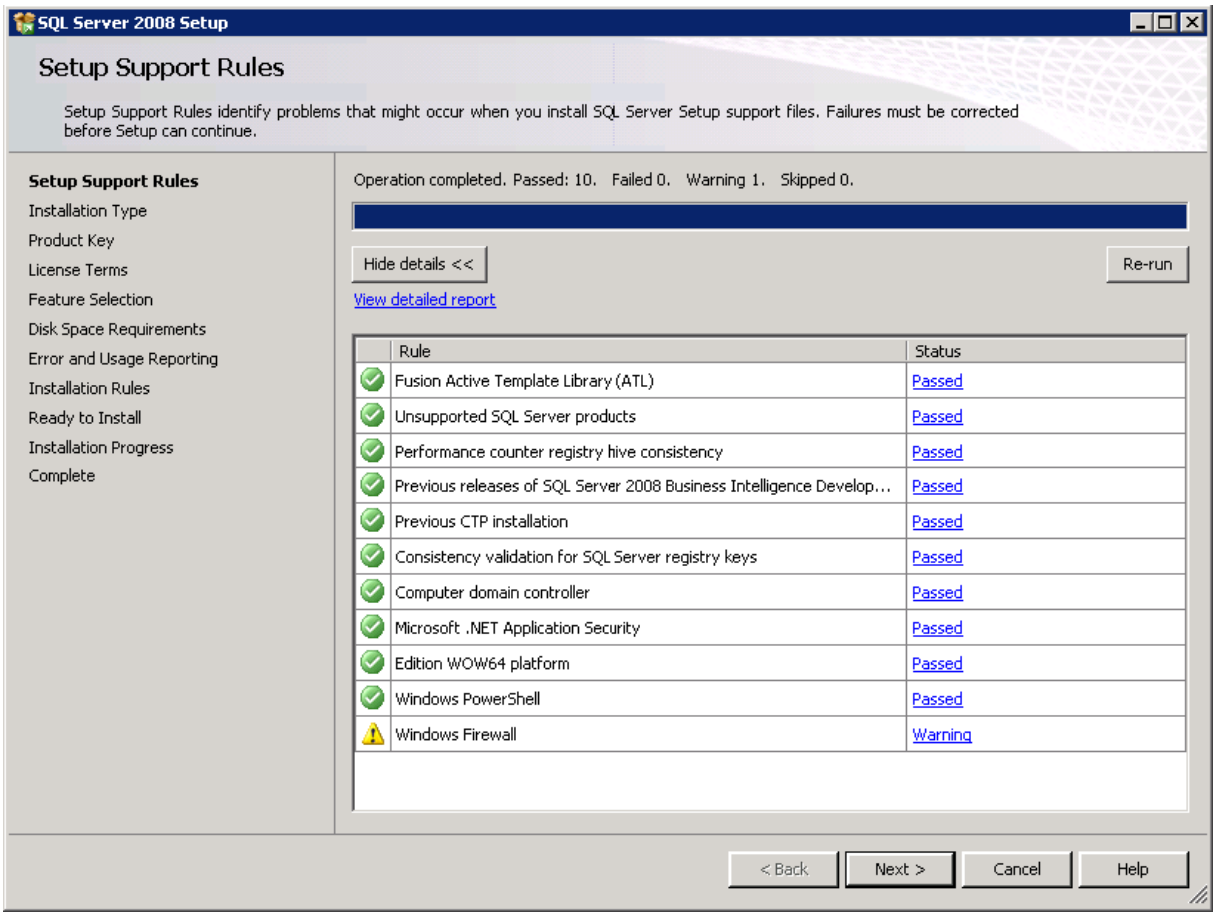
4. Click **OK**.


SQL Server 2008 Setup
Setup Support Rules
Setup Support Rules identify problems that might occur when you install SQL Server Setup support files. Failures must be corrected before Setup can continue.
Setup Support Rules
Operation completed. Passed: 6. Failed 0. Warning 0. Skipped 0.
Show details >>
Re-run
View detailed report
OK
Cancel
Help

5. Click **Install**.

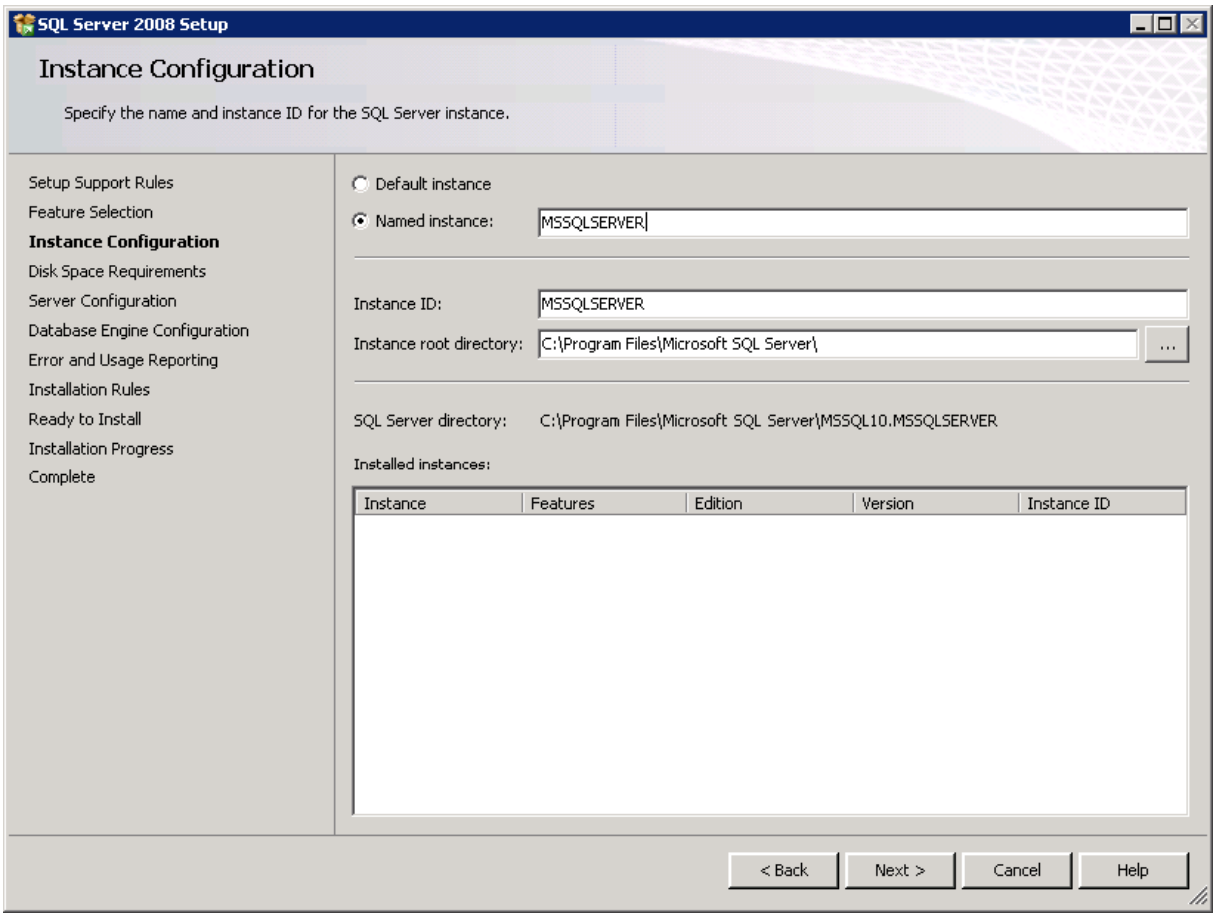


6. Click **Next**.

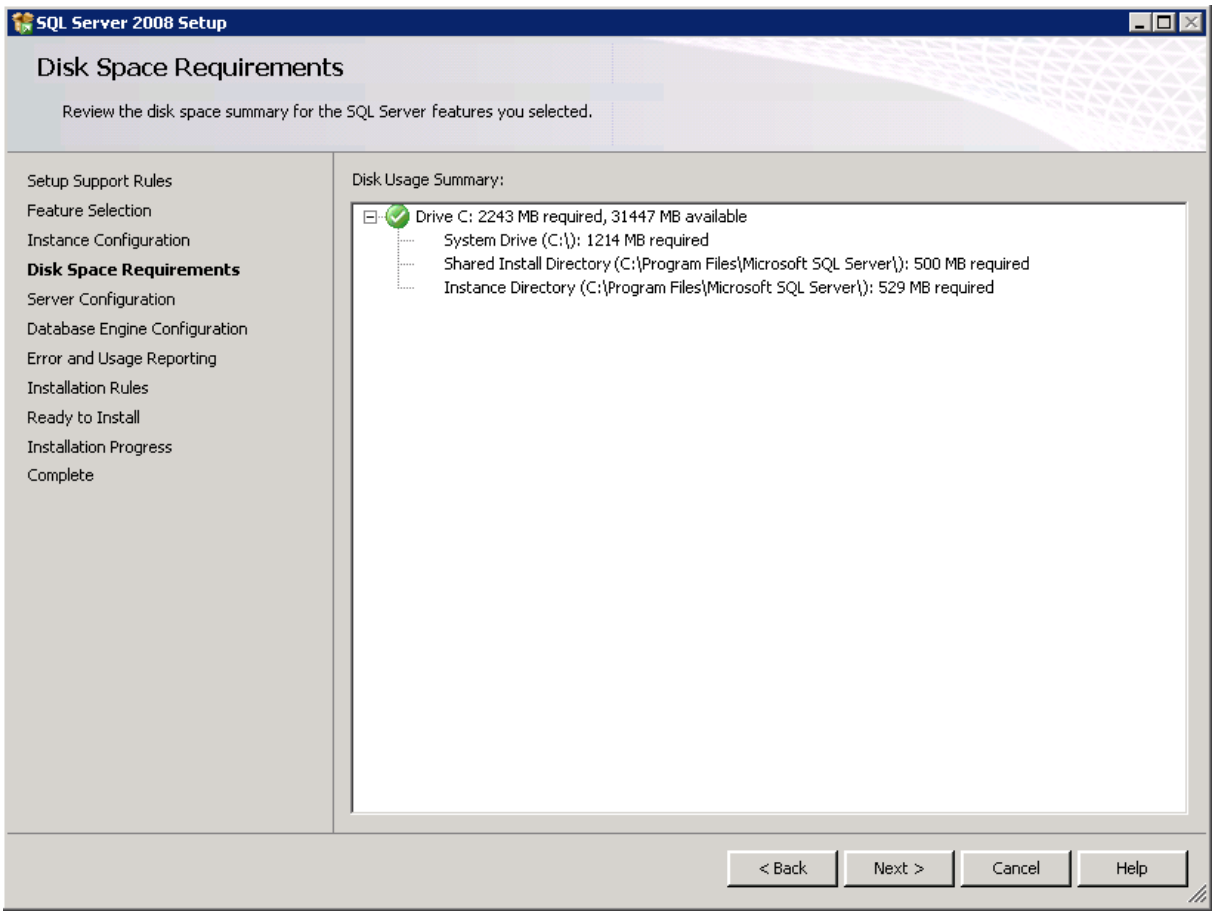


7. Click **Next**.
8. Read the license agreement. If you agree with the licensing terms and conditions, select the **I accept the licensing terms** check box and click **Next**.
9. Click the **Select All** button to select all components and click **Next**.
10. Select the **Named instance** option and type `MSSQLSERVER` as the instance name.

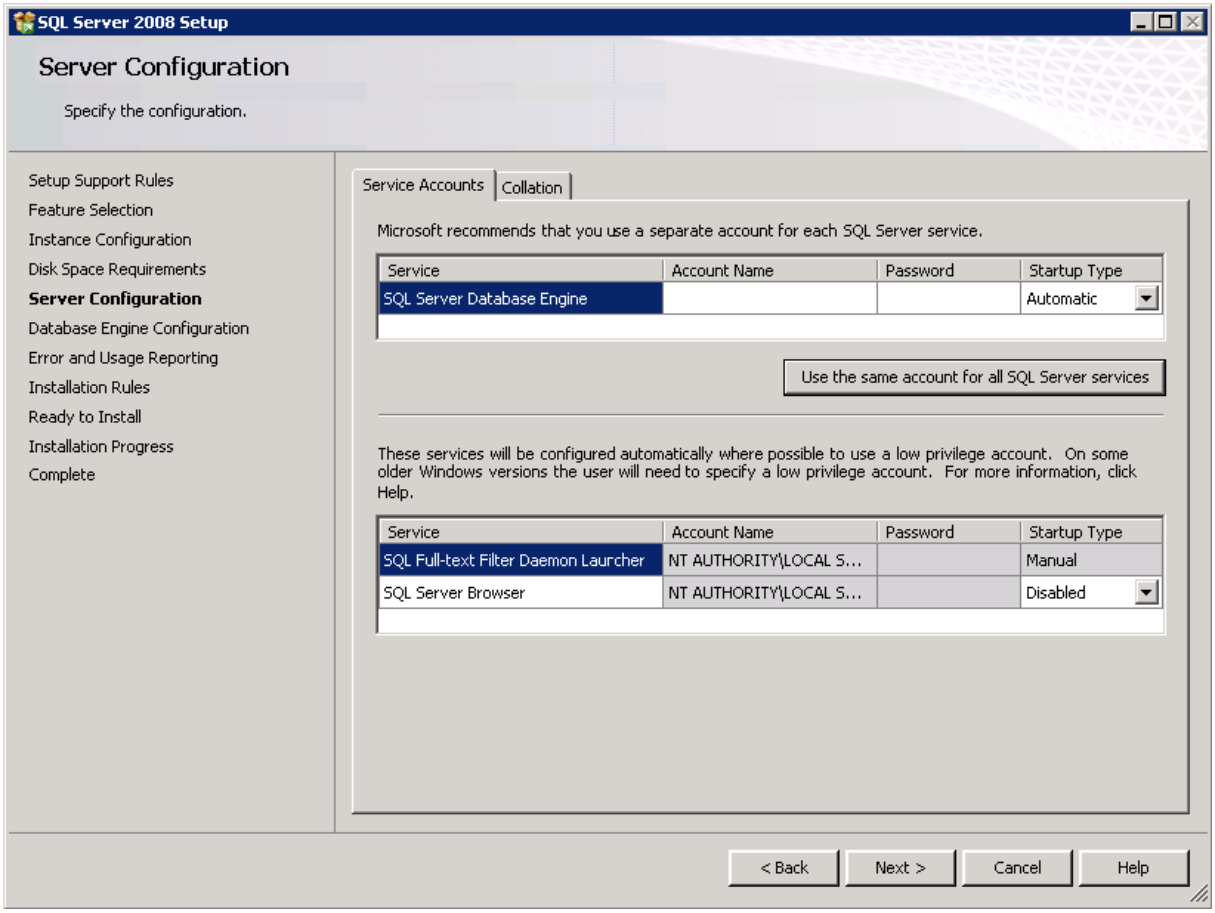
11. Click **Next**.



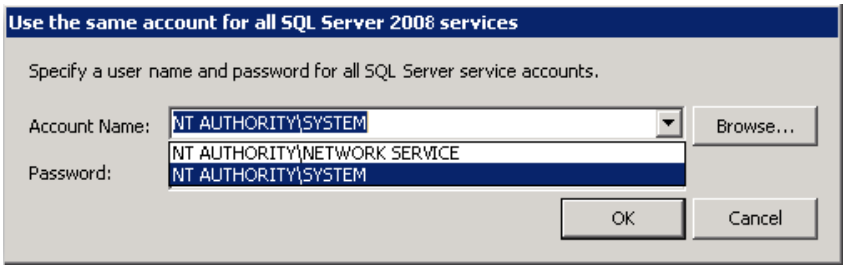
12. Click **Next**.



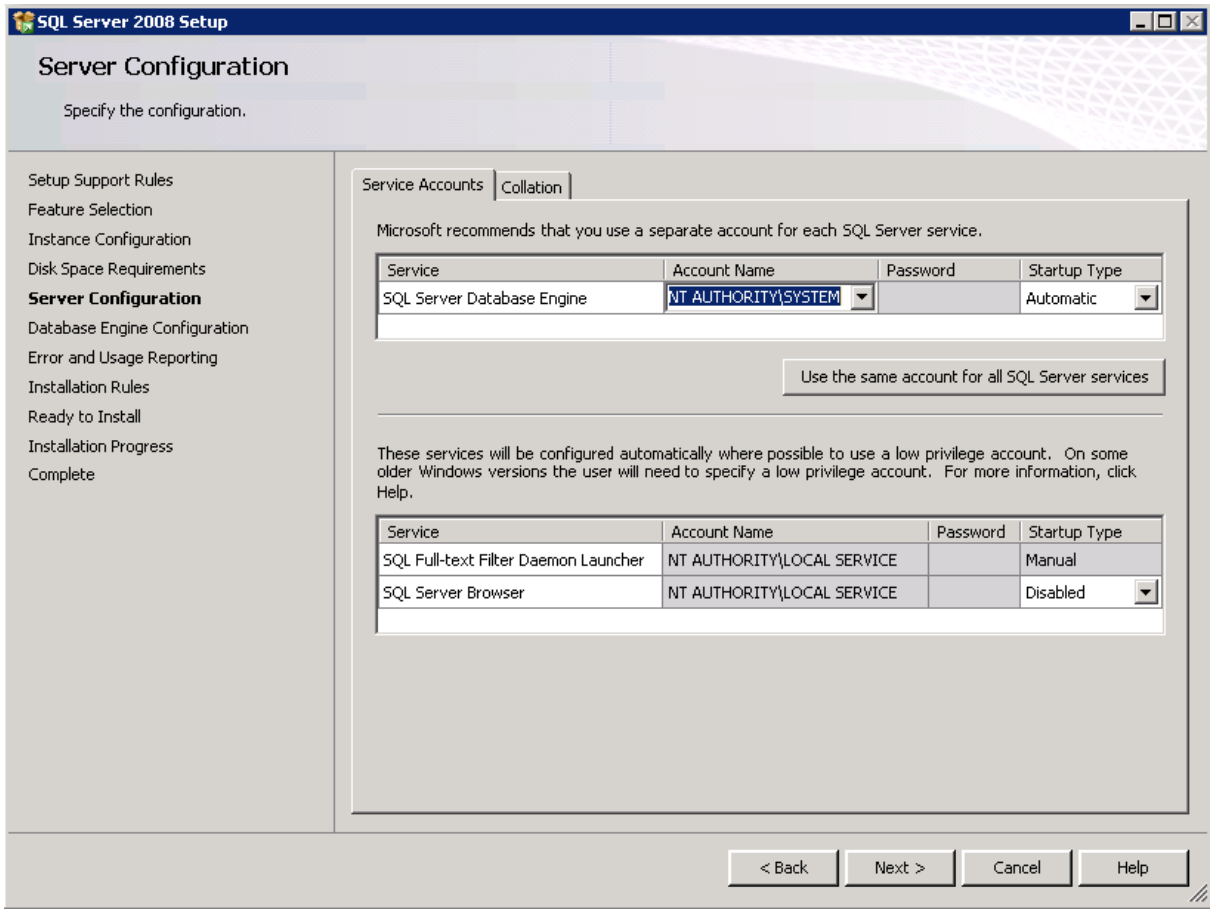
13. Click the **Use the same account for all SQL Server services** button.



