Avaya Aura® Call Center Elite Multichannel Overview

Release 6.2.3/6.2.5
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Preface

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Purpose

The purpose of this guide is to provide an overview of the Call Center Elite Multichannel Feature, which is being offered as a Feature Pack with Avaya Aura® Call Center Elite Multichannel Release 6.2.3/6.2.5.

Intended Audience

This guide is intended primarily for customers using the Call Center Elite Multichannel Feature. You can use this guide as an information source for components, servers, databases, gateways, and plug-ins that the Call Center Elite Multichannel Feature provides.

Related documents

You can also refer the following documents in the Call Center Elite Multichannel Feature documentation set:

***Avaya Aura® Call Center Elite Multichannel Desktop User Guide*:** This guide provides information about Call Center Elite Multichannel Desktop interface and how an agent can handle multi-media work items using the Desktop interface.

Avaya Aura® Call Center Elite Multichannel Control Panel User Guide: This guide provides information about the Call Center Elite Multichannel Control Panel interface and how you can view, configure, and manage the servers, databases, and services using the Control Panel interface.

Avaya Aura® Call Center Elite Multichannel Reporting User Guide: This guide provides information about the Call Center Elite Multichannel Reporting interface and how you can view detailed reports of customers, agents, and work items.

Avaya Aura® Call Center Elite Multichannel Installation Guide: This document provides prerequisites, installing, and configuring instructions of various components, such as servers, media stores, gateways, databases in the Call Center Elite Multichannel Feature.

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 works on Microsoft Windows operating system. Companies can use the Call Center Elite Multichannel Feature to change one-dimension call centers into powerful multi-media contact centers.

Using the phantom call capability feature supported by Avaya Communication Manager switches in Call Center Elite Multichannel 6.2, agents can communicate through various options, such as phone, email, text, or instant messaging.

Whether your customer likes sending messages from the phone, sending emails, or chatting over the internet, their method of communication will be treated exactly the same as a traditional phone call, which will be placed in a priority queue and distributed to an agent with relevant skills and knowledge. The agent can reply using the same method of contact, conducting a helpful conversation, just like you would 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 customization and integration
- Simple and fast wizards for desktop screen pop-ups and routing rules

The components of Call Center Elite Multichannel fall into the following major categories:

- **Desktop**
    - Call Center Elite Multichannel Desktop
    - Supervisor
    - Call Center Elite Multichannel Reporting
    - Call Center Elite Multichannel Control Panel
- **Server**
    - Application Management Director
    - License Director
    - Call Routing
    - Configuration
    - Task Director
    - Media Director

- XML
- Virtual Agent
- Voice Portal Config
- Call Recording Config Service
- Interaction Data Service
  - Interaction Data Server - Multimedia
  - Interaction Data Server - Voice and Presence
  - Interaction Data Server - View
- Media Stores
  - Preview Contact
  - Simple Messaging
  - Email
  - Voice
- Gateways
  - Web Chat
  - MSN Messenger
  - AOL-ICQ Instant Messenger
  - Communicator
  - Short Message Service
  - XMPP
- Plug-ins
  - SQL
  - Rules
  - SOAP
  - Script
- Trace System
  - TTrace Console
  - TTrace Config
  - TTrace Log2Zip
- Databases
  - ASContact
- **Developer** - Developer

Multimedia Overview

Call Center Elite Multichannel multimedia technology uses the phantom call capabilities of your switch to deliver non-voice work items to contact center agents. Phantom calls are those generated by a CTI (Computer Telephony Integration) application that have no physical station as the originating point.

The multimedia suite blends email and web-based customer inquiries with inbound telephone calls. It also distributes internally held customer records to agents, prompting them to initiate contact with customers by phone.

Email inquiries and outbound call requests can be controlled to coincide with different shifts, quieter times of the day (low-peak call times) and times of the day when it is easier to contact customers.

Multimedia technology allows you to give queuing priority to inquiries from special customers. It also allows you to reject messages from certain customers.

Multimedia work items are generated and distributed using the following Call Center Elite Multichannel products:

- Media Director
- Media Proxy
- Email Media Store
- Preview Contact Media Store
- Simple Messaging Media Store
- MSN Messenger Gateway
- AOL-ICQ Instant Messenger Gateway
- Web Chat Gateway
- Short Message Service Gateway

An agent can view the multimedia work items using the Call Center Elite Multichannel Desktop interface.

Interoperability matrix

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

Product Name	Release No.
Avaya Aura® Application Enablement Services	5.2, 6.1, 6.2
Call Center Elite	4.0, 5.0
Avaya Aura® Call Center Elite	5.2, 6.0, 6.2
Communication Manager	4.0, 5.2
Avaya Aura® Communication Manager	5.2.1, 6.2
Call Management System	15.0, 16.1, 16.3
Voice Portal	5.1
Avaya Aura® Experience Portal	6.0

Chapter 2: Components

This chapter provides information about the Avaya Aura® Call Center Elite Multichannel Multichannel components, sub-components, and their functions.

This section contains the following topics:

Call Center Elite Multichannel Desktop

Call Center Elite Multichannel Desktop is the flagship desktop component for presenting multimedia work items to agents. Call Center Elite Multichannel Desktop uses plug-ins to give agents all they need on one screen.

Without leaving the Call Center Elite Multichannel Desktop interface, agents can:

- receive and reply to work items from customers who make contact using:
    - telephone
    - email
    - web chat
    - MSN Messenger
    - AOL or ICQ Instant Messenger
    - simple message service (SMS)
- record specific, work item-related notes as well as general, session-related notes
- work quickly and efficiently by inserting auto text, spell checking their work and printing work items
- view the conversation history of the customer they are dealing with
- search a directory for a phone number or email address
- view real-time statistical information on their personal work performance
- monitor the telephone activity of other call center agents or staff they work closely with.
- record their conversation with the customer and replay the recorded calls later

Call Center Elite Multichannel Desktop also distributes internally held customer records to agents, prompting them to initiate contact with customers by phone.

In the Call Center Elite Multichannel Desktop interface, agents can access the external applications, such as Internet Explorer and Microsoft CRM without minimizing their work screen. However, you can configure Call Center Elite Multichannel Desktop to run the external applications in a separate window.
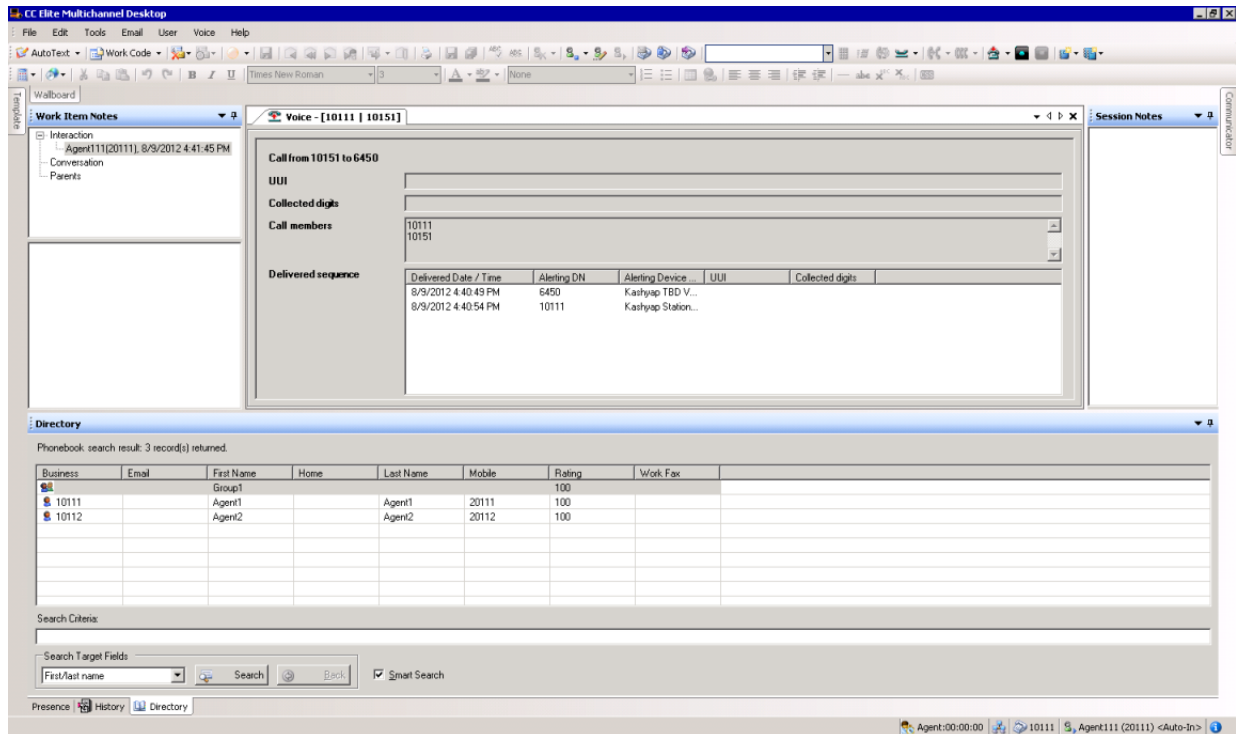
Call Center Elite Multichannel Desktop also offers a complete range of telephony functions by which agents can use their screen and mouse to:

- Make a call
- Answer a call
- End a call
- Hold a call
- Divert calls
- Send DTMF tones
- Transfer a call
- Conference a call with up to six members
- Drop yourself or another party from a conference call
- Forward all incoming calls to voicemail or another extension

- Record a call
- Replay the recorded call

What's more, if your company chooses to integrate Avaya iClarity with Call Center Elite Multichannel Desktop, agents can complete their telephony tasks using voice over IP functionality. When an agent makes or receives a call, agents can speak to and hear the other party through a headset connected to their PC or the built-in microphone and speakers of the PC.

Call Center Elite Multichannel Desktop is available in following languages.

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

Supervisor

Supervisor is a plug-in available with Call Center Elite Multichannel Desktop. Using the Supervisor plug-in, contact center supervisors can monitor the call activity of a group of ten or less agents.

Supervisor can also:

- See an agent's request for help
- Join a call as an observer (the supervisor can hear the conversation but the agent and customer cannot hear the supervisor)
- Join a call as a coach (only the agent can hear and talk to the supervisor)
- Join a call as a participant (the agent and customer can hear and talk to the supervisor)
- View the current state of each agent
- Record a call
- Replay the recorded call

Connecting to the Interaction Data Server - Voice and Presence, supervisors can:

- View statistics on the average length of time an agent is spending in After Call Work (ACW) and Available modes
- View statistics on the number of calls the agent has taken
- Send text-based messages to agents

- Send call-related data to the Interaction Data Server - Voice and Presence and agents