14. Click the **Account Name** drop-down list and select **NT AUTHORITY\SYSTEM**.

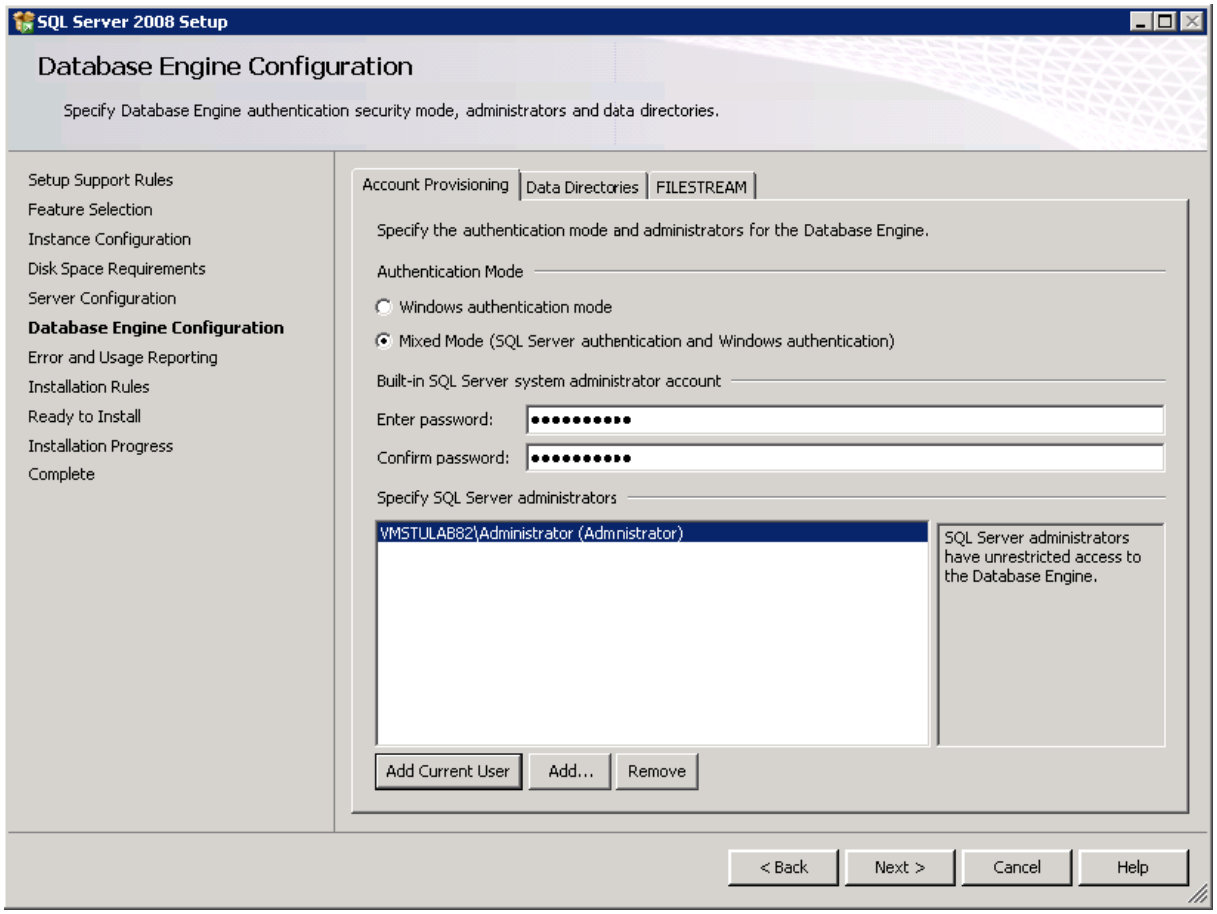


15. Click **OK** to continue.

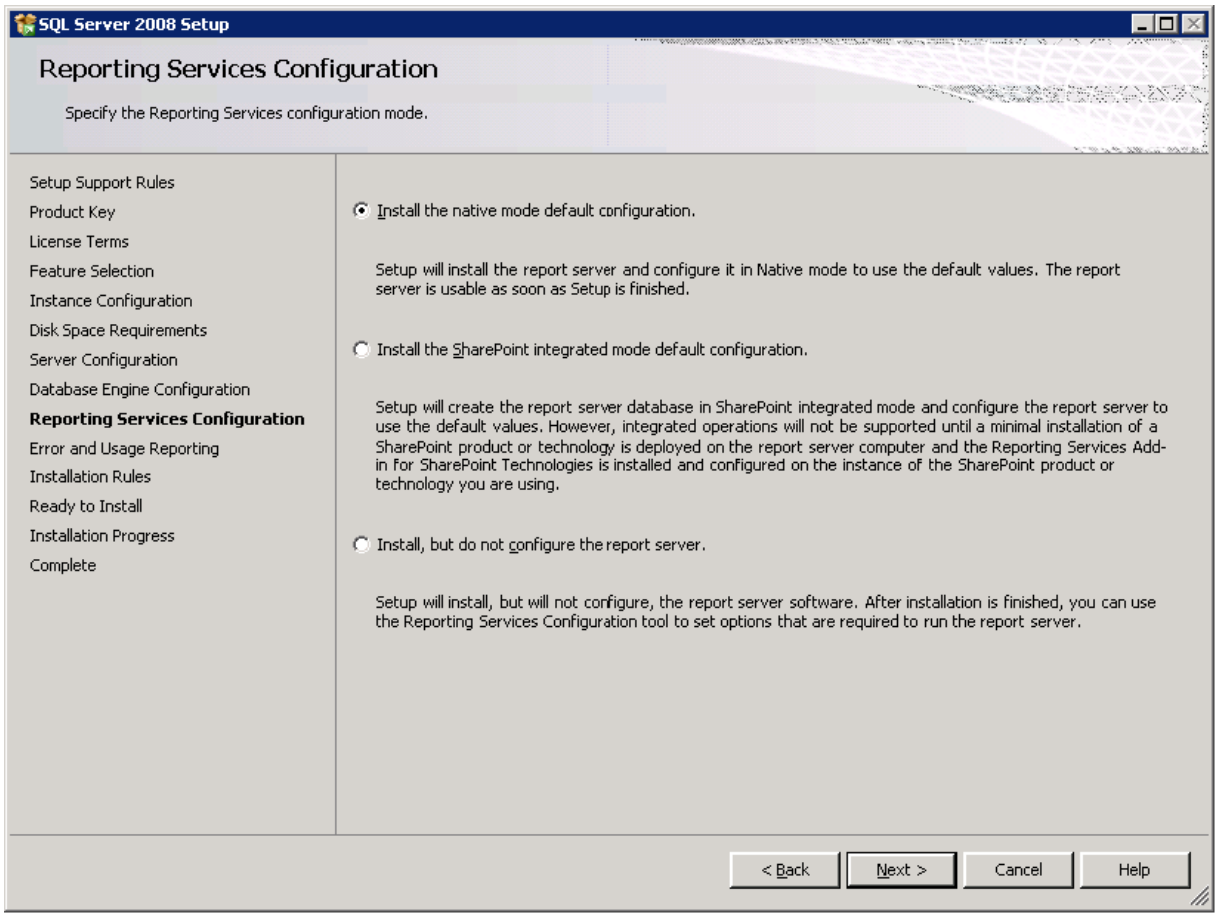


16. Click **Next**.

17. In the Authentication Mode section, select the **Mixed Mode** option. Enter and confirm a password for the SA account. Click **Add** to add a Windows account for SQL Server administrators. If you are using the current logged in user running the SQL Server, click **Add Current User**. Click Add to add a different account.

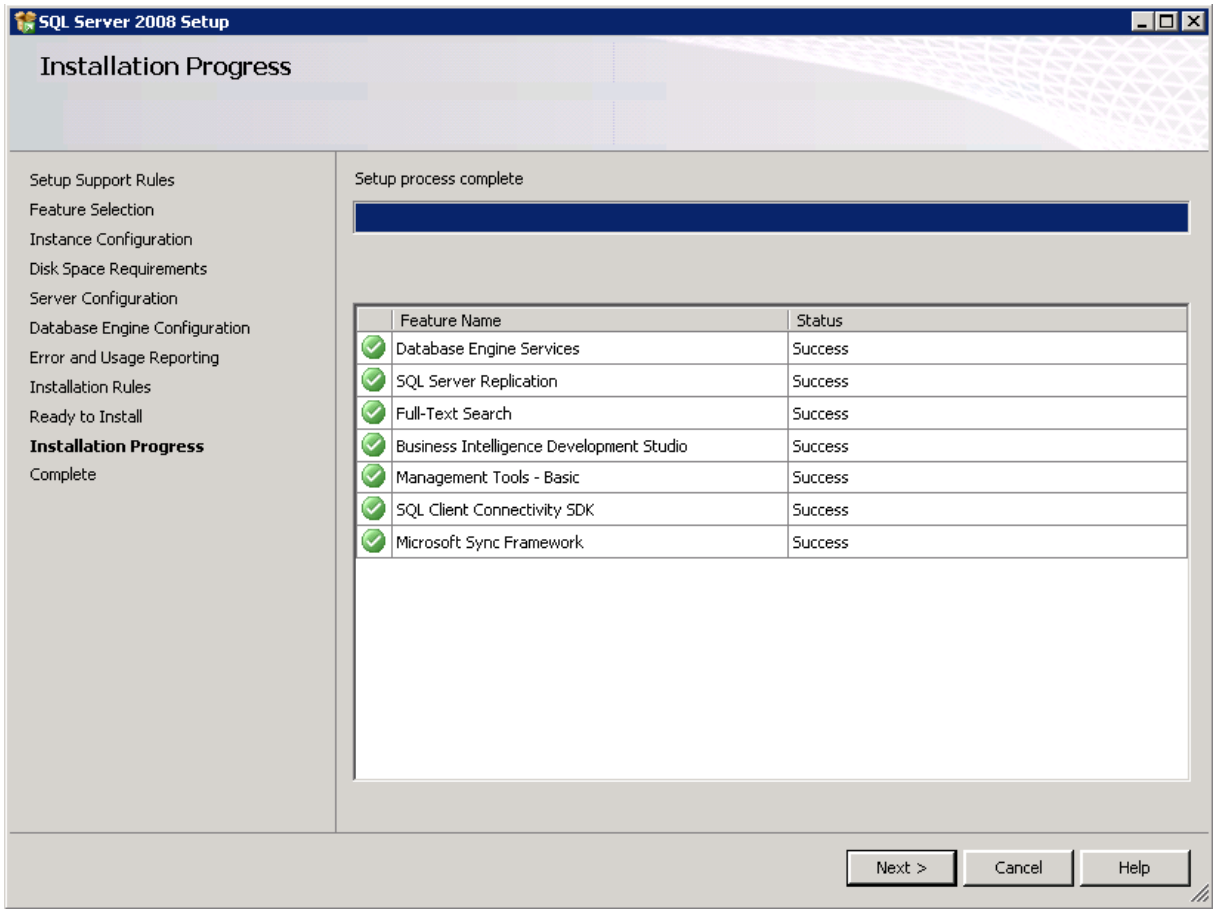


18. Click **Next**.

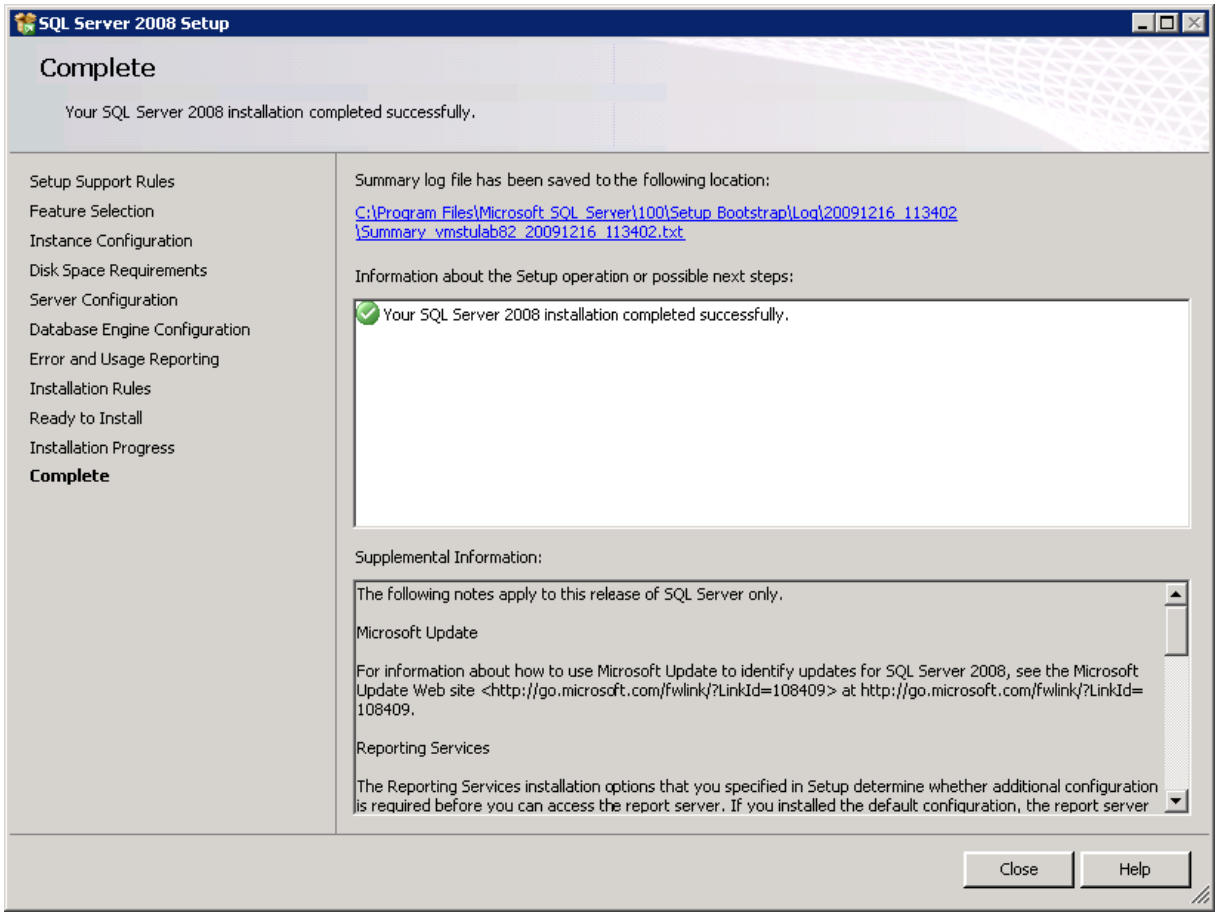


19. Keep the default options selected and click **Next**.
20. Click **Next**.
21. Read the installation settings and click **Install**.

22. Click **Next**.



23. Click **Next**.

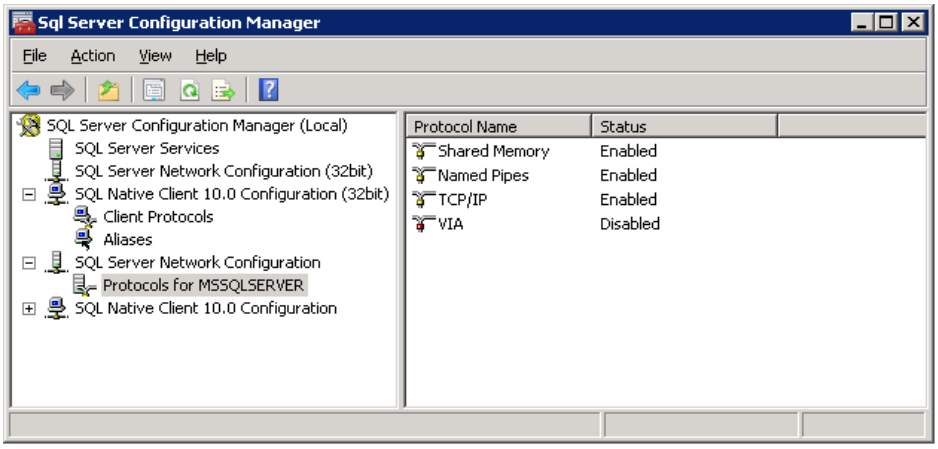


24. Click **Close** to end the installation.

Configure SQL Server 2008

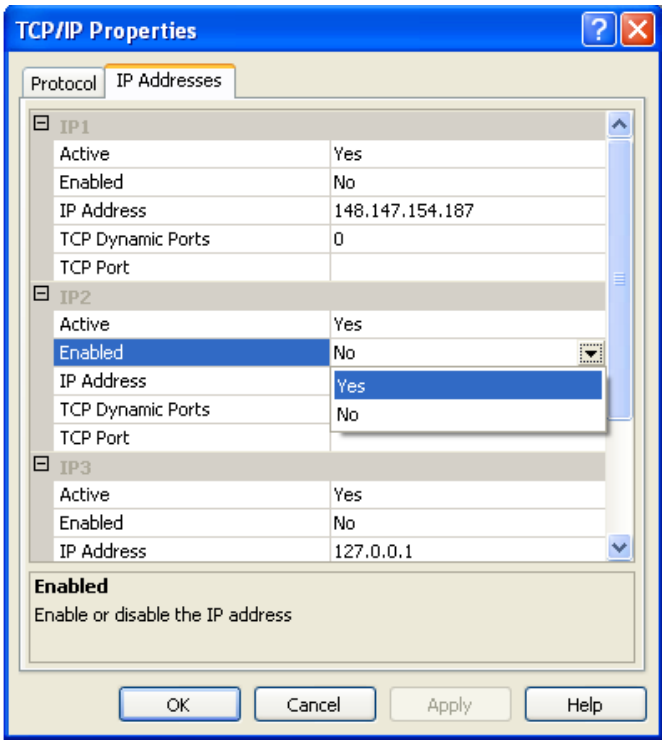
To configure SQL Server 2008:

1. From the Windows **Start** menu, select **All Programs** > **Microsoft SQL Server 2008** > **Configuration Tools** > **SQL Server Configuration Manager**.



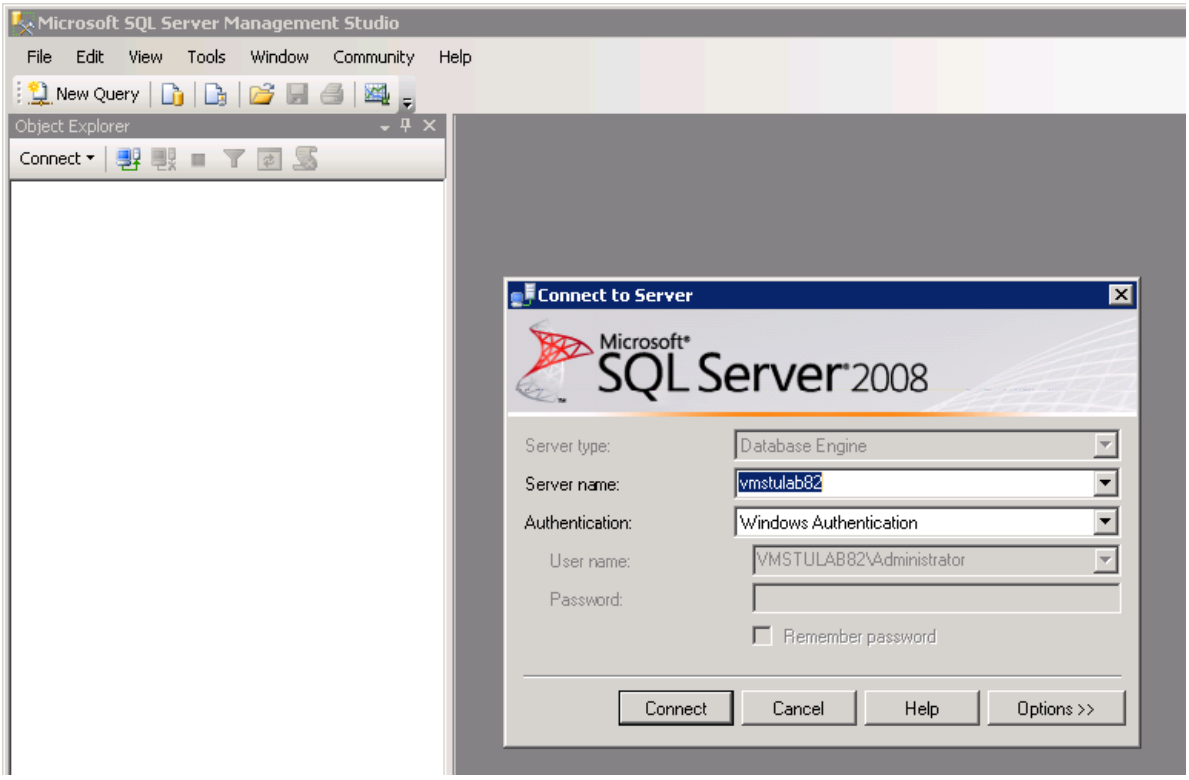
2. In the right pane, right-click **Named Pipes** and select **Enable** to enable the Named Pipes protocol.
3. In the right pane, right-click **TCP/IP** and select **Enable** To enable the TCP/IP protocol.
4. Right-click **TCP/IP** and select **Properties**.

5. Click the **IP Addresses** tab.



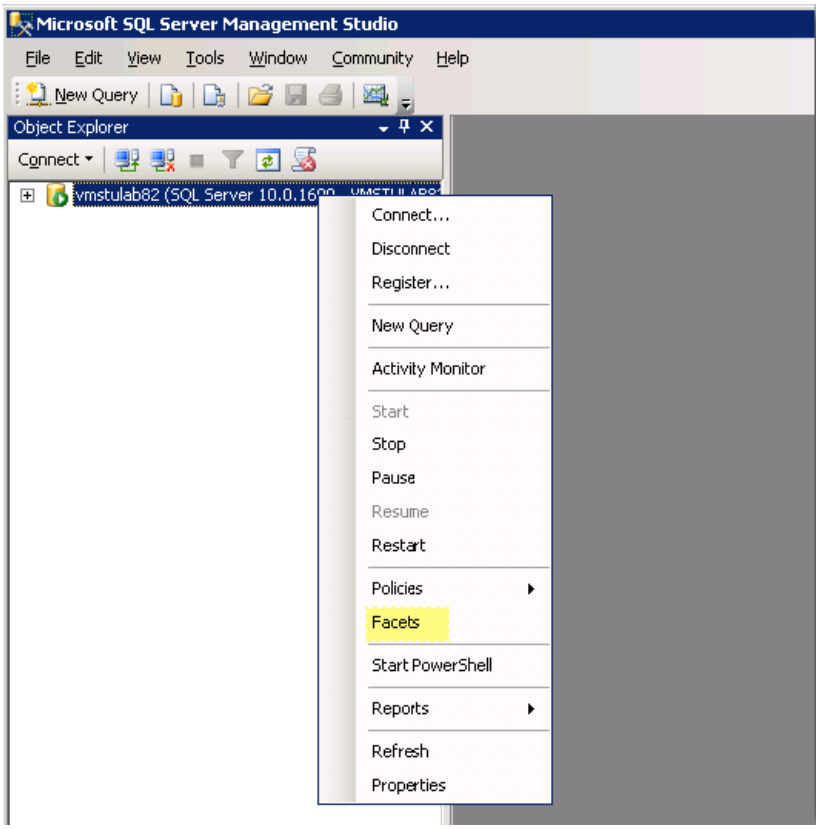
6. Enable all IP addresses and click **OK**.

7. Start the Microsoft SQL Server Management Studio.

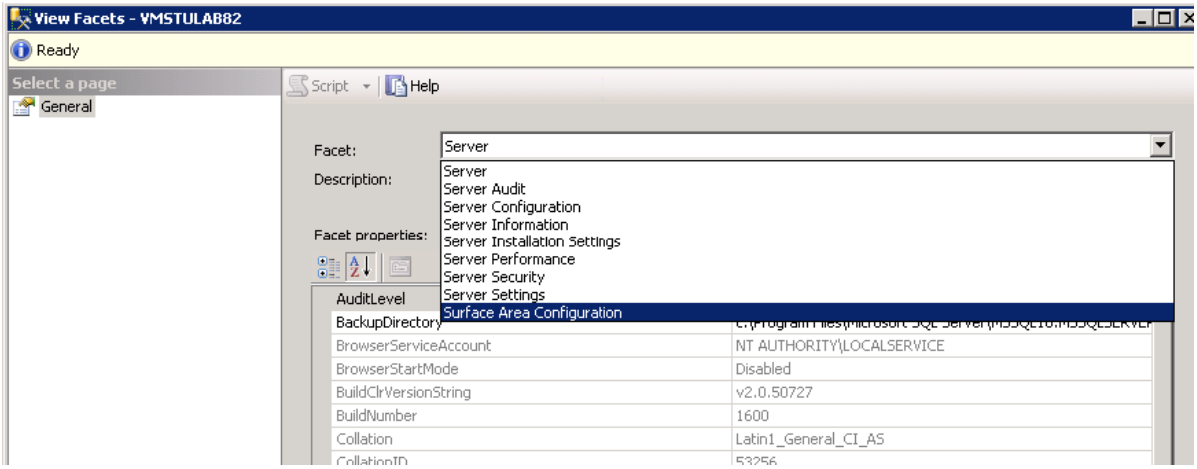


8. Click **Connect** to continue.

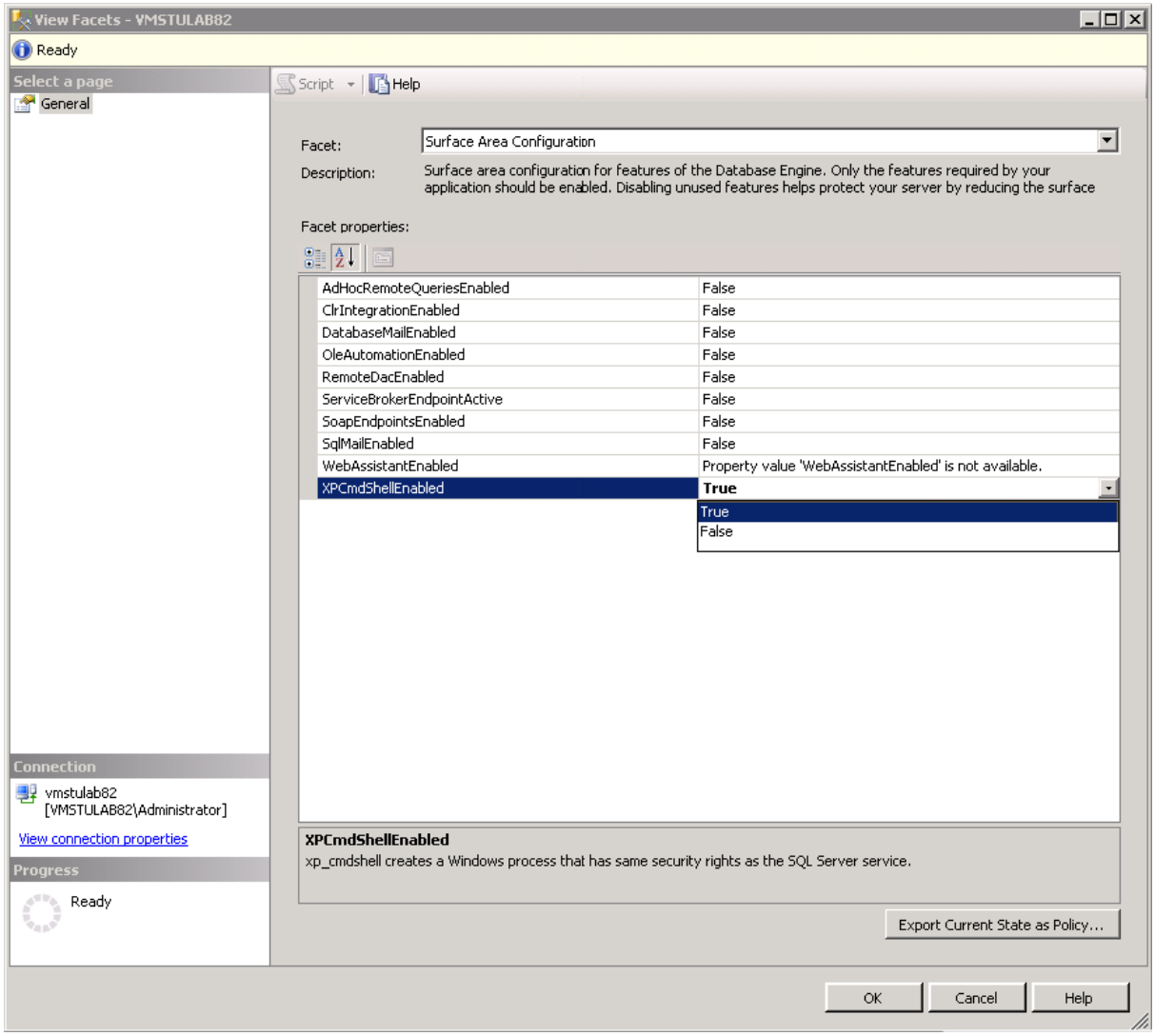
9. In the left pane, right-click the SQL Server name and select **Facets**.



10. Click the **Facet** drop-down list and select **Surface Area Configuration**.



11. In the **Facet properties** list, set the **XPCmdShellEnabled** property to **True**.



12. Click **OK** to complete the configuration.

Create Database

After you complete the installation and configuration of Microsoft SQL Server 2008, you have to create the databases using the SQL scripts provided with the Call Center Elite Multichannel installer. The SQL scripts are provided for the following components:

- Interaction Data Server - for Voice and Presence.
- Configuration Server

- Media Stores - ASMControl

  You must install the ASContact database from the Call Center Elite Multichannel Control Panel. For more information, refer the *Avaya Aura® Call Center Elite Multichannel Control Panel User Guide*.

You can install the SQL scripts for these components either from the Call Center Elite Multichannel installer or from the installation directory of the corresponding component after you install that component.

In the Call Center Elite Multichannel installer, you can find these SQL scripts in the **SQL Script** folder available inside the respective component folder. For example: SQL scripts for Configuration Server is available at: **<*Call Center Elite Multichannel installer*>\Avaya Aura CC Elite Multichannel\Server\Configuration Server\SQL Script**.

At the installed location, you can find these SQL scripts in the **SQL Script** folder available inside the respective component folder. For example: SQL scripts for Interaction Data Server is available at: *CCEM_INSTALL_DIR*\Avaya\Avaya Aura CC Elite Multichannel\Server\Configuration Server\SQL Script.

You can run these SQL scripts either with default instance or with named instance.

This section contains the following topics:

- Creating the database with default instance on page 143
- Creating the database with named instance on page 145

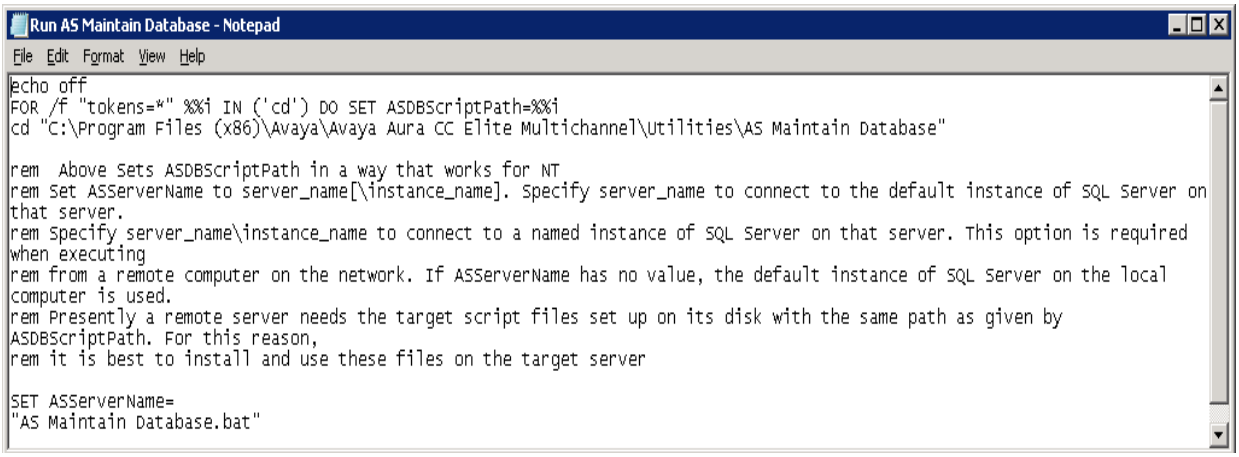
Creating the database with default instance

This section explains about running scripts after the component is installed. The example below for running SQL script from the Configuration Server folder.

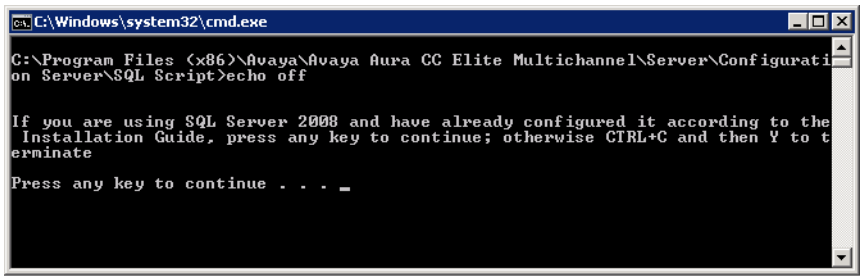
To run database scripts with default instance:

1. Navigate to the *CCEM_INSTALL_DIR*\Avaya\Avaya Aura CC Elite Multichannel\Server\Configuration Server\SQL Script folder.

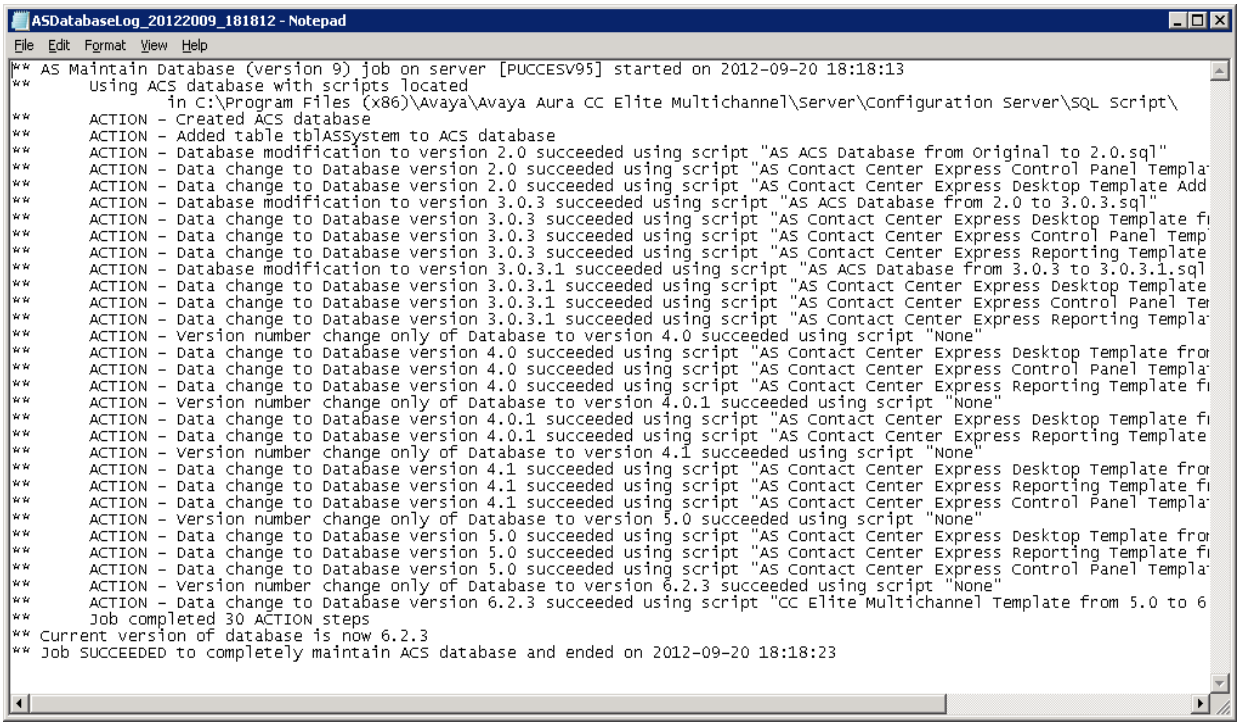
2. Open the `Run AS Maintain Database.bat` file for editing.



3. Verify that ASServerName is empty.
4. Close the file and Run the file.



5. After the batch file finishes running, a log file is created in the same folder to confirm the successful creation of the database.



Creating the database with named instance

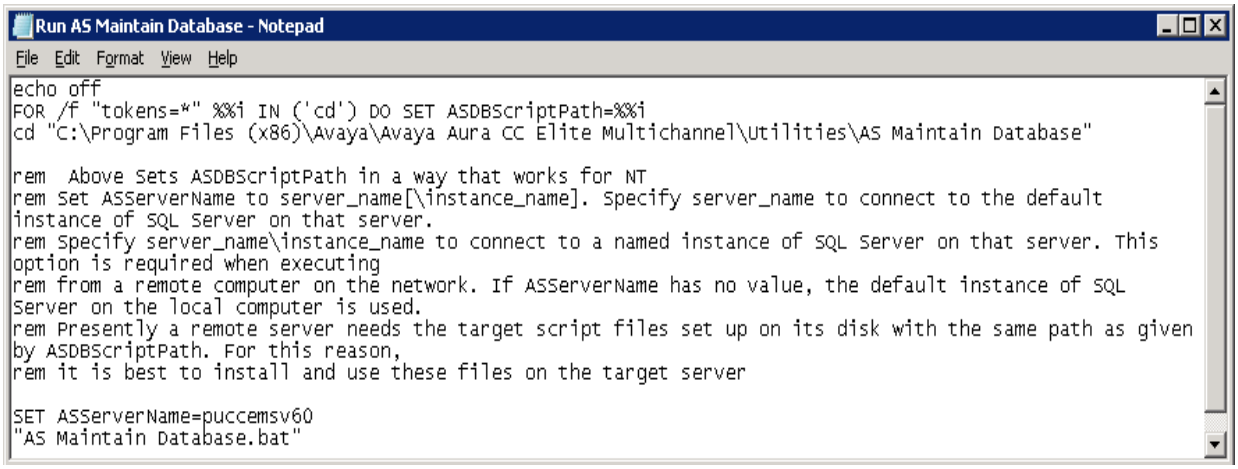
This section explains about running scripts after the component is installed. The example below is for running SQL script from the Configuration Server folder.

To run database scripts with named instance:

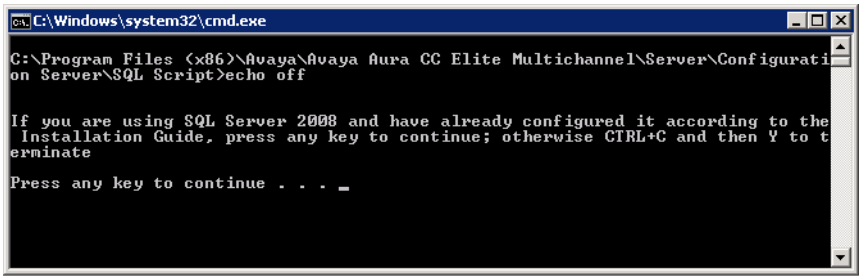
1. Navigate to the *CCEM_INSTALL_DIR*\Avaya\Avaya Aura CC Elite Multichannel\Server\Configuration Server\SQL Script folder.
2. Open the Run AS Maintain Database.bat file for editing.

Note:

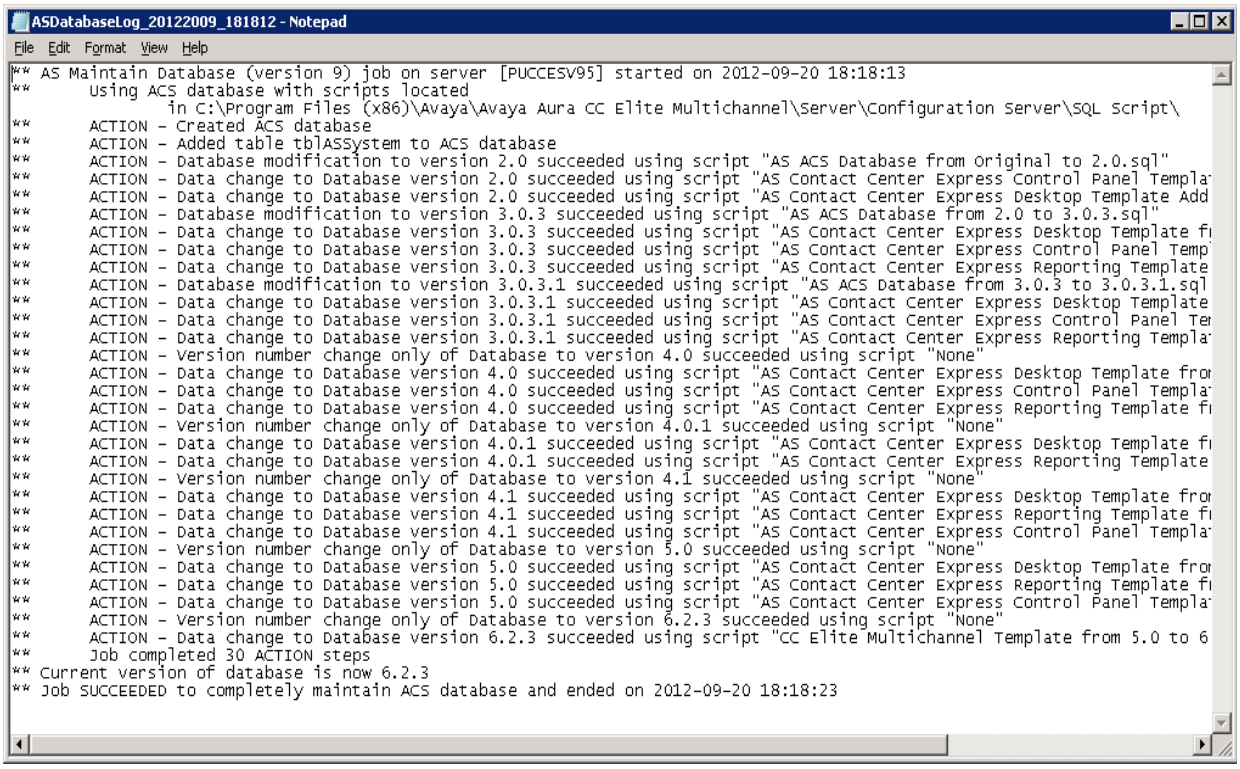
If your database server is located on a separate server, then you have to copy the content of the installer to your local disk before you can start creating or upgrading the database.