Supervisor displays data in a simple tree-view and uses color coding to communicate information about agents and calls.
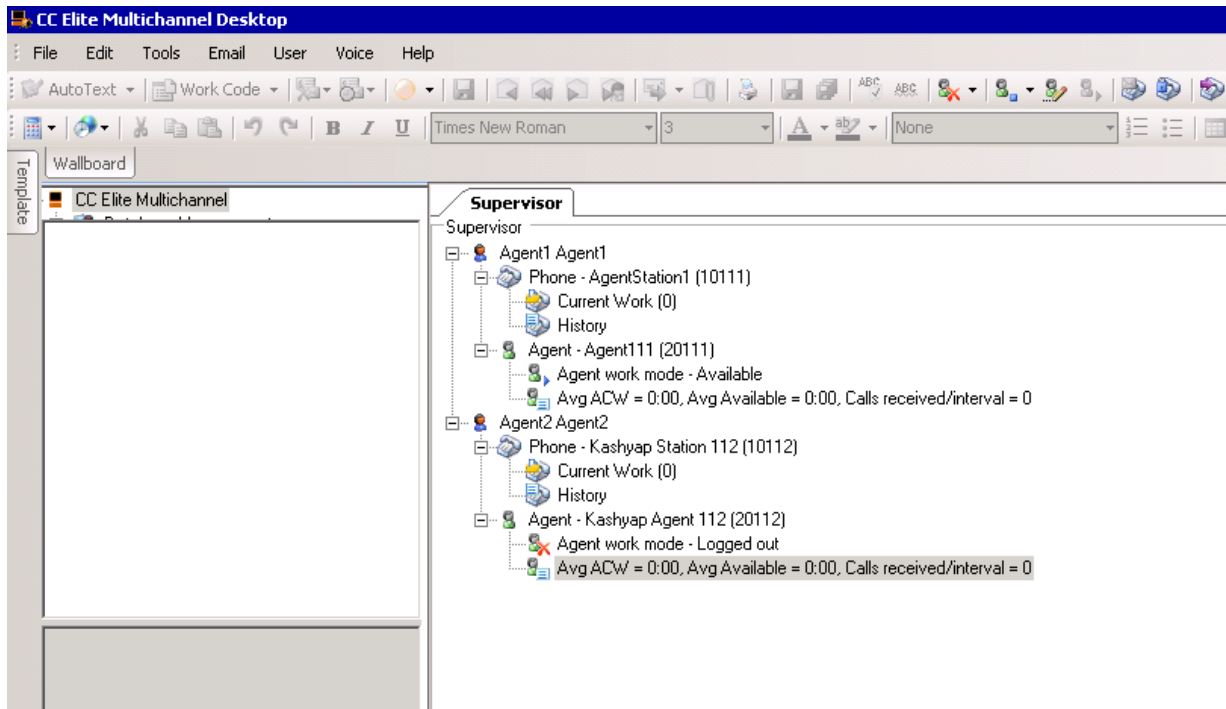
Agent names are derived from the application's configuration if no agent name has been associated with the station in the switch. If an agent name has been specified in the switch, then that name takes precedence.

Call Center Elite Multichannel Control Panel

Call Center Elite Multichannel Control Panel is the user interface that allows you to configure and manage all Call Center Elite Multichannel media stores, License Directors, XML Servers and Media Directors. It also allows you to add and manage data in the `ASMediaStore` and `ASContact` databases.