3. Enter the server instance name for ASServerName and save the file.
4. Close the file and Run the file.



5. After the batch file finishes running, a log file is created in the same folder to confirm the successful creation of the database.



Install and configure WebLM

Call Center Elite Multichannel is supported with WebLM server 6.2. The Call Center Elite Multichannel licenses can be polled from the WebLM server.

This section contains the following:

- Prerequisites for installing WebLM on page 148
- Install WebLM on page 151
- Enable HTTPS on page 151
- WebLM configuration on page 153
- Fix security vulnerabilities on page 155
- Accessing WebLM on page 156

After installing the WebLM, you can install the required Call Center Elite Multichannel licenses in the WebLM. For information, see *Avaya Aura® Call Center Elite Multichannel License Director User Guide*.

Prerequisites for installing WebLM

Before installing WebLM perform the following:

1. Download and Install Oracle Java Runtime Environment (JRE)
   a. Install JRE 1.6.0_22 on the system where WebLM will be deployed. Ensure to install the correct version of JRE as per the operating system on which the WebLM will be installed.

      You can download JRE 1.6.0_22 from the following website:

      http://www.oracle.com/technetwork/java/javasebusiness/downloads/java-archive-downloads-javase6-419409.html#jdk-6u22-oth-JPR

   b. Ensure that JAVA_HOME variable points to JRE 1.6.0_22 install location or JDK 1.6.0_22 install location (if Tomcat is not installed as a service).
2. Download and install Tomcat 6.0.29
   a. Install Tomcat on the system where WebLM will be running. Ensure to install the correct version of the application as per the operating system (on which WebLM will be running).

      You can download Tomcat 6.0.29 from the following website:

      http://archive.apache.org/dist/tomcat/tomcat-6/v6.0.29/bin/

   Note:
   In order to run Tomcat in a JRE only environment, you must install Tomcat as a Windows service. If Tomcat is not required to run as a service, then Oracle JDK must be installed. Tomcat 6.0.29 server requires Oracle JDK to run if Tomcat is not registered as a service in Windows.

   b. Ensure that the **PATH** variable points to `%JAVA_HOME%\bin`.
   c. Ensure that the **CATALINA_HOME** variable points to Tomcat 6.0.29 install location.

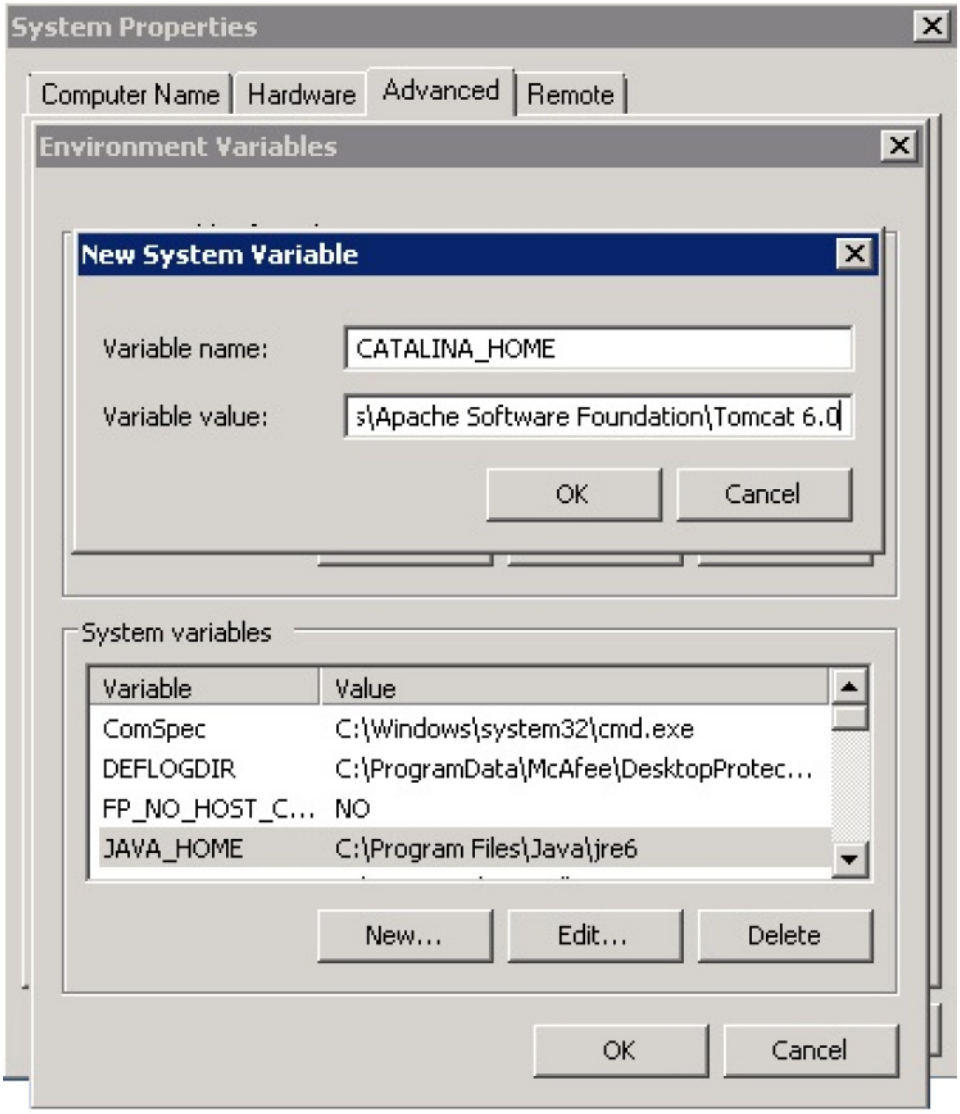
      If the Environment Variables are not set on the system, create and set the variables. To create and set the variables:

      1. On the Desktop, right-click **My Computer** and select **Properties**.
      2. Click on **Advanced system settings**.

         The system displays the **System Properties** dialog box.
      3. In the **System Properties** dialog box, click the **Advanced** tab.

4. In the **Advanced** tab, click **Environment Variables**.
   The system displays the **Environment Variables** dialog box.
5. In the **Environment Variable** dialog box, click **New** below System Variables.
   The system displays the **New System Variable** dialog box.
6. Specify the required variable name in the **Variable name:** field.
7. Specify the required directory path in the **Variable value:** field.
8. Click **OK**.
   The system displays the new system variable in the System Variables list.

9. Click **OK** and close the System Properties dialog box.



3. Ensure that Tomcat is stopped.

Note:
If there are other applications deployed in the same Tomcat container, then the other applications will stop responding on stopping the Tomcat.

4. Ensure that the system on which WebLM will be deployed has an entry for the local host IP address in the hosts file. For example, on a system running Microsoft Windows, the *hosts* file is located at: `C:\Windows\System32\drivers\etc` folder. The entry in this file should look like: *<Localhost_IP_address> localhost*

5. Ensure that the user name using which Tomcat is installed has read-write permissions for the `C:\temp` folder.

Install WebLM

To install WebLM:

1. Copy **WebLM.war** file from DVD/CD drive path `\Utilities\WebLM` folder to the `%CATALINA_HOME%\webapps` folder of tomcat installation.
2. Create an empty folder named **WebLM** inside the `webapps` folder.
3. Open the **WebLM.war** file using WinZip and extract the contents of **WebLM.war** to newly created **WebLM** folder.
4. Enable HTTPS. This is the mandatory step to access WebLM. This requires editing the *<tomcat_installation_dir>\conf\server.xml* file. For more details refer to Enable HTTPS on page 151.
5. Update WebLM server properties. WebLM server has default values set in the configuration file. If required, update the properties before starting the Tomcat. For more details refer to WebLM configuration on page 153.
6. Fix security vulnerabilities that may exist within Tomcat. For more details refer to Fix security vulnerabilities on page 155.
7. To access WebLM refer to Accessing WebLM on page 156.

Enable HTTPS

To enable HTTPS:

1. Verify if the Tomcat installation has APR (Apache Portable Runtime) enabled or not.

   For more information on APR, refer to: http://tomcat.apache.org/tomcat-6.0-doc/apr.html

   To check if APR is enabled, browse to `%CATALINA_HOME%\bin` and verify if the dll `tcnative-1.dll` is present or not. If present, APR is supported for the Tomcat installation.
2. Locate the `server.xml` file. By default, the server.xml file is located in the `<tomcat_installation_dir>/conf` folder.
3. Open the `server.xml` file using any editor (for example Notepad, Textpad, vi – based on the operating system used).
4. Go to end of file and add Connector tag for port `52233` which will be used as the HTTPS port for WebLM. The following element should be added before the element *</Service>:*

Note:

As per the Licensing Conformance Requirements [125163-M-850], licensed products shall utilize port 52233 for HTTPS communication with WebLM server.

Configuration for Tomcat Installation without APR:

```
<Connector acceptCount="100" clientAuth="false"
disableUploadTimeout="true" enableLookups="false"
keystoreFile="${catalina.base}/webapps/WebLM/WEB-INF/
weblmserver.p12" keystorePass="password" SSLEnabled="true"
keystoreType="PKCS12" maxHttpHeaderSize="8192" maxSpareThreads="75"
maxThreads="150" minSpareThreads="25" port="52233" scheme="https"
secure="true" sslProtocol="TLS"
ciphers="SSL_DH_DSS_WITH_3DES_EDE_CBC_SHA,SSL_DH_RSA_WITH_3DES_EDE_C
BC_SHA,SSL_DHE_DSS_WITH_3DES_EDE_CBC_SHA,SSL_DHE_RSA_WITH_3DES_EDE_C
BC_SHA,SSL_RSA_WITH_3DES_EDE_CBC_SHA,SSL_RSA_FIPS_WITH_3DES_EDE_CBC_
SHA,TLS_KRB5_WITH_3DES_EDE_CBC_MD5,TLS_KRB5_WITH_3DES_EDE_CBC_SHA,TL
S_ECDH_ECDSA_WITH_3DES_EDE_CBC_SHA,TLS_ECDH_RSA_WITH_3DES_EDE_CBC_SH
A,TLS_ECDHE_ECDSA_WITH_3DES_EDE_CBC_SHA,TLS_ECDHE_RSA_WITH_3DES_EDE_
CBC_SHA,TLS_DHE_DSS_WITH_AES_128_CBC_SHA,TLS_DHE_DSS_WITH_AES_256_CB
C_SHA,TLS_DHE_RSA_WITH_AES_128_CBC_SHA,TLS_DHE_RSA_WITH_AES_256_CBC_
SHA,TLS_RSA_WITH_AES_128_CBC_SHA,TLS_RSA_WITH_AES_256_CBC_SHA,TLS_EC
DH_ECDSA_WITH_AES_128_CBC_SHA,TLS_ECDH_ECDSA_WITH_AES_256_CBC_SHA,TL
S_ECDH_RSA_WITH_AES_128_CBC_SHA,TLS_ECDH_RSA_WITH_AES_256_CBC_SHA,TL
S_ECDHE_ECDSA_WITH_AES_128_CBC_SHA,TLS_ECDHE_ECDSA_WITH_AES_256_CBC_
SHA,TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA,TLS_ECDHE_RSA_WITH_AES_256_CB
C_SHA"/>
```

Configuration for Tomcat Installation with APR:

```
<Connector acceptCount="100" clientAuth="false"
disableUploadTimeout="true" enableLookups="false"
SSLPassword="password" SSLEnabled="true" maxHttpHeaderSize="8192"
maxSpareThreads="75" maxThreads="150" minSpareThreads="25"
port="52233" scheme="https" secure="true" sslProtocol="TLS"
SSLCipherSuite="ALL:!ADH!RC4 -IDEA:!LOW:!SSLv2:!EXPORT40!EXPORT56"
SSLCertificateFile="${catalina.base}/webapps/WebLM/WEB-INF/
weblm.crt" SSLCertificateKeyFile="${catalina.base}/webapps/WebLM/
WEB-INF/weblm.key"/>
```

Note:

This is assuming that WebLM is deployed in `<tomcat_installation_dir>/webapps` folder. Be careful while doing a copy paste from this document into the `server.xml` file. Ensure that the valid quotes are copy pasted in the `server.xml` file.

5. For the Connectors on port **8080** and **8009**, update the value of attribute `redirectPort` from (default) **8443** to **52233**.

WebLM configuration

WebLM server configuration is defined in the file **weblmserver.properties** which is located in the `<tomcat_installation_dir>/webapps/WebLM/data` folder. Any changes to this file will require Tomcat to be restarted to have the changes take effect. Some important properties defined in this file are defined in the following table.

Table 1:

Property Name	Description	Default Value
WebLM.LicenseAllocation.Backup.FileSize	This property specifies the size of the license allocation backup file size in MB. Ensure to allocate an integer to this property (e.g. 1, 10 etc.). A decimal value like 1.5 is invalid.	10 MB
WebLM.Usages.MaxUsageCount	This property specifies the maximum count of usage query results that WebLM can maintain. The property must be set to an integer value (e.g. 3, 4, etc.). A decimal value like 1.5 is invalid.	5
WebLM.Usages.UsageCount	This property specifies the count of usage query results that WebLM maintains. The property must be set to an integer value (e.g. 3, 4, etc.) within a range of 1 to whatever is the value of property “WebLM.Usages.MaxUsageCount”. A decimal value like 1.5 is invalid. This property is also configurable from the WebLM UI.	1

WebLM server logging configuration is defined in the file **log4j.properties** which is located in the `<tomcat_installation_dir>/webapps/WebLM/WEB-INF/classes` folder.

Any changes to this file will require Tomcat to be restarted to have the changes take effect.

Some important properties defined in this file are defined in the following table.

Table 2:

Property Name	Logger Type	Default Value	Description
log4j.appender.weblmDebugAppender.File	Debug	${catalina.home}/webapps/WebLM/data/log/weblmserverdebug.log	This property lets WebLM user specify the location where the log files should be saved. Ensure to enter the path that exists followed by file name. E.g. On Linux, /var/log/weblm/weblmserver.log (assuming /var/log/weblm exists) On Windows, C:\\folder\\weblmserver.log (assuming C:\\folder exists)
log4j.appender.weblmOperationalAppender.File	Operational	${catalina.home}/webapps/WebLM/data/log/weblmserveroperational.log	
log4j.appender.weblmAuditAppender.File	Audit	${catalina.home}/webapps/WebLM/data/log/weblmserveraudit.log	
log4j.appender.weblmSecurityAppender.File	Security	${catalina.home}/webapps/WebLM/data/log/weblmserversecurity.log	
log4j.appender.weblmDebugAppender.threshold	Debug	ERROR	This property allows the user to specify the log level. The log files will contain log messages of levels specified for this property and above. The allowed log levels in the increasing order of granularity are: FATAL, ERROR, WARN, INFO, DEBUG. To change log levels, the value of this property as well as the log level mentioned at the respective logger level must be changed
log4j.appender.weblmOperationalAppender.threshold	Operational	ERROR	
og4j.appender.weblmAuditAppender.threshold	Audit	INFO	
log4j.appender.weblmSecurityAppender.threshold	Security	WARN	

Table 2:

Property Name	Logger Type	Default Value	Description
log4j.appender.weblmDebugAppender.MaxFileSize	Debug	10 MB	This property allows the user to specify the maximum log file size before it is rolled over.
log4j.appender.weblmOperationalAppender.MaxFileSize	Operational		
log4j.appender.weblmAuditAppender.MaxFileSize	Audit		
log4j.appender.weblmSecurityAppender.MaxFileSize	Security		
log4j.appender.weblmDebugAppender.MaxBackupIndex	Debug	5	This property allows the user to specify the number of log files to be backed up once it reaches the max size as specified in property: log4j.appender.<APPENDER>.MaxFileSize
log4j.appender.weblmOperationalAppender.MaxBackupIndex	Operational	3	
log4j.appender.weblmAuditAppender.MaxBackupIndex	Audit	3	
log4j.appender.weblmSecurityAppender.MaxBackupIndex	Security	3	

Fix security vulnerabilities

To fix security vulnerabilities:

1. Delete Sample Applications from Tomcat. In order to resolve security vulnerabilities existing in Tomcat sample applications, delete following folders from `<tomcat_installation_dir>\webapps` if present:
   - docs
   - examples
   - host-manager
   - manager

2. Delete Tomcat users if there are any after installing Tomcat.
   a. Open file `<tomcat_installation_dir>/conf/tomcat-users.xml`, search for element `<user>` which is defined as follows:

      ```
      <user username="tomcat" password="tomcat" roles="tomcat"/>
      ```

   b. Delete all the users elements from file `tomcat-users.xml`.

Note:
After performing the steps given above, one cannot manage applications deployed in Tomcat using Tomcat Management console. However, these steps are important because:

- Tomcat user password is stored in the Tomcat users file in clear text. It is possible to gain access to the Manager web application for the remote Tomcat server using a known set of credentials. A remote attacker can leverage this issue to install a malicious application on the affected server and run code with Tomcat's privileges. Hence, we remove the Tomcat users.
- Tomcat's sample applications may help an attacker uncover information about the remote Tomcat install or host itself or they may themselves contain vulnerabilities such as cross-site scripting issues.

Accessing WebLM

WebLM server can be accessed after installation and configuration as follows:

Note:
In case of adopting products writing their own installers or using RPMs, if WebLM is deployed in the same Tomcat container as some other application, then there is a possibility of the log4j jar being present in two locations, for example in `<tomcat_installation_dir>/shared/lib` folder and in `<tomcat_installation_dir>/webapps/WebLM/WEB-INF/lib` folder. This can lead to conflicts between the two log4j jars leading to errors. To avoid this, if a log4j jar is present in the `<tomcat_installation_dir>/shared/lib` folder, then the log4j jar present in the `<tomcat_installation_dir>/webapps/WebLM/WEB-INF/lib` folder must be deleted.

1. Start Tomcat.
2. In the Web browser, enter the URL of the WebLM server in the following format:

   https://<IP_Address>:<HTTPS_port>/WebLM/index.jsp

   The system displays the certificate dialog box. The dialog box informs that the application is running over HTTPS (secured HTTP). Click **Yes** to accept the certificate. From this point, all the communication between the browser and the server will be over HTTPS.
3. Log in to WebLM server with the login and password and start using the server.

Note:
License director must be restarted after WebLM 6.2 configuration.

Install AES Client

You must install AES Client on the system where Avaya Aura® Call Center Elite Multichannel Server components are installed.

To install AES Client:

1. Close all open applications.
2. Run the `setup.exe` file.

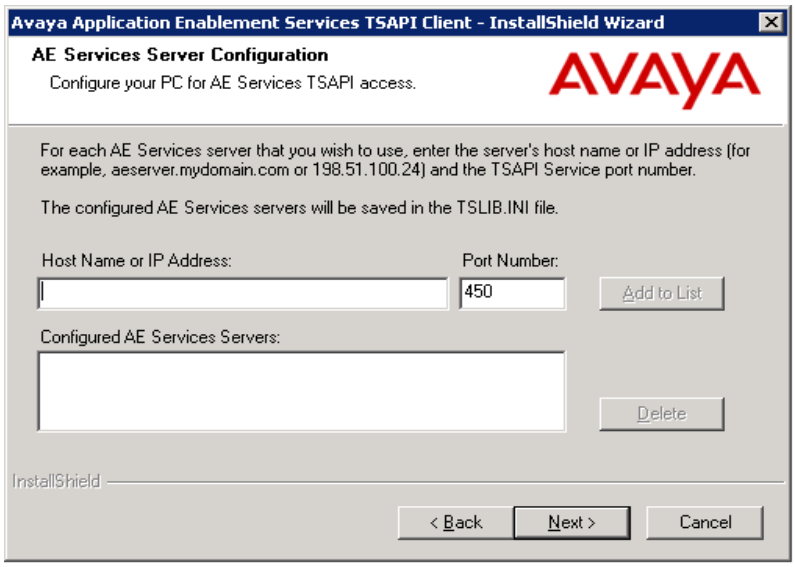
   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Utilities**.
5. Click **Avaya AES Client**.