Call Center Elite Multichannel Control Panel receives information from the Application Management Director, an application that runs in a Microsoft server environment and gathers status and health information about Call Center Elite Multichannel servers. Call Center Elite Multichannel Control Panel connects to Application Management Director to display that information in graphical tree structure.
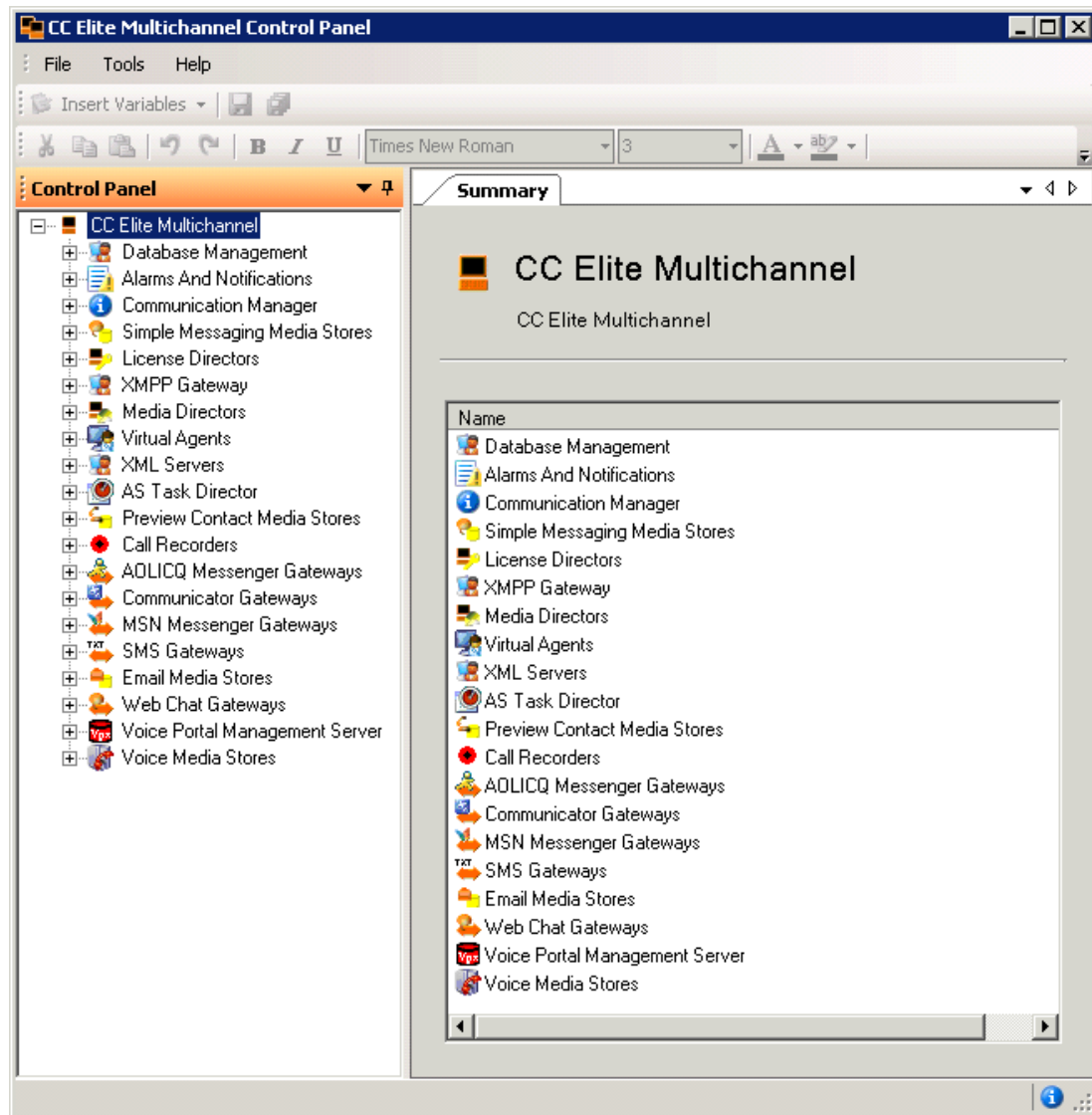
Connections to Application Management Director are established either by multicast functionality or the pre-configured data from the configuration set or both. When a connection is established to Application Management Director, Call Center Elite Multichannel Control Panel indicates that it is a management interface and asks the Application Management Director to send a complete list of available information. The control panel receives a collection of XML documents that allow it to accurately display that information within a hierarchical node structure.

Call Center Elite Multichannel Reporting

Call Center Elite Multichannel Reporting allows you to visually evaluate the activity of your Call Center Elite Multichannel contact center. It is an easy-to-use reporting application for managers and administrators, who want to examine all facets of their multimedia environment, including:

- Which customers make contact
- How customers make contact
- How often they make contact
- How customers are treated (e.g. how long they wait for their inquiry to be answered)
- How you could restructure your staffing according to the busiest periods of the day
- How successful various methods of contact are (email vs. simple messaging vs. voice)
- How well agents are meeting expected levels of service
- How long agents are taking to complete a task
- How long agents are talking on the phone
- How long customers wait for their call to be answered before hanging up
- How many work items are being suspended and why
- How work codes are being applied
- How well your multimedia system is performing, for example:
    - How long work items are spending at certain phases of the work flow process
    - How many work items some queues are processing
    - How many calls some VDNs are processing
    - How busy some stations are

Call Center Elite Multichannel Reporting also allows you to evaluate the details behind your multimedia activity, such as programs and schedules that governs when and how a work item flow through your call center.

Call Center Elite Multichannel Reporting provides the same functionality as Call Center Elite Multichannel Desktop, with the addition of the Reporting functionality. So it is not necessary to install both applications on each system. Agents requiring desktop functionality can install only Call Center Elite Multichannel Desktop while Agents/Supervisors requiring the reporting functionality can install only Call Center Elite Multichannel Reporting.