   Wait till the installer displays the Welcome page.
6. Click **Next**.
7. Keep the default **Destination Folder** for installation and click **Next** to continue.

   To select a different location, click **Browse**.

8. In the **Host Name or IP Address** and **TCP Port** fields, enter the IP address or host name and port number of each AES server that you want to use and click **Add to List**.



9. After you complete adding all the TSAPI services, click **Next**.
10. Click **Finish**.
11. If you are asked to restart your system, which may happen if some application components need updating or registering, click **Yes**.

Quick Installer - Server Edition Overview

Quick Installer - Server Edition is a simple and quick way for users who are already acquainted with Call Center Elite Multichannel to install Call Center Elite Multichannel server products. Instead of installing servers individually via the Main Installer, you can use Quick Installer - Server Edition to install several servers as part of one install process.

To save time, Quick Installer - Server Edition presents you with common screens, such as the Call Center Elite Multichannel license agreement and install destination screens, only once. Application-specific screens, such as configuration screens, are still available for those servers that require them. Quick Installer - Server Edition installs servers in a sequence relating to their install complexity; installs for servers that include configuration screens run first.

Before Quick Installer - Server Edition installs the first server, it checks for all the prerequisites required by servers in the entire list, for example, Microsoft .Net Framework 3.5 SP1, Application Enablement Services (AE Services) and Microsoft IIS.

If Microsoft .Net Framework 3.5 SP1 or Application Enablement Services (AES Client) are not already installed, Quick Installer - Server Edition automatically launches these installs before proceeding with the installation of the first server. If Microsoft IIS is not installed, servers that require IIS are removed from the install list.

Quick Installer - Server Edition also performs upgrades to older releases and these run in the same fashion.

Once the install process starts, the only way to cancel Quick Installer - Server Edition is through Windows Task Manager.

Install Servers using Quick Installer - Server Edition

Note:

Your system must be running Windows Installer 4.5 before you can run Quick Installer - Server Edition. If Windows Installer 4.5 is not running, this install automatically runs an install script for that application. After Windows Installer 4.5 is installed, you will need to restart you system before restarting Quick Installer - Server Edition.

You can run Quick Installer - Server Edition (setup.exe) directly from its folder in the **`Utilities`** folder available at the installed location of Call Center Elite Multichannel, or through the Utilities option in the Main Installer.

To install Server:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Utilities**.
5. Click **Quick Installer - Server Edition**.
6. Click **Next** to continue.

   The system displays the **License Agreement** screen.
7. Read the license agreement and, if you agree with the licensing terms and conditions, click **Yes**.

   To select a different install location, click **Browse**.

8. Click **Next** to continue.



9. Select the servers that you want to install and click **Next**.

Note:
The servers listed under **Attended Installation** must be configured while installing and the servers listed under **Unattended Installation** does not require any configuration while installing.

WARNING:
Select the required servers carefully. Once the quick install process starts, the only way to stop it is through Windows Task Manager.

Install Voice Portal Application Updater

In Call Center Elite Multichannel, you can use the Voice Portal Application Updater (VPAU) utility to install or update the Voice Portal applications.

Important:
Before you use the VPAU utility, ensure that you have installed the Tomcat server on a target system, where you want to install or update Voice Portal applications.

This utility install or update the Voice Portal applications on a target system by downloading the applications from a source server, which contains the applications.

When you install this utility on a system, the system installs the following important files on a system:

- **Sample.Update.xml**. This file contains the sample information about Voice Portal applications. You can use this file to create the `update.xml` on a source server. You need to update the `update.xml` file with the correct information about the Voice Portal applications available on the source server.
- **Update.xsd**. This file contains the schema for the `update.xml` file. You must add this file on the source server along with the `update.xml` file.
- **VPAUpdate.ini**. This file contains the URL of the server that contains the `update.xml` and `update.xsd` files. The Voice Portal Application Updater utility download the applications from the server that you mention in the **BaseUrl** parameter in the `update.xml` file.
- **UpdaterUI.exe**. This is the utility program that you need to run. This utility displays a list of new applications and applications that needs to be updated.

When you run the Voice Portal Application Updater utility on a system for the first time, this utility creates the `update.xml` file on a system. Initially, the update.xml file does not contain information about Voice Portal applications.

The Voice Portal Application Updater utility compares the `update.xml` on a system, where you installed this utility with the `update.xml` file on a source server. If the `update.xml` file on the source server contains updated information about the Voice Portal applications, the utility displays those application information in a list. In this applications list, you can select an application and update it on a target system.

To install Voice Portal Application Updater:

1. Close all the open applications.
2. Run the `setup.exe` file.

   The system displays the **Trace System Server** screen.
3. In the **Server** and **Port** fields, enter the host name or IP address and port number of the TTrace server and click **Next**.

   The system displays the Avaya Aura Call Center Elite Multichannel application selection screen.
4. Click **Utilities**.
5. Click **Voice Portal Application Updater**.

   The system displays the **Voice Portal Application Updater** setup screen.
6. Click **Next** to continue.

   The system displays the **License Agreement** screen.

7. Read the license agreement and, if you are agree with the licensing terms and conditions, select the **I accept the terms in the license agreement** option and click **Next**.
8. Click the **Complete** button to install all the components of Trace System.

   OR
9. Click **Custom** to select the components that you want to install.
10. Click **Install**.
11. Click **Finish** after the installation is complete.
12. Click **Yes**, if you are asked to restart your system.

    This requires if some application components need updating or registering.

To install or update Voice Portal applications:

1. From the Windows start menu, click **All Programs** > Avaya Aura CC Elite Multichannel > **Utilities** > **Voice Portal Application Updater** > **VPAUpdater**.
2. In the **Destination Server** field, enter the URL of the system where you want to install or update the Voice Portal applications.
3. In the **Username** and **Password** field, enter the user name and password to access the Tomcat server.
4. Click **Login**.

   After successful login, the system displays the list of Voice Portal applications. In a list, each application indicate the status as New, Skip, and Update.

   Note:

   Voice Portal Application Updater utility indicates the status of the installed or updated application as **Skip**. You can either skip updating this application or forcefully update that application.
5. In the applications list select the application that you want to install or update.
6. Click **Update**.

   After successful installation or updation, the system indicates the application name in a list with green color.

   If an error occurs while installing or updating the application, the system displays an error message and also indicates that application name in a list with red color.

Implement and Customize Microsoft Dynamics CRM Server

Implementation

Refer to the Microsoft Dynamics CRM Integration Implementation Guide (located in the **Utilities\Microsoft Dynamics CRM Server Customizations** folder available with the Call Center Elite Multichannel installer) to setup your Call Center Elite Multichannel solution to use Microsoft Dynamics CRM.

Customization

If you have synchronized your Microsoft CRM database with the ASContact Database, you must install the MS CRM Phonebook Synchronizer on the Microsoft CRM Server. This component ensures any ongoing changes made to Microsoft CRM account and contact records are automatically updated in the ASContact Database.

Adding dial buttons to Microsoft CRM web pages that contain one or more phone numbers is optional if you are integrating Call Center Elite Multichannel Desktop with Microsoft CRM.

To add dial buttons to Microsoft Dynamics CRM web pages:

Note:
This is strictly a visual guide application and does not install anything.

Run `ASMSCRMServerCustomizationsInstall.exe` in the **Utilities\Microsoft Dynamics CRM Server Customizations** folder in the Call Center Elite Multichannel installer.

To install Microsoft Dynamics CRM Phonebook Synchronizer on the Microsoft Dynamics CRM Server:

1. If you are already using a customization, copy your existing `callout.config.xml` file to another location.
2. Copy all the files from **Utilities\MS CRM Server Customizations\Realtime Phonebook Synchronizer** folder in the Call Center Elite Multichannel installer to the **C:\Program Files\Microsoft CRM\Server\bin\assembly** folder on your Microsoft CRM Server.
3. If you completed step 1, copy any new entries from the latest **callout.config.xml** file into your original **callout.config.xml**. Copy the updated file back into the folder on your Microsoft CRM Server.
4. Update the **ASMSCRMPhonebookSynchronizer.ini**. The AS Contact Database Connection String needs to be set to your ASContact Database.

Chapter 8: Inventory of Call Center Elite Multichannel

In the Call Center Elite Multichannel Release 6.2.3/6.2.5, a special utility is provided to collect the inventory of various Call Center Elite Multichannel components installed on a system and the hardware of that system.

The inventory contains the following types of information:

- **Hardware**
  - OEM ID
  - Number of processors
  - Processor type
  - Active processor mask
  - OS Major Version
  - OS Minor Version
  - OS Build Number
  - OS Platform ID
  - OS Version Info
- **Network**
  - Machine Time
  - Machine Host name
  - Current user name
  - Found machine IP address
- **Registry key for Avaya**
  - HK_LOCAL_MACHINE\Software
- **Call Center Elite Multichannel components**
  - File location
  - File version
  - File date and time

The command line utility, named `ASFileDetailCheck.exe`, is provided with the Call Center Elite Multichannel installation kit. In the installation kit, you can find all the related files for this utility in the `Utilities\FileDetailCheck` folder.

Collecting Call Center Elite Multichannel inventory

To collect Call Center Elite Multichannel inventory:

1. Copy the `FileDetailCheck` folder on a system from which you want to collect the inventory.
2. From the `FileDetailCheck` folder, run the `CCE50_FileCheck.bat` batch file.

   When you run this batch file, the `ASFileDetailCheck` utility collects the details of the Call Center Elite Multichannel components and stores the information in a separate .txt file, named `CCE50_Details.txt`.

   Important:
   This utility collects Call Center Elite Multichannel inventory from a system on which you are running it. If you want to collect Call Center Elite Multichannel inventory from multiple systems, you need to run this utility separately on every system.
3. Open the `CCE50_Details.txt` from the `FileDetailCheck` folder to view the collected inventory.

Following are some of the commands in the `CCE50_FileCheck.bat` batch file.

```
%echo off
del CCE50_Details.txt > Null 2>&1
asfiledetailcheck /SYSTEM >> CCE50_Details.txt
asfiledetailcheck /NETWORK >> CCE50_Details.txt
asfiledetailcheck /LMREGISTRY Avaya >> CCE50_Details.txt
asfiledetailcheck /CCEMODULES CCEComponentList.txt >> CCE50_Details.txt
ASFileDetailCheck  ASWINDOWSSYSTEM32 ActEntConfigClient.dll >> CCE50_Details.txt
ASFileDetailCheck /PID ACC23.ConfigItem.1 >> CCE50_Details.txt
ASFileDetailCheck /PID ACC23.ConfigItem >> CCE50_Details.txt
ASFileDetailCheck /PID ACC23.ConfigList.1 >> CCE50_Details.txt
ASFileDetailCheck /PID ACC23.ConfigList >> CCE50_Details.txt
ASFileDetailCheck /PID ACC23.SectionItem.1 >> CCE50_Details.txt
ASFileDetailCheck /PID ACC23.SectionItem >> CCE50_Details.txt
```

Following is the sample inventory collected from a system:

```
Start: Printing system information
Hardware information:
  OEM ID: 0
  Number of processors: 2
  Page size: 4096
  Processor type: 586
  Minimum application address: 10000
  Maximum application address: 7ffeffff
  Active processor mask: 3
  OS Major Version : 5
  OS Minor Version : 1
  OS Build Number  : 2600
  OS Platform ID   : 2
  OS Version Info  : Service Pack 2
  Memory load                          : 58
  Avaialable extended virtual memory   : 0
  Available page file memory           : 2649792512
  Avaialable physical memory           : 891330560
  Available virtual memory             : 2128175104
  Total page file memory               : 4118532096
  Total physical memory                : 2136887296
  Total virtual memory                 : 2147352576
```

Chapter 9: User Authentication in Call Center Elite Multichannel

In Call Center Elite Multichannel, you can provide users the access permissions for using various Desktop application, such as Desktop, Control Panel, Reporting.

With this feature, only users with access permissions can access the Desktop application. The system displays an error message when users try to access Desktop applications without the appropriate access permissions.

User authentication is disabled in the standard installation of Call Center Elite Multichannel. To enable user authentication, you need to configure the Active Directory (AD).

Important:
You must have the proper skills in administering Active Directory.

As an administrator, you need to create user groups called Organizational Units (OUs) and using group policies/administrative templates, grant permissions to these OUs to access specific applications.

Note:
The settings you do for an OU overrides the settings of the parent OUs.

You can also use a central switch on a domain level to enable the user authentication on domain.

For suggestions on how to secure your system and know about obtaining additional security information, see the Avaya Products Security Handbook. You can also access the Avaya support Web site: http://support.avaya.com/security to find the information about known vulnerability policies in Avaya products.

Enabling User Authentication on a domain

Important:
When you enable the User Authentication on a domain, users cannot access the Call Center Elite Multichannel applications without the explicit access permissions.

To enable user authentication on a system wide:

1. From the default installation directory, open the `Utilities\Administrative Templates` folder.

   This folder contains the following files:

- **CCE_User_Authentication.adm**. This file is used to enable the user authentication.
- **CCE_Applications.adm**. This file contains the settings for the Call Center Elite Multichannel Desktop applications.

2. Install the **CCE_User_Authentication.adm** administrative template on a domain level.

   This template creates new folder **Computer Configuration** > **Administrative Templates** > **Avaya Contact Center Express** in **Group Policy Object Editor**. This new folder contains new **User Authentication** settings.

3. Change the **User Authentication** setting to **Enabled**.

   The system enables the User Authentication for Call Center Elite Multichannel Desktop applications for all computers and users in this domain.

Enabling User Authentication for users

Important:
User Authentication for users is only effective when you enable the User Authentication on a domain. For example, if you disabled the Control Panel access for particular users, the users are restricted to access Control Panel only when you enable the User Authentication on a domain.

To enable user authentication for users:

1. From the default installation directory, open the `Utilities\Administrative Templates` folder.

   This folder contains the following files:

   - **CCE_User_Authentication.adm**. This file is used to enable the user authentication.
   - **CCE_Applications.adm**. This file contains the settings for the Call Center Elite Multichannel Desktop applications.

2. Create appropriate OUs to enable user authentication for Call Center Elite Multichannel Desktop applications.
3. Install the **CCE_Applications.adm** administrative template in the group policy of each OU.

   This template creates new folder **User Authentication > Administrative Templates > Avaya Contact Center Express** in **Group Policy Object Editor**. This new folder contains new **User Authentication** settings for each Desktop application, such as Desktop, Reporting, and Control Panel.

4. Change the setting for an application to **Enabled**, **Disabled**, or **Not Configured**.

   The system enables or disables the selected User Authentication for Call Center Elite Multichannel Desktop applications for the specified OUs.

Note:

If you select the **Not Configured** setting, the system uses the settings of the parent OU. If there are no settings in any parent OU, the system uses the default setting as **Disabled**.

Chapter 10: Agent Event Notification

Enable Agent Event Notification

Avaya Aura® Call Center Elite Multichannel takes advantage of Agent States generated by the Avaya Aura™ Communication Manager.

Requirements

To receive agent state events generated by the Avaya Aura™ Communication Manager, you need:

- Avaya CM server.
- Application Enablement Services (AE Services).
- License Director.
- A Call Center Elite Multichannel application that uses Agent Events, for example:
  - Call Center Elite Multichannel Desktop application or application built using Developer.
  - Interaction Data Server - Voice and Presence.

Configuration

The only configuration required is in the Avaya Aura™ Communication Manager. You must configure all Avaya Communication Manager CTI stations or CTI links to use the Adjunct Link protocol not the ASAI protocol.

In addition, you have to make the following configurations:

- **System parameters features**
  - Create Universal Call ID (UCID)

    UCID Network Node ID: <a number must be entered>
  - Send UCID to ASAI
- **Enable system parameters customer options**
  - ASAI Link Core Capabilities
  - ASAI Link Plus Capabilities

- Computer Telephony Adjunct Links
- Agent States

  This option is enabled by a CM License.

Operation

You do not need to change the operation or configuration of Call Center Elite Multichannel applications because they are auto-negotiating.

For use in Developer, Agent State changes are indicated by the firing of the QueryAgentStateReturn event. This ensures backwards compatibility and the ability to operate in both the polling and event modes.

Troubleshooting

If you are having difficulty enabling Agent Events, follow these steps:

1. Ensure Application Enablement Services (AES) is running.
2. In the Avaya Communication Manager, type list crm-features. The **CRM Central** column should indicate a 'y' next to the CTI Link that has Agent Events enabled. This indicates that Avaya AES has negotiated Agent States with the Avaya Communication Manager.

   If the expected CTI Link does not indicate Agent States has been enabled, contact your Avaya sales representative.
3. Start TS Spy on the PC running the Call Center Elite Multichannel application.
4. In the station the application is monitoring, change Agent State to AUX Work, ACW etc. If you see 'ReadyEvent', 'WorkNotReadyEvent' or 'NotReadyEvent' in the trace within TS Spy, you are receiving Agent State events from the Avaya Communication Manager to that application.
5. If you are still not seeing events from within your Call Center Elite Multichannel application and it is a desktop application, for example: Agent, dial seven 0s into the application and click the dial button. This will display a lot of information.

   It will also indicate if the Agent Events challenge has or has not been completed successfully.

Appendix A: Desktop configuration file

In Avaya Aura® Call Center Elite Multichannel Desktop, you cannot configure all the parameters from the Options dialog box. You must configure such parameters either through the configuration file or through the Configuration server. For more information on configuration Avaya Aura® Call Center Elite Multichannel Desktop through Configuration Server, see the *Avaya Aura® Call Center Elite Multichannel Configuration Server User Guide*.

To configure parameters in the configuration file:

1. In the explorer, browse to the location: *CCEM_INSTALL_DIR*\Avaya\Avaya Aura CC Elite Multichannel\Desktop\CC Elite Multichannel Desktop.
2. Open the ASGUIHost.ini file for editing.

   Configure the parameters as explained in the following table.

   Important:
   In the ASGUIHost.ini, you must not change section names or parameter names. You only change the values for the parameters.

Field	Description
General	
Language	The language in which the Call Center Elite Multichannel Desktop application is displayed. The language options are: English, French, German, Italian, Spanish, Spanish Colombian, Portuguese, Russian, Korean, Japanese, Traditional Chinese, and Simplified Chinese. The amount of space on the interface may limit the number of characters you can display. **Note:** Avaya Aura® Call Center Elite Multichannel provides a custom language option that you can use to modify an existing language to suit company-specific practices or a local dialect, or translate all the strings to create an entirely new language. By altering the strings, you can customize the names of buttons, labels, tabs, panels, text boxes, menus, instructions, and error messages. To use the custom language, you need to create a text file containing the custom language name and your choice of wording. You need to specify this text file in the configuration. For more information, see Customizing a Language on page 56.

Field	Description
Server Instance ID	A unique identifier for the server application, which is created automatically when it runs for the first time.
Minimize to System Tray	A value that displays Avaya Aura® Call Center Elite Multichannel Desktop either in the system tray or on the task bar when you minimize the application. Default: False.
Window Title	A title of the Desktop application that is displayed on the title bar.
Window Icon	The filename and path of the icon, which is displayed on the Desktop application title bar. If you left this field blank, Avaya Aura® Call Center Elite Multichannel Desktop uses the default icon file, which is available in the current working folder of the application.
Product ID	A number that identifies the Avaya Aura® Call Center Elite Multichannel Desktop application. **Note:** You must not change the default value.
Enable Options Menu	A value that decides whether an agent can access the **Options** dialog box or not. An administrator can to enable or disable the access of the **Options** dialog box for an agent. Default: True. Disabling the access, restricts an agent to modify any application settings.
Enable Slide Tool Window	A value that either enables or disables sliding the tool windows.
Error Logging	

Field	Description
Error Log Level	The value that determines how much detailed error information you want to log. In Avaya Aura® Call Center Elite Multichannel Desktop, following log levels are supported: • 0=No error logging takes place • 1=Logs fatal, major, minor and trace information • 2=Logs fatal, major and minor errors • 4=Logs fatal and major errors • 8=Logs fatal errors only. In addition to these existing log levels, you can create a custom log level for diagnosing the Desktop application. The custom log level creates multiple log files when the maximum file size is reached and do not overwrite the earlier log file. You can create the custom log level by adding 128 to one of the default log levels mentioned earlier. For example, if you specify 129 to **Error Log Level**, the new error log files are created for the Desktop application, which contains fatal, major, minor, and trace error information. Avaya recommends you to use the custom log level only for the diagnostic purpose.
Error Log File Path	A path where log files are saved. By default, this field is left blank, which automatically saves the log files to the current working folder of the Desktop application. The working folder of the Desktop application is where the executable of the application is stored.
Error Log File Extension	An extension added to the filename of a error log file. An extension consists of a part of the file name, which is the name of the application and the file type extension, which is `.log`. When an error log file is created, the system automatically precedes the default file extension with a day of the week, in the `DDD` format. For example, `MonASGUIHost.Log`, if the file is created on Monday, ThuASGUIHost.Log, if the file is created on Thursday, and so on.

Field	Description
Maximum Error Log File Size KB	The maximum size of the error log file. Default: 10000 KB. The minimum size that you can set is 100 KB. After the log file reaches to the maximum size limit, it is archived and a new error log file is created. **Note:** Each archive stores only one error log file. So, when the next error log file reaches to the maximum size limit, the system overwrites archived file with this new file. But, if, you have set the custom error log level, by adding 128 to the default log level, a new error log file with a new name is created every time the maximum size limit is reached.
Error Log Mode	A value that indicate the logging mode for Desktop. Following are the logging modes: 1 - Enables Classic logging 2 - Enables TTrace logging 3 - Enables both the Classic and TTrace logging Default value is: 1.
Error Log TTrace Host	The host name of the TTrace server.
Error Log TTrace Port	The port number to access the TTrace server. Default port is: 10400.
Error Log use old Log Format	A value that instructs the system to store the log either in the new Avaya Common Logging format or the old logging format. Default value is: False.
License Director	
Primary License Director IP	The IP address of the primary License Director through which the Desktop application requests and releases licenses.
Primary License Director Port	The port number of the primary License Director. Default: 29095.
Secondary License Director IP	The IP address of the secondary License Director IP through which the Desktop application requests and releases licenses.
Secondary License Director Port	The port number of the secondary License Director. Default: 29095.

Field	Description
Connect License Director	If you are using the iClarity Plug-in, set this parameter to True. Otherwise, leave set to False.
Enable Debug Trace	A setting that you can use to debug Call Center Elite Multichannel Desktop using tools, such as DebugView. True=enabled, False=disabled.
Windows Layout	
Left Position	A value, in pixels that indicates the position of the application window from the left side of the screen. The position is automatically updated in the configuration if you change the position of the window.
Top Position	A value, in pixels that indicates the position of the application window from the top side of the screen. The position is automatically updated in the configuration if you change the position of the window.
Window Width	A value, in pixels that indicates the width of the application window. The width is automatically updated in the configuration if you change the width of the window.
Window Height	A value, in pixels that indicates the height of the application window. The height is automatically updated in the configuration if you change the height of the window.
Maximized	A value that if you set to True, opens the Desktop application window maximized. Setting the value False, starts the application window with the specified width and height.
Layout File Folder	The XML file path that stores information about the layout of the windows in Desktop. The size and positioning of each window, for example: whether it is docked in a fixed position, floating, or displayed as a tabbed document, is stored in the `ASGUIHostLayout_username.xml` file. If you left this parameter blank, the Desktop application, by default, finds the file in a folder where the Desktop application executable is present.

Field	Description
Plug In Assembly List	

Field	Description
This section lists all the generic plug-ins that are loaded when Desktop starts. Each entry has the format "Friendly name=Plug-in section name". The plug-in section name points to (and is the same as) the section in the file that contains configuration data for that plug-in. For example: Auto Text Section = Auto Text CallInfo.A Section = CallInfo.A ;CallInfo.B Section = CallInfo.B ;CallInfo.C Section = CallInfo.C ;CallInfo.D Section = CallInfo.D Close Suspend Work Item Section = Close Suspend Work Item Customized Forms Section = Customized Forms Desktop Utility Section = Desktop Utility Directory Section = Directory Email Section = Email External Application Container Section = External Application Container External Application Execute Section = External Application Execute ;IClarity Section = IClarity IDS View Client Section = IDS View Client Media Controller Section = Media Controller Presence Section = Presence Preview Contact Section = Preview Contact Printing Section = Printing Rules = Rules Session Notes Section = Session Notes Simple Messaging Plugin Section = Simple Messaging Spell Checker Section = Spell Checker Telephony Section = Telephony User Section = User Voice Section = Voice Wallboard = Wallboard	

Field	Description
Work Item Alert Section = Work Item Alert Work Item History Section = Work Item History Work Item Notes Section = Work Item Notes ;MS CRM Gui Plugin = MS CRM Gui Plugin Work Item Creation Section = Work Item Creation ASTimeInAUXDisplay = ASTimeInAUXDisplay ASDialEnhancement = ASDialEnhancement ASQuickDial = ASQuickDial Contact Management Section = Contact Management Save Close Document Window Section = Save Close Document Window ASCustomRulesButtons = ASCustomRulesButtons Html Editor Provider Section = Html Editor Provider Template Section = Template ASCalculator Section = ASCalculatorPlugin ASWorldClock Section = ASWorldClock ASDMCCPlugin = ASDMCCPlugin ASImageLibraryPlugin = ASImageLibraryPlugin Dashboard Section = Dashboard Supervisor Section = Supervisor Communicator = ASCommunicator ;RTC Plugin=RTC Plugin ;Python Breakout Section=Python Breakout	
iClarity	
You can configure all iClarity parameters, except the following, through the Options dialog box in Desktop. For more information, see iClarity on page 51. **Note:** When you first open ASGUIHost.ini, the iClarity Plug-in is disabled by commenting it in the Plug In Assembly List (;iClarity Section = iClarity). Remove the semicolon to enable the iClarity Plug-in.	

Field	Description
Assembly File Name	The name of the plug-in file, which is loaded. If the plug-in is not located at the default file path, which is the same folder as the Desktop application, specify the file path. For this plug-in, use: ASGUIHIClarityPlugin.dll.
Login Automatically	A setting that automatically logs an agent into the call server when Desktop starts.
Spell Checker	
Assembly File Name	The name of the plug-in file, which is loaded. If the plug-in is not located at the default file path, which is the same folder as the Desktop application, specify the file path. For this plug-in, use: `ASSpellCheckerPlugin.dll`.
Enable Error Logging	A setting that enables the Desktop application to write plug-in specific error information to the error log files. True=enabled, False=disabled.
Dictionary File Name	A path of the dictionary file that Desktop uses. By default, the application uses the dictionary from the `Dict` folder within the application directory. The following dictionaries are available in Desktop: • de-DE.dic (German) • en-AU.dic (Australian English) • en-CA.dic (Canadian English) • en-GB.dic (UK English) • en-US.dic (US English) • es-ES.dic (Spanish Castilian) • es-MX.dic (Spanish Colombian) • fr-FR.dic (French) • it-IT.dic (Italian) • pt-BR.dic (Portuguese Brazilian).

Field	Description
Toolbar Position	The position of the toolbar on the Desktop interface. There are following toolbar positions: • **TopFirst.** The first toolbar from top of the screen • **TopSecond.** The second toolbar from top of the screen • **Bottom.** The toolbar at the bottom of the screen
Directory	
You can configure all Directory parameters, except the following, through the Options dialog box in Desktop. For more information, see Directory on page 36.	
Assembly File Name	The name of the plug-in file, which is loaded. If the plug-in is not located at the default file path, which is the same folder as the Desktop application, specify the file path. For this plug-in, use: `ASDirectoryPlugin.dll`.
Enable Error Logging	A setting that enables the Desktop application to write plug-in specific error information to the error log files. True=enabled, False=disabled.
Column Caption	The name of each column in the directory. The system displays the column names in the order you specify. Also, the system saves order in the configuration after the column names are adjusted in the application.
Column Width	The width of each column in the directory. The system saves the column widths in the configuration after the column names are adjusted within the application.
Enable Smart Search	An option that you can set to enable the Smart Search feature in the **Directory** window. True=enabled, False=disabled.
Match Rating	A parameter that controls the matching of the search criteria with the information in the directory. The default is 1.
Work Item History	

Field	Description
Note: Work Item History plug-in relies on a connection to IDS View Client to get historical information. Therefore, you must also configure the [IDS View Client] section in this file for this plug-in to work.	
Assembly File Name	The name of the plug-in file, which is loaded. If the plug-in is not located in the default file path, which is the same folder as the Desktop application specify the file path. For this plug-in, use: `ASWorkItemHistoryPlugin.dll`.
Retrieve Conversation History	A setting that enables the Desktop application to retrieve the conversation history of an agent. True=enabled, False=disabled.
Retrieve Interaction History	A setting that enables the Desktop application to retrieve the interaction history of an agent. True=enabled, False=disabled.
Retrieve History Days Old	A number, in days, that defines how much old work items you want to search on the Customer History tab. The default is 30 days.
Allow Search Other Agents	A setting that enables the Desktop application to retrieve and display the history of work items that another agent has handled. Default: False. True=enabled, False=disabled.
Search Agent History Days Old	A number, in days, that defines how much old work items you want to search on the Agent History tab. Default: 1 day.
Preview Contact	
Assembly File Name	The name of the plug-in file, which is loaded. If the plug-in is not located in the default file path, which is the same folder as the Desktop application, specify the file path. For this plug-in, use: `ASPreviewContactPlugin.dll`.

Field	Description
Enable Error Logging	A setting that enables the Desktop application to write plug-in specific error information to the error log files. True=enabled, False=disabled.
Enable External Application	A setting that enables the Desktop application to start an external application when preview contact work items are received. True=enabled, False=disabled.
External Application File Name	The filename and path of the external application that you want to start. If you left this parameter blank, Desktop starts the application that is defined for the External Application File Name in the **External Application Execute** section of this .ini file.
XML File Name	The XML filename that External Application Execute Plug-in creates to source work item-related information to the external application. If you left this blank, Desktop uses the name defined for the XML File Name in the **External Application Execute** section of this .ini file. By default, the XML file is stored at the path that is defined for the XML File Path in the same **External Application Execute** section.
Top Panel Height	The height of the top panel, in pixels, in a preview contact work item. The top panel contains customer information, whereas the bottom panel contains campaign information.
Allow Value Editing	A value that if you set to True, allows you to change the data that you previously saved in the Additional Information panel of the preview contact work item.
Email	
Assembly File Name	The name of the plug-in file, which is loaded. If the plug-in is not located at the default file path, which is the same folder as the Desktop application, specify the file path. For this plug-in, use: `ASEmailPlugin.dll`.

Field	Description
Enable Error Logging	A setting that allows you to write plug-in specific error information to the application's error log files. True=enabled, False=disabled.
Always Open Attachments	If set to True, this setting prevents the appearance of the dialog box that asks the agent if they want to save an attachment before opening it.
Enable External Application	A setting that either enables or disables the launching of an external application when e-mail work items are received. True=enabled, False=disabled.
External Application File Name	The name and file path of the external application you want to launch. If left blank, Call Center Elite Multichannel Desktop uses the application defined by External Application File Name in the External Application Execute section of this .ini file.
XML File Name	The name of the XML data file External Application Execute Plug-in creates to supply work item-related information to the external application. If you left this parameter blank, Desktop uses the name defined by XML File Name in the External Application Execute section of this .ini file. By default, the XML file is stored at the location defined by XML File Path in the **External Application Execute** section.
Toolbar Position	The position of the toolbar on the Desktop interface. There are following toolbar positions: • **TopFirst.** The first toolbar from top of the screen • **TopSecond.** The second toolbar from top of the screen • **Bottom.** The toolbar at the bottom of the screen
Preferred Character Encoding	The character set e-mail work items attempt to use when a reply is sent to the customer. If the user-entered characters cannot be encoded in the specified encoding, the Email Media Store may override this setting. The default is: us-ascii.

Field	Description
Reply Font Name	The name of the font name to be used in the reply field. If the font cannot be found, the default system font (typically Arial) will be used. The default value is: Times New Roman.
Reply Font Size	The size of the font, in points, to be used in the reply field. The default value is: 12.
Active Window on Work Item Accepted	A setting that automatically makes an e-mail work item active when the agent answers the call. True=enabled, False=disabled.
Work Item Notes	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASWorkItemNotesPlugin.dll.
Enable Error Logging	A setting that allows you to write plug-in specific error information to the application's error log files. True=enabled, False=disabled.
Enable Check As Type	If set to True, this setting activates the automatic checking of any text typed into the Work Item Notes window.
Voice	
All Voice parameters, except the following, are configured through Call Center Elite Multichannel Desktop's Options dialog box. For more information, see Voice on page 34.	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASGUIHVoicePlugin.dll.
Top Left Width	The width, in pixels, of the top left voice work item.
Top Left Height	The height, in pixels, of the top left voice work item.
Top Right Width	The width, in pixels, of the top right voice work item.
Top Right Height	The height, in pixels, of the top right voice work item.
Bottom Left Width	The width, in pixels, of the bottom left voice work item.

Field	Description
Bottom Left Height	The height, in pixels, of the bottom left voice work item.
Bottom Right Width	The width, in pixels, of the bottom right voice work item.
Bottom Right Height	The height, in pixels, of the bottom right voice work item.
Maximum Items In Dialed Numbers List	The maximum number of numbers that will display in the drop-down list of previously dialed phone numbers.
Dialed Numbers List	The list of previously dialed phone numbers. For example: 8686 | 1800avaya | 477 0583 | 8532. Note: Call Center Elite Multichannel Desktop retains the list for re-use after the application is closed.
Use Inbound UUI On Conference	If set to True, this setting ensures any user-to-user information received with a call is forwarded with the call if it is conferenced. The default is False.
Use Inbound UUI On Transfer	If set to True, this setting ensures any user-to-user information received with a call is forwarded with the call if it is transferred. The default is False.
Enable External Application	A setting that either enables or disables the launching of an external application when voice work items are received. True=enabled, False=disabled.
External Application File Name	The name and file path of the external application you want to launch.
XML File Name	The name of the XML data file External Application Execute Plug-in creates to supply work item-related information to the external application.
Clear Number On Dial	If set to True, this setting removes the phone number from the Dial text box after a call has been made. If set to False, the number remains in the text box for re-use.
Close Voice Work Item Window On Call Dropped	If set to True, this setting closes the voice work item as soon as a call has ended. If set to False, the agent has to manually close the work item. Note: This parameter only works when Call Center Elite Multichannel Desktop is integrated with Voice Media Store.
CallInfo.A	

Field	Description
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the Call Center Elite Multichannel Desktop application), also specify the file path.
Enable Error Logging	A setting that allows you to write plug-in specific error information to the application's error log files. True=enabled, False=disabled.
Panel Position	A value that determines the position of this plug-in within the four-item grid. The default is 1, which positions the item in the top left of the grid.
CallInfo.B	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the Call Center Elite Multichannel Desktop application), also specify the file path.
Enable Error Logging	A setting that allows you to write plug-in specific error information to the application's error log files. True=enabled, False=disabled.
Panel Position	A value that determines the position of this plug-in within the four-item grid. The default is 2, which positions the item in the top right of the grid.
CallInfo.C	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the Call Center Elite Multichannel Desktop application), also specify the file path.
Enable Error Logging	A setting that allows you to write plug-in specific error information to the application's error log files. True=enabled, False=disabled.
Panel Position	A value that determines the position of this plug-in within the four-item grid. The default is 3, which positions the item in the bottom left of the grid.
CallInfo.D	

Field	Description
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the Call Center Elite Multichannel Desktop application), also specify the file path.
Enable Error Logging	A setting that allows you to write plug-in specific error information to the application's error log files. True=enabled, False=disabled.
Panel Position	A value that determines the position of this plug-in within the four-item grid. The default is 4, which positions the item in the bottom right of the grid.
Work Item Alert	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASWorkItemAlertPlugin.dll.
Enable Error Logging	A setting that allows you to write plug-in specific error information to the application's error log files. True=enabled, False=disabled.
Display Seconds	The length of time, in seconds, the alert will display, informing the agent of an incoming work item.
Display When Host Visible	A parameter that allows you to set the alert behavior if Call Center Elite Multichannel Desktop is visible on the agent's screen. True = If Call Center Elite Multichannel Desktop is visible, the alert will display. False = If Call Center Elite Multichannel Desktop is visible, the alert will not display.
Display When Host Invisible	A parameter that allows you to set the alert behavior if Call Center Elite Multichannel Desktop is not visible on the agent's screen. True = If Call Center Elite Multichannel Desktop is not visible, the alert will display. False = If Call Center Elite Multichannel Desktop is not visible, the alert will not display.

Field	Description
Left Position	The distance, in pixels, of the application from the left side of the screen at startup. The distance is automatically saved in the configuration after it is adjusted within the application.
Top Position	The distance, in pixels, of the application from the top of the screen at startup. The distance is automatically saved in the configuration after it is adjusted within the application.
Enable Alert	A setting that allows you to add a sound to the visual alert. If set to True, the .wav file specified in the Alert File parameter is used. True=enabled, False=disabled.
Alert File	The name of the plug-in file to be loaded: Notify.wav. If the plug-in is not located in the default file path (the same folder as the Call Center Elite Multichannel Desktop application), also specify the file path.
Telephony	
All Telephony parameters, except the following, are configured through Call Center Elite Multichannel Desktop's Options dialog box. For more information, see Telephony on page 30.	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASGUIHTelephonyPlugin.dll.
Fire Call Cleared Event For Transfer	If set to True, this setting fires the Call Cleared event to the Rules Plug-in when a call is transferred. This event can then be used to create customized rules. The default is False.
Fire Call Cleared Event For Conference	If set to True, this setting fires the Call Cleared event to the Rules Plug-in when a call is conferenced. This event can then be used to create customized rules. The default is False.
User	
All User parameters, except the following, are configured through Call Center Elite Multichannel Desktop's Options dialog box. For more information, see User on page 31.	

Field	Description
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASGUIHUserPlugin.dll.
Default Logout Reason Code	The reason code that will be selected by default when the agent logs out.
Default AUX Reason Code	The reason code that will be selected by default when the agent changes to Auxiliary mode.
Agent ID History	A list of the login IDs used by agents using Call Center Elite Multichannel Desktop on this machine. The list follows the following format: 3233 | 3234 | 3235.
Media Controller	
All Media Controller parameters, except the following, are configured through Call Center Elite Multichannel Desktop's Options dialog box. For more information, see Media Director on page 27.	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASMediaController.dll.
Enable Error Logging	A setting that allows you to write plug-in specific error information to the application's error log files. True=enabled, False=disabled.
Media Store List	This parameter allows Call Center Elite Multichannel Desktop to connect directly to one or more media stores without connecting to Media Director and therefore without consuming a Call Center Elite Multichannel
Multimedia license	It allows the user to retrieve work items from the Work Item History database without a license. Media stores are separated in the list by semi-colons. The list must follow the format: Media Store List=MediaType1|ServerIntanceID1|RemotingURL1;MediaType2|ServerIntanceID2|RemotingURL2. For example: Media Store List=1| aaaa4001-61db-4a2a-a21b-aa7647cbf3f4|gtcp:// Test11:29097/EmailMediaStore.rem.

Field	Description
Simple Messaging	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASSimpleMessagingPlugin.dll.
Enable Error Logging	A setting that allows you to write plug-in specific error information to the application's error log files. True=enabled, False=disabled.
Active Window on Work Item Accepted	A setting that automatically makes a simple messaging work item active when the agent answers the call. True=enabled, False=disabled.
Enable External Application	A setting that either enables or disables the launching of an external application when simple messaging work items are received. True=enabled, False=disabled.
External Application File Name	The name and file path of the external application you want to launch. If left blank, Call Center Elite Multichannel Desktop uses the application defined by External Application File Name in the External Application Execute section of this .ini file.
XML File Name	The name of the XML data file External Application Execute Plug-in creates to supply work item-related information to the external application. If left blank, Call Center Elite Multichannel Desktop uses the name defined by XML File Name in the External Application Execute section of this .ini file. By default, the XML file is stored using the path defined by XML File Path in the same External Application Execute section.
Close Simple Message Window Interval Seconds	The length of time, in seconds, a simple messaging work item will stay open after a customer has ended the conversation from their simple message interface (for example: MSN Messenger). If set to '0', the work item will not close until the agent manually closes it.
Enable Check As Type	A setting that forces Call Center Elite Multichannel Desktop to automatically check the spelling of words as you type them inside simple messaging work items. True=enabled, False=disabled.

Field	Description
External Application Container	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASExternalApplicationContainer.dll.
External Application Sections	A list of section names within this file that contain configuration settings to start external applications. Section names must be separated by commas. For example: External Application Sections=External Application 1,External Application 2
Incoming Call Default Application Section	You can set this parameter to specify which external application you want to open when there is an incoming call whose DistributingVDN parameter does not match with any of the values specified in the Incoming Call VDN List parameters. To specify the external application, state the name of the section containing its configuration settings. For example, Incoming Call Default Application Section=External Application 1.
External Application 1 and External Application 2	
External Application Name	The name of the external application you want to display within Call Center Elite Multichannel Desktop. If you do not want to display an external application, leave this parameter blank.
External Application Command Line	The command line Call Center Elite Multichannel Desktop will use to start the external application.
Title Text	The text that displays in the window's tab (if using a document window) or title bar (if using a tool window).
Display Delay Interval Seconds	The length of time, in seconds, it will take from the time the external application starts to the time it displays within Call Center Elite Multichannel Desktop. The delay gives your external application enough time to fully display before it changes its parent window to Call Center Elite Multichannel Desktop.
Allow To Close	A value that enables the user to close the external application. True=enabled, False=disabled.

Field	Description
Display In Tool Window	A value that determines if Call Center Elite Multichannel Desktop displays the external application within a tool window (flexible window that can move around the screen) or a document window (fixed window that cannot be moved). True=application appears in a tool window, False=application appears in a document window.
Allow Tool Window To Dock Left	If the Display In Tool Window parameter is enabled, this value, if set to True, allows you to dock the external application at the left of the screen.
Allow Tool Window To Dock Bottom	If the Display In Tool Window parameter is enabled, this value, if set to True, allows you to dock the external application at the bottom of the screen.
Allow Tool Window To Dock Right	If the Display In Tool Window parameter is enabled, this value, if set to True, allows you to dock the external application at the right of the screen.
Allow Tool Window To Dock Top	If the Display In Tool Window parameter is enabled, this value, if set to True, allows you to dock the external application at the top of the screen.
Launch Application When Host Started	If set to True, the external application will be launched in a window within Call Center Elite Multichannel Desktop when it is started.
Incoming Call VDN List	A comma-separated list of VDN extensions that will trigger this external application to start. If an agent receives an incoming call and the DistributingVDN parameter of the call delivered event matches one of the VDNs in the list, the window associated with this application will open. For example: Incoming Call VDN List=8542,8653.
Icon File Full Path	The name and file path to the icon that displays on the application title bar. If left blank, Call Center Elite Multichannel Desktop automatically uses a default icon located in the application's current working folder: ExternalApp.ICO

Field	Description
Tool Window Key	If the external application is set to appear in a tool window (Display In Tool Window is True), this setting records the window's position when Call Center Elite Multichannel Desktop closes and displays it in the same position when the application restarts.
Focus Application When Window Selected	If the external application is set to appear in a document window (Display In Tool Window is False) and this parameter is set to True, the external application is brought into focus (that means its toolbars and menus are immediately usable) when its window tab is clicked. If set to False, the user needs to manually click inside the application window to enable its functionality. The default is False.
Auto Text	
The plug-in specified in this section (ASAutoTextPlugin.dll) controls the activation of both the AutoText and Work Codes functionality within Call Center Elite Multichannel Desktop.	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASAutoTextPlugin.dll.
AutoText Toolbar Position	The position of the AutoText toolbar on the Desktop interface. There are following toolbar positions: • **TopFirst.** The first toolbar from top of the screen • **TopSecond.** The second toolbar from top of the screen • **Bottom.** The toolbar at the bottom of the screen
Work Codes Toolbar Position	The position of the Work Codes toolbar on the Desktop interface. There are following toolbar positions: • **TopFirst.** The first toolbar from top of the screen • **TopSecond.** The second toolbar from top of the screen • **Bottom.** The toolbar at the bottom of the screen

Field	Description
Voice Work Code File Name	The full path (including file name) to the .txt or .csv file AutoText Plug-in uses to generate work codes for voice work items.
Enable Auto Text Preview	If set to True, the agent will be able to preview the values assigned to all auto text and work code keys.
Auto Text Preview Delay Seconds	If auto text previewing is enabled, this parameter controls how long, in seconds, the agent must hover their mouse over the key before the value assigned to it can be viewed. The minimum length of time you can specify is 2 seconds.
Printing	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASPrintingPlugin.dll.
Toolbar Position	The position of the toolbar on the Desktop interface. There are following toolbar positions: • **TopFirst.** The first toolbar from top of the screen • **TopSecond.** The second toolbar from top of the screen • **Bottom.** The toolbar at the bottom of the screen
External Application Execute	
This plug-in allows you to transfer information from an incoming work item to another application. It copies information from the incoming work item and stores it in an XML file which is then sourced by the external application. The application launches independently of the Call Center Elite Multichannel Desktop interface.	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASExternalApplicationExecutePlugin.dll.
Enable Error Logging	A setting that allows you to write plug-in specific error information to the application's error log files. True=enabled, False=disabled.
Enable External Application	A setting that either enables or disables the launching of an external application when work items are received. True=enabled, False=disabled.

Field	Description
External Application File Name	The name and file path of the external application you want to launch. The default is: Notepad.exe. Note: If a different external application is configured to launch for a specific work item type (see External Application File Name within the Simple Messaging, Email and Preview Contact sections of this ini file), the application you specify here is ignored for that work item type.
XML File Name	The name of the XML data file External Application Execute Plug-in creates to supply work item-related information to the external application. Note: If a different XML file name is configured for a specific work item type (see XML File Name within the Simple Messaging, Email and Preview Contact sections of this ini file), the name you specify here is ignored for that work item type.
XML File Path	The full path to where the XML file is stored by the External Application Execute Plug-in and sourced by the external application. The default is: `C:\Program Files\Avaya\Avaya Aura CC Elite Multichannel\Desktop\CC Elite Multichannel Desktop\WorkItemXML`.
Delete XML Files On Exit	A setting that forces the External Application Execute Plug-in to delete the XML file when Call Center Elite Multichannel Desktop closes. True=enabled, False=disabled.
Session Notes	
All Session Notes parameters are configured through Call Center Elite Multichannel Desktop's Options dialog box. For more information, see Session Notes on page 29.	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASSessionNotesPlugin.dll.
Presence	
All Presence parameters are configured through Call Center Elite Multichannel Desktop's Options dialog box. For more information, see Presence on page 28. **Note:** Presence plug-in relies on a connection to IDS View Client to source information on station activity. Therefore, for this plug-in to work, you must also configure the [IDS View Client] section of this file.	

Field	Description
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASPresencePlugin.dll.
Close Suspend Work Item	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASWorkItemCloseSuspendPlugin.dll.
Toolbar Position	The position of the toolbar on the Desktop interface. There are following toolbar positions: • **TopFirst.** The first toolbar from top of the screen • **TopSecond.** The second toolbar from top of the screen • **Bottom.** The toolbar at the bottom of the screen
IDS View Client	
All IDS View Client parameters, except the following, are configured through Call Center Elite Multichannel Desktop's Options dialog box. For more information, see IDS View Client on page 35.	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASGUIHIDSViewClientPlugin.dll.
Server Instance ID	A unique identifier for the server application, which is created automatically when it runs for the first time.
Rules	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASRulesPlugin.dll.
Rules Engine File Name	The file path to the Rules Engine. By default, it searches for the control in the working folder of the Call Center Elite Multichannel Desktop application. \ASGRules.dll.

Field	Description
Show Rules Option On Tools Menu	When set to False, the Rules interface option is not available via the Tools menu.
Desktop Utility	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASDesktopUtilityPlugin.dll.
Wallboard	
All Wallboard parameters are configured through Call Center Elite Multichannel Desktop's Options dialog box. For more information, see Wallboard on page 42. **Note:** Wallboard plug-in relies on a connection to IDS View Client to source statistical information. Therefore, for this plug-in to work, you must also configure the [IDS View Client] section of this file.	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASWallboardPlugin.dll.
GN8120 Headset	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASGN8120HeadSetPlugin.dll.
Customized Forms	
This plug-in allows you to add one or more additional work forms to multimedia work items. These work forms, which are accessed via additional tabs on the side of a work item, are created via Call Center Elite Multichannel Control Panel. For more information, see *Avaya Aura® Call Center Elite Multichannel Control Panel User Guide*.	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASCustomizedFormsPlugin.dll.
Work Item Creation	
These plug-in parameters are reserved for future use.	

Field	Description
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASWorkItemCreation.dll.
New Work Item Toolbar Position	Reserved for future use.
ASTimeInAUXDisplay	
This plug-in adds a time counter to Call Center Elite Multichannel Desktop's status bar that displays how long the agent spends in any of the three work modes: Auxiliary, Available and After Call Work. When the agent changes mode, the counter resets.	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASTimeInAUXDisplay.dll.
ASDialEnhancement	
All Enhanced Dial parameters are configured through Call Center Elite Multichannel Desktop's Options dialog box. For more information, see Enhanced Dial on page 37.	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASDialEnhancement.dll.
ASQuickDial	
All Quick Dial parameters are configured through Call Center Elite Multichannel Desktop's Options dialog box. For more information, see Quick Dial on page 37.	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASQuickDial.dll.
Contact Management	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASContactManagementPlugin.dll.

Field	Description
User Defined Fields Group Text	The text you want to appear as the heading for your customized section of contact fields.
User Defined Field Selector Visible 1	If set to True, the agent will be able to use a drop-down list to assign this field another field name. If set to False, the drop-down option does not display.
User Defined Field Selector Visible 2	If set to True, the agent will be able to use a drop-down list to assign this field another field name. If set to False, the drop-down option does not display.
User Defined Field Selector Visible 3	If set to True, the agent will be able to use a drop-down list to assign this field another field name. If set to False, the drop-down option does not display.
User Defined Field Selector Visible 4	If set to True, the agent will be able to use a drop-down list to assign this field another field name. If set to False, the drop-down option does not display.
User Defined Field Selector Visible 5	If set to True, the agent will be able to use a drop-down list to assign this field another field name. If set to False, the drop-down option does not display.
User Defined Field Selector Visible 6	If set to True, the agent will be able to use a drop-down list to assign this field another field name. If set to False, the drop-down option does not display.
User Defined Field Selector Visible 7	If set to True, the agent will be able to use a drop-down list to assign this field another field name. If set to False, the drop-down option does not display.
User Defined Field Text 1	The name you want to give your first customized contact field.
User Defined Field Text 2	The name you want to give your second customized contact field.
User Defined Field Text 3	The name you want to give your third customized contact field.
User Defined Field Text 4	The name you want to give your fourth customized contact field.
User Defined Field Text 5	The name you want to give your fifth customized contact field.

Field	Description
User Defined Field Text 6	The name you want to give your sixth customized contact field.
User Defined Field Text 7	The name you want to give your seventh customized contact field.
Save Close Document Window	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASSaveClosePlugin.dll.
Python Breakout	
All Python Breakout parameters, except the following, are configured through Call Center Elite Multichannel Desktop's interface. For more information, see Integrate IronPython Script on page 62.	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASPythonBreakoutPlugin.dll
Python Library Path	The path to Python 2.4.3 library routines. If you selected a non-default path to install Python, replace this parameter's default value, c:\Python24\lib, with the path to the library files of your Python installation.
Show IronPython Option On Tools Menu	A setting that determines whether or not Python Breakout integration is part of the Call Center Elite Multichannel Desktop Tools menu.
ASCustomRulesButtons	
All Custom Buttons parameters are configured through Call Center Elite Multichannel Desktop's Options dialog box. For more information, see Custom Buttons on page 38.	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASCustomRulesButtons.dll.
MS CRM GUI Plugin	

Field	Description
All MS CRM GUI Plug-in parameters are configured through Call Center Elite Multichannel Desktop's Options dialog box. For more information, see Microsoft CRM on page 53.	
Assembly File Name	The name of the plug-in file to be loaded. If the plug-in is not located in the default file path (the same folder as the host application), also specify the file path. For this plug-in, use: ASMSCRMGuiPlugin.dll.

Appendix B: Command Line Parameters

Command Line Parameters

Applications that use Configuration Client (Desktop, Control Panel, Reporting) can be installed using command line parameters that dictate where Configuration Client will retrieve the application's configuration data.

The three possible configuration data sources are the:

- Configuration Server
- Local configuration file
- System registry

The application passes the information taken from the command line directly into the control. If a parameter exists in the command line, its value overrides information set within the container application. If a command line contains multiple entries for the same parameter, only the first instance is used.

The command line can contain the following command line parameters:

Application Name /z

Application Name is the name of the application (as configured in Configuration Server), which Configuration Client requests configuration information for.

Primary Server Name /s

Primary Server Name is the name of the primary Configuration Server that Configuration Client connects to for configuration information. This value can be the name of the server or the IP address of the server.

Alternatively, if you want to retrieve configuration information from the system registry, **Server Name** can be set to:

- **HKEY_LOCAL_MACHINE.** Configuration Client retrieves information from the local machine system registry.
- **HKEY_CURRENT_USER.** Configuration Client retrieves information from the local user system registry.

Primary Server Port /p

Primary Server Port is the primary TCP/IP port used for communication between the Configuration Server and the Configuration Client. When absent from the command line, the prescribed default, 29091, is used. The Server Port parameter enables you to override the default port.

Secondary Server Name /s2

Secondary Server Name is the name of the backup Configuration Server that Configuration Client connects to for configuration information. This value can be the name of the server or the IP address of the server.

Secondary Server Port /p2

Secondary Server Port is the backup TCP/IP port used for communication between the Configuration Server and the Configuration Client.

Configuration Filter /a

Configuration Filter is a compulsory parameter if you want to source configuration information from the Configuration Server.

A configuration filter is a name/value pair (or a combination of name/value pairs) that allows a user and their application's configuration profile to be identified and retrieved from the Configuration Server database.

A configuration filter is defined in the command line using a name=value format. Pairs are separated by semicolons:

```
Name1=Value1;Name2=Value2
```

Your command line can contain M=%%M or U=%%U, which are optional filters built into Configuration Server. When Configuration Client recognizes this text, it replaces %%M with the name of the system running the application and %%U with the user's network login name. As long as the user is in the database, these base filters are sufficient to locate their data.

M (Machine Name) and U (User Network Login Name) are not compulsory filters, in fact any other filter may be designed and added to a database to locate the user. For example a filter named Pswd could be set up with the user's password as the value.

Configuration Filter is not required when dealing with the system registry or local configuration file.

File Name /f

File Name is the name of the local file that contains configuration information. If a full file path is specified, Configuration Client points directly to the file. If only the file name is specified, Configuration Client looks for the file in the default directory in which the application is running.

The File Name and Server Name command line parameters are not mutually exclusive. If both are found in the command line, the Server Name takes precedence. If the server cannot be contacted, Configuration Client attempts to extract information from the specified configuration file.

Logging State /t

Error logging for Configuration Client can be enabled by setting the Logging State parameter to true (/t True). Logged errors are sent to a file in the application's directory under the name 'ConfigErrorLog.txt'. When the Logging State parameter is absent from the command line, error logging is disabled.

Password Encryption /pwd

The automatic encryption on data associated with configuration parameter names that contain the (case insensitive) strings Password or Passwd can be turned off by setting the Password Encryption parameter to false (/pwd false). In this case, configuration data must be explicitly encrypted by the user inserting %%ENCRYPT commands. The /pwd parameter must be lowercase.

Command Line Format

Command lines must follow a set format, using spaces and quotation marks only where shown. Parameters are set in their own quotation marks and are preceded by the /z argument, which modifies the shortcut.

Here are some examples:

```
"C:\Program Files\Avaya\Avaya Aura CC Elite Multichannel\Desktop\CC
Elite Multichannel Desktop\ASGUIHost.exe" /z CC Elite Multichannel
Desktop /s 148.147.170.191 /p 29091/a M=%%M
```

Note:
The /z argument (as opposed to the Application Name /z parameter) is only present in command lines used during installation.

Configuration Commands

%%ENCRYPT and %%ENCRYPTED

The %%ENCRYPT command can be included as part of any configuration data value. %%ENCRYPT assumes the data following it is normal, non-encrypted text. This data will be automatically encrypted on the writing of the configuration data and the command will be changed to %%ENCRYPTED. For example:

```
Parameter = %%ENCRYPT("security-sensitive data")
```

This is immediately written back to the source as:

```
Parameter =
%%ENCRYPTED("2D93DB9A3F5030832492A9280E691D4009E5E152AED457324CE05C825
C8DB490F28472EE55CF4334D4B63F03DE4ECAE26CE5")
```

Note:
Data can be entered as above in any configuration source (ini file, registry or Configuration Server).

The %%ENCRYPTED command indicates the data is already encrypted and will be decrypted as needed by the Call Center Elite Multichannel application. However, it will always remain encrypted in the configuration file.

By default Configuration Client will automatically insert and use the %%ENCRYPT command on the data associated with all configuration names that contain the (case insensitive) strings Password or Passwd. This default behavior can be turned off by a command line (/PWD) parameter, in which case all sensitive configuration data must be explicitly encrypted by the user inserting %%ENCRYPT commands.

If a parameter string contains a password, encrypt the entire string. For example:

```
Connection String = %%ENCRYPT("Provider=SQLOLEDB.1;Password=;Persist
Security Info=True;User ID=ActiveContactManager;Initial
Catalog=ActiveContact;Data Source=ServerName")
```

Specify Configuration Server as Data Source during Installation

Use this procedure to install a desktop application and to specify that configuration information should be sourced from the Configuration Server.

The command line functionality used in this procedure is only available for application's that use Configuration Client (Desktop, Control Panel, Reporting).

This procedure is also useful if you want to specify configuration filters other than %%M and %%U.

1. Close any applications you have open.
2. Run Setup.exe in the command line with the /z argument and specify the location of your configuration data.
   - This example will retrieve configuration data from the Configuration Server based on the local system name. The server has the IP address `148.147.170.191`.

     ```
     "C:\Program Files\Avaya\Avaya Aura CC Elite Multichannel\
     Desktop\CC Elite Multichannel Desktop\ASGUIHost.exe" /z CC
     Elite Multichannel Desktop /s 148.147.170.191 /p 29091/a M=%%M
     ```

   Note:
   You must follow the same command line format, using spaces and quotation marks only where shown.

   - This example will retrieve configuration data from the Configuration Server based on the user network login name:

     ```
     "C:\Program Files\Avaya\Avaya Aura CC Elite Multichannel\
     Desktop\CC Elite Multichannel Desktop\ASGUIHost.exe" /z CC
     Elite Multichannel Desktop /s 148.147.170.191 /p 29091/a U=%%U
     ```

   - This example will retrieve configuration data from the Configuration Server (named Mickey) on the TCP/IP port number 29095 using the configuration filter Machine01:

     ```
     "C:\Program Files\Avaya\Avaya Aura CC Elite Multichannel\
     Desktop\CC Elite Multichannel Desktop\ASGUIHost.exe" /z CC
     Elite Multichannel Desktop /s 148.147.170.191 /p 29091/a M=%%M
     ```

3. Follow the installation procedure instructed by the application's InstallShield.

Specify .ini on Shared Network as Data Source during Installation

Use this procedure to install a desktop application and to specify that configuration information should be sourced from an .ini file on a shared server.

Note:
The following command line functionality is only available for application's that use Configuration Client (Desktop, Control Panel, Reporting).

1. Close any applications you have open.

2. Run Setup.exe in the command line with the /z argument and specify the location of your configuration data.
   - This example will retrieve configuration data from a shared network (S).

     ```
     "C:\Program Files\Avaya\Avaya Aura CC Elite Multichannel\
     Desktop\CC Elite Multichannel Desktop\ASGUIHost.exe" /z CC
     Elite Multichannel Desktop /s 148.147.170.191 /p 29091/a M=%%M
     ```

   Note:
   You must follow the same command line format, using spaces and quotation marks only where shown.

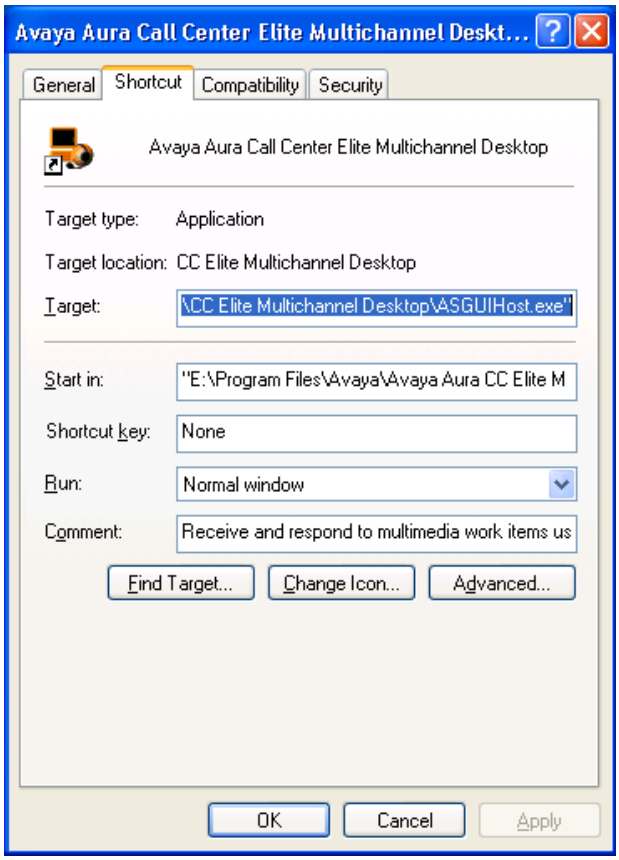
   If you plan to store ini files for several users in the same network folder, name the file for identification, for example, `ASGUIHost_TS.ini`.
3. Follow the installation procedure instructed by the application's InstallShield.

Change Data Source from .ini to Configuration Server

Use this procedure if you have already installed an application and would like to instruct it to retrieve its configuration data from the Configuration Server (rather than the .ini file which it uses by default).

This procedure is particularly useful if Agent is sourcing its configuration data from Configuration Server and you want Agent Administrator to point to the same data location. This ensures any configuration changes made via Agent Administrator are saved to Configuration Server and not the local .ini file. This is particularly important in contact centers where agent's maintain their own personal phonebook.

1. Right-click the `CC Elite Multichannel` Desktop shortcut and select **Properties**.



2. In the **Target** text box, add the command line details of your Configuration Server.

   - This example retrieves configuration data from the Configuration Server based on the local system name. The server has the IP address `148.147.170.191`.

     ```
     "C:\Program Files\Avaya\Avaya Aura CC Elite Multichannel\
     Desktop\CC Elite Multichannel Desktop\ASGUIHost.exe" /z CC
     Elite Multichannel Desktop /s 148.147.170.191 /p 29091/a M=%%M.
     ```

Note:
You must follow the same command line format, using spaces and quotation marks only where shown.

   - This example retrieves configuration data from the Configuration Server based on the user network login name.

     ```
     "C:\Program Files\Avaya\Avaya Aura CC Elite Multichannel\
     Desktop\CC Elite Multichannel Desktop\ASGUIHost.exe" /z CC
     Elite Multichannel Desktop /s 148.147.170.191 /p 29091/a U=%%U
     ```

Run Silent Install

Use this procedure if you want to automatically (silently) install a Call Center Elite Multichannel application following a set of pre-defined selection options.

1. Create a folder on your system or shared network server
2. Copy all folders and contents from the Call Center Elite Multichannel installer to this newly created folder.

   This creates a complete folder structure as available in the Call Center Elite Multichannel installer.

   Note:
   The complete folder structure is required for some of the applications to retrieve components in the `Utilities` folder.

   Note:
   For Agent, you must also copy the ASGRules.dll from the **`Utilities\Plug-ins`** folder to the Plug-ins folder.
3. To record the silent install:
   a. Run `Setup.exe` in the command line with the -r command parameter. For example: **`"C:\Temp\Avaya Aura CC Elite Multichannel\Desktop\CC Elite Multichannel Desktop\setup.exe" -r`**.
   b. Locate the Setup.iss file generated by the -r command parameter (see your Windows directory, for example, C:\Windows) and copy it into the folder you created in step 1, replacing the default **`Setup.iss`** file if any.
4. To initiate the silent install, run `Setup.exe` in the command line with the -s command parameter: For example: **`"C:\Temp\Avaya Aura CC Elite Multichannel\Desktop\CC Elite Multichannel Desktop\setup.exe" -s`**.

Appendix C: Configuration Data Commands

Overview

Configuration data commands allow you to tell Configuration Client that further processing of the configuration data is required. When Configuration Client loads configuration data from the specified source, it will then perform a further processing step before making the data available to the controlling application.

Because these commands are processed at client level, they are available regardless of whether the data is located in a configuration file, the system registry or Configuration Server.

Token delimiter

Configuration data that must be processed further is identified by the default token "%%". (If desired, you can, via the command line, change the token value from "%%" to something else.)

This token can appear at any point within the configuration data. Text that follows the token identifies the action (command) required by Configuration Client and the parameters for that action. Multiple commands can appear in a single configuration data item (see "Nested Commands" on page 266). Commands are resolved from right to left.

Configuration data commands are supported by a limited number of keywords that give access to system-specific variables.

Text that appears before the token but after the item identifier is treated as a string literal.

Example

In the following example, DeviceName takes the configuration value "Minnie And Mickey"

[MainData]

DeviceName = Minnie %%STRCAT(" And", " Mickey")

Commands

Configuration Client supports the following configuration data commands. Command names are case sensitive.

When an unknown command is discovered, the result is an empty string, (""). If this command is used to determine a piece of data used as the input for another calculation, an empty string is used.

All commands have parameters enclosed by an open/close pair of brackets.

LOOKUP

The LOOKUP command retrieves a matching value from another section within the current configuration set. This allows a section to be included within the configuration set that lists dynamic data to replace a static configuration value. A common example of this is to allow a single configuration set to serve an entire call center for an application such as Agent. Each user that logs on will have the MyDN data item modified based on the name of the computer the agent is using.

Syntax

```
%%LOOKUP(SECTION, ITEM)
```

Where SECTION is the section within the current configuration data that holds the match for the data specified by the ITEM variable. The SECTION and ITEM parameters can be either a string literal or a keyword.

Example 1

The following example results in the station parameter having the value 8572:

```
[MainData]
Station = %%LOOKUP("Lookupdata", "SomeStationData")
[Lookupdata]
SomeStationData = 8572
```

Example 2

The following example results in the station parameter having the value 8572 when the configuration data is loaded on the BAGLEYACER system:

```
[MainData]
Station = %%LOOKUP("Lookupdata", COMPUTERNAME)
[Lookupdata]
BAGLEYACER = 8572
```

Example 3

The following example results in the station parameter having the value 8572 when the configuration data is loaded on a system that has an environment variable named MyEnvironmentVariable equal to the value BAGLEYACER.

```
[MainData]
Station = %%LOOKUP("Lookupdata",WINENV("MyEnvironmentVariable"))
[Lookupdata]
BAGLEYACER = 8572
```

WINENV

The WINENV command retrieves a matching value from the Windows system environment.

Syntax

```
%%WINENV( VARIABLENAME)
```

Where VARIABLENAME is the name of the system environment variable. The section parameter can be either a string literal or a keyword.

Example

The following example results in the station parameter having the value contained in the environment variable MyEnvironmentVariable.

```
[MainData]
Station = %%WINENV("MyEnviornment Variable")
```

ENCRYPT

The ENCRYPT command allows Configuration Client to encrypt or decrypt a piece of configuration data.

If the data cannot be decrypted when the configuration file is loaded, it is presented to the user unchanged. It is assumed the data has not been encrypted and that it will be by Configuration Client at the next save.

Syntax

```
%%ENCRYPT(ENCRYPTEDDATA)
```

Example

The following example results in the user password being filled with the unencrypted data specified.

```
[MainData]
UserPassword = %%ENCRYPT("9385d3fa18f4e2a1")
```

STRCAT

The STRCAT command joins two pieces of data together to form a single piece of data.

Syntax

%%STRCAT(DATA1,DATA2)

The result is the string sum of DATA1 and DATA2.

Example

The following example results in the PersonalPhonebook configuration data being dynamically produced from some static text and the name of the logged in user.

```
[MainData]
PersonalPhoneBook = %%STRCAT("c:\phonebooks\",USERNAME)
```

SUBSTR

The SUBSTR command extracts a piece of text from another, longer, piece of text.

Syntax

%%SUBSTR(DATA,START,COUNT)

The resultant data will be the portion of the string DATA starting from the character START and including COUNT characters. If START is a number greater than the length of DATA or is a negative value, the result will be an empty string. If the value of START + COUNT is greater than the length of DATA, the result will be the portion of the string DATA from the position START to the end of DATA.

Example

The following example results in the configuration data "The" being dynamically produced from the static text "The Rain In Spain". The first parameter is the string the text is extracted from. The second parameter is the start position, and the third parameter is the number of characters that are selected.

```
temp1 = %%SUBSTR("The Rain In Spain","0","3")
```

Keywords

Keywords are place holders to string literal values. Configuration Client replaces these keywords when the data is passed. Keywords are case sensitive.

Keywords may be used by themselves in the configuration data set or as parameters to valid commands. When used alone, they must be preceded by the token delimiter. Invalid keywords are treated as empty strings.

```
[MainData]

MyMachine = %%COMPUTERNAME
```

COMPUTERNAME

Configuration Client replaces the COMPUTERNAME keyword with the value of the network system name. If the system is unnamed, this field is empty.

IPADDRESS

Configuration Client replaces the IPADDRESS keyword with the value of the IP Address retrieved from the network configuration. If the system is multi-homed, the first network setting is used.

USERNAME

Configuration Client replaces the USERNAME keyword with the value of the currently logged-in user name. If there is no logged-in user, this field is empty.

TIME

Configuration Client replaces the TIME keyword with the current system time. This time is resolved to seconds and is formatted in accordance with the configured locale.

DATE

Configuration Client replaces the DATE keyword with the current system date. This date is formatted in accordance with the configured locale.

CWD

The CWD keyword is replaced with the current working directory for the loading module.

WINDIR

The WINDIR keyword is replaced with the Windows directory.

WINSYSDIR

The WINSYSDIR keyword is replaced with the Windows System directory.

WINTEMPDIR

The WINTEMPDIR keyword is replaced with the Windows temporary directory. This value is defined as:

Windows 95/98/Me: The function gets the temporary file path as follows:

1. The path specified by the TMP environment variable.
2. The path specified by the TEMP environment variable, if TMP is not defined or if TMP specifies a directory that does not exist.
3. The current directory, if both TMP and TEMP are not defined or specify non-existent directories.

Windows NT/2000/XP: The function gets the temporary file path as follows:

1. The path specified by the TMP environment variable.
2. The path specified by the TEMP environment variable, if TMP is not defined.
3. The Windows directory, if both TMP and TEMP are not defined.

Literal Data Support

Data within quotation marks ("") is treated as literal data and is not processed further. Literal values can be accepted as parameters to all commands.

Nested Commands

Configuration Client allows multiple commands to be placed on a single configuration item. Configuration commands are separated at runtime and processed in a right to left manner.

A configuration item that includes invalid command data has resultant data set to an empty string.

Example

The following example builds a DeviceName configuration variable made from the environment variables: user name and computer name, joined by the "@" symbol.

```
[MainData]
DeviceName = %%STRCAT(WINENV("USERNAME"), STRCAT("@",COMPUTERNAME))
```

Recursive Loop Protection

The possibility exists for a configuration token to refer to itself when being passed. This could potentially cause a loop that does not end, at least not gracefully. A loop can exist in a simple direct relationship or may exist many layers deep. To prevent these loops occurring, no resolution sequence should make more than a fixed (for example, 20) number of jumps to other configuration items. This constraint will be placed on the LOOKUP command.

Single level loops can be easily detected and avoided.

Example

```
[MainData]
UserPassword = %%LOOKUP("MainData", "UserPassword")
```

Resolution Precedence/Reentrancy

It is possible for a configuration item that is being resolved to refer to another configuration item that also requires resolution; and for this item, in turn, to refer to a third item that also requires resolution. This pattern could result in many levels of indirection until a static node is reached. Configuration Client supports up to 20 levels.

Configuration set command resolution starts from the root node and works progressively through all sub nodes.

Include Directive

In some scenarios, it is desirable to import other files with configuration data into the main configuration set. For example, in a hot-seating environment, a local configuration set may include a list of system names/phone number combinations that are used in a lookup command. This list may be stored in a common location like a network drive.

This functionality is enabled using a directive "include".

Syntax

#include c:\temp\computerlist.dat

Rules for Use

The directive may exist anywhere in the base configuration set.

Multiple include directives are supported in the base configuration set.

Nested "includes" are not supported (for example, an included file cannot include another file).

Include files are processed after the base configuration is loaded, and are processed in the order they are listed.

Configuration data commands are processed after the included files have been added to the data set.

Configuration data loaded from included files is not saved to the original file or with the base configuration set when the Save method is called. Changes to configuration data key/value pairs made by the application are lost when the application exits.

Included files must follow the same key/value pair format expected for configuration data.

INCLUDE_CONFIGURATION

To call a file from within Configuration Server, a key is required (it doesn't matter what it is) and the value needs to be the location of the file.

Appendix D: Default Port Numbers

Many Call Center Elite Multichannel applications rely on TCP/IP for communication between servers and clients or between different servers. The port numbers in this appendix are included in the default configuration set installed with those applications.

For multimedia applications, these port numbers are used by the .Net remoting gtcp channel.

The Call Center Elite Multichannel port range is 29070 to 29099. Developers are free to choose free ports within this range or, if necessary, ports that fall outside this range.

This section includes the following topics:

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- AOL-ICQ Instant Messenger Gateway on page 226
- Application Management Service on page 226
- Configuration Server on page 227
- Email Media Store on page 227
- Interaction Data Service on page 227
- License Director on page 228
- Media Director on page 229
- Media Proxy on page 229
- Media Proxy (Windows Service) on page 229
- MSN Messenger Gateway on page 229
- Preview Contact Media Store on page 230
- Short Message Service Gateway on page 230
- Simple Messaging Media Store on page 230
- Virtual Agent on page 230
- Voice Media Store on page 231
- Web Chat Gateway on page 231
- XML Server on page 231
- WebLM Server on page 232
- Voice Portal Management Server on page 232
- Call Recording on page 232
- TTrace Server on page 232

- SQL Server on page 233

Advanced Microsoft CRM Connector

The Realtime Phonebook Synchronizer component installed on the Microsoft CRM Server uses multicasting to send Contact and Account updates to all Call Center Elite Multichannel Desktops. This allows the cached phonebook (contacts and accounts phone numbers with non-numerics stripped out) to be up-to-date in real-time. If multicasting is not allowed in your network, please disable multicasting in Call Center Elite Multichannel Desktop so that the cached phonebook can be refreshed every hour by default.

Multicast group address	239.29.9.67
Multicast group port	29027

AOL-ICQ Instant Messenger Gateway

AOL-ICQ Instant Messenger Gateway interfaces remote media services to Simple Messaging Media Store. It creates a .Net remoting channel using the following pre-defined port:

.Net Remoting connections	29065

Application Management Service

Application Management Service uses multicasting to locate and identify Call Center Elite Multichannel applications that are running on the network. All applications join the multicast group at the specified IP address/port. Application Management Service broadcasts the IP address and port number that it can be contacted on. This port can be specified by the administrator but will default to the value specified.

Multicast group address	239.29.9.67
Multicast group port	29075
Remoting object	29074

Configuration Server

Configuration Server receives inbound client connections for configuration data.

Client connections (inbound)	29091

Email Media Store

Email Media Store accepts remoting connections on the following predefined port.

.Net Remoting connections	29097

Interaction Data Service

Interaction Data Server - Voice and Presence

Interaction Data Server - Voice and Presence receives connections from various Call Center Elite Multichannel applications and Media Director. It receives, via these connections, data that allows voice calls to be reported on.

Client/server connections (inbound)	29090
Remoting object for management	29068

Interaction Data Server - Multimedia

Interaction Data Server - Multimedia accepts inbound connections from Media Director as well as various media stores and gateways. It receives, via these connections, data that allows the flow of media tasks to be reported on.

Client connections (inbound)	29081
Multicast group port	29078
Remoting object for management	29077

Interaction Data Server - View

Interaction Data Server - View is a single point of connection for applications that wish to extract data from the Interaction Data Server - Voice and Presence and Interaction Data Server - Multimedia. Initial connection will be made via the client connection port, however data that is being consumed via multiple clients may be distributed via the multicast functionality.

Multicast group address	239.29.9.67
Multicast group port	29084
Client connections (inbound)	29083
Remoting object for management	29076

License Director

License Director receives client connections on a single port for licensing.

Client connections (inbound)	29095
Remoting object for management	29073

Media Director

Media Director accepts .Net remoting connections from both clients and media stores. The following port number is required for both these connections.

.Net Remoting connections	29087

Media Proxy

Media Proxy runs at the agent desktop to distribute remoting information from the Media Director to the various client applications. Client applications connect to the Media Proxy on the local system through the following port number.

.Net Remoting connections	29086

Media Proxy (Windows Service)

Media Proxy runs at the agent desktop to distribute remoting information from the Media Director to the various client applications. Client applications connect to the Media Proxy on the local system through the following port number. This performs the same function as the Media Proxy above but runs as a Windows Service.

.Net Remoting connections	29079

MSN Messenger Gateway

MSN Messenger Gateway interfaces remote media services to Simple Messaging Media Store. It creates a .Net remoting channel using the following pre-defined port:

.Net Remoting connections	29066

Preview Contact Media Store

Preview Contact Media Store accepts remoting connections on the following predefined port.

.Net Remoting connections	29098

Short Message Service Gateway

Short Message Service Gateway interfaces remote media services to Simple Messaging Media Store. It creates a .Net remoting channel using the following pre-defined port:

.Net Remoting connections	29064

Simple Messaging Media Store

Simple Messaging Media Store accepts connections from Call Center Elite Multichannel gateways.

.Net Remoting connections	29085

Virtual Agent

Virtual Agent accepts remoting connections on the following predefined port.

.Net Remoting connections	29056

Voice Media Store

Voice Media Store accepts remoting connections on the following predefined port.

.Net Remoting connections	29072

Web Chat Gateway

Web Chat Gateway interfaces remote media services to Simple Messaging Media Store. It creates a .Net remoting channel using the following pre-defined port:

.Net Remoting connections	29063

XML Server

XML Server uses one port. It is assigned to an XML naming service to operate in a similar manner to the current Avaya AES naming service on port 450. Clients will connect to this port to receive a list of real IP Address/Port combinations that can be connected to for service.

The telephony connections represent a connection to an Avaya AES stream. These will have a single IP Port (XML Client Port) for each Avaya AES Stream and will ideally be taken from the OS free pool on server startup. These port numbers will be dynamic in the 1024-5000 range. Information on the correct (current) port will be provided to the client through the static naming service port. In this manner, the connection in the client can be name based and not rely on a static IP Address/IP Port. This naming facility also allows there to be a discovery process to locate services on a specific system.

Optionally, you can define XML Client Port to a fix value.

Name Service connections	29096
Remoting object for management	29069
XML Client Port	1024-5000

WebLM Server

WebLM server accepts remote connections on the following SSL port.

SSL	52233

Voice Portal Management Server

The Voice Portal service exposes a remoting port for management purposes.

Remoting Object for Management	29110

Call Recording

The Call recording Config Service exposes a remoting port for management purposes.

Remoting Object for Management	29120

TTrace Server

TTrace Server uses a Socket port for the connection of an application to the TTrace server.

The second Socket Port is used for the connection of the TTrace Console to TTrace Server and the third port is used for data connection.

Application connection	10400
TTrace Console connection	10401
TTrace Data connection	10403

SQL Server

The MS SQL server uses the SQL server port.

Default Port Number	1433

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