Microsoft's SQL Server Reporting Services is now the reporting platform for Call Center Elite Multichannel. This lays the foundation for a more standards orientated mechanism for custom report design and delivery. Call Center Elite Multichannel Reporting is an easy-to-use and helpful application that produces comprehensive reports on all major facets of a multimedia contact center environment. It renders a wide range of both historical and realtime reports that are essential for optimization of the contact center.

Call Center Elite Multichannel Reporting generates the following types of reports:

Historical reports

- **Agent:** Agent Attendance, Agent Graphical Time Spent Daily, Agent Group Attendance, Agent Login-Logout (Skill), Agent Split Skill, Agent Summary
- **Interactions:** Conversations And Interactions, Customer Statistics, Customer Statistics - Order By Agent
- **Outcomes:** Queue Service Level, Work Code
- **Programs And Schedules:** Program Interactions, Program Interactions - Date Details, Program Interactions - Date Details (Order By Agent), Program Schedules, Program Schedules - Daily And Weekly Schedules, Program Schedules - Monthly And Yearly Schedules, Program Statistics, Program Status
- **Split Skill:** Split Skill, Call Profile (Graphical), Split Skill Service Level (Graphical), Split Skill Summary, System Report
- **VDN:** Call Profile, Call Profile (Graphical)

Realtime reports

- **Agent Reports:** Realtime Agent Status - State, Realtime Agent Status - State (Order by agent), Realtime Agent Status - Statistics, Realtime Agent Status - Statistics (Order by agent)
- **Device Reports:** Realtime Device Status
- **Queue Reports:** Realtime Queue Status - Count Statistics, Realtime Queue Status - State, Realtime Queue Status - Time Statistics
- **VDN Reports:** Realtime VDN Status

Chapter 3: Database and server components

This chapter provides information about the following databases and server components available in the Avaya Aura® Call Center Elite Multichannel Multichannel:

ASContact Database

In Call Center Elite Multichannel, the ASContact database is the repository of all the contact information.

Call Center Elite Multichannel uses ASContact Database to identify people and to understand how it should communicate with them. Call Center Elite Multichannel refers to ASContact Database for all its contact-focused activities; no contact specific data is held elsewhere in Call Center Elite Multichannel. Instead, other Call Center Elite Multichannel databases hold a contact's ContactId (a key that uniquely identifies a contact within Call Center Elite Multichannel, and potentially, beyond it) to link contact data in ASContact Database.

We appreciate that many organizations prefer to store their contact data in databases external to Call Center Elite Multichannel. So ASContact Database comes with a Contact Gateway that can point directly to external data, and then use it as if it were its own. In this mode Call Center Elite Multichannel never updates the external data. However once the gateway is in place, the external data participates fully as contact data within Call Center Elite Multichannel.

The ASContact database provides all the features of previous ActiveContact database in Call Center Elite Multichannel. Use the migration script to move existing contact data in ActiveContact Database to ASContact Database.

As ASContact database accumulates history and detail about its contacts, Call Center Elite Multichannel will increasingly offer communication tailored specifically to contact preferences, and to their value to your organization.

Application Management Service

The management and monitoring of all Call Center Elite Multichannel media stores, License Directors, XML Servers and Media Directors is accomplished by the Application Management Service.

This service enables you to:

- View the status of servers
- Configure servers in real time
- Manage servers
- Gather statistics

In addition, the Application Management Service allows you to add and manage the following data in the ASMSControl Database:

- Programs
- Schedules
- AutoText
- Priority contacts
- Denied contacts
- Allowed contacts

The Application Management Service consists of two components:

Application Management Director: An application that runs in a Microsoft server environment and gathers status and health information about Call Center Elite Multichannel servers.

Call Center Elite Multichannel Control Panel: A component built using .Net Framework that connects to Application Management Director to display the state of currently available servers. Using the console, a user can view and change configuration and operation information about currently monitored servers.

> **Note:**
> This document discusses the configuration of the Application Management Director.

For information on configuring and operating Call Center Elite Multichannel Control Panel, see *Avaya Aura® Call Center Elite Multichannel Control Panel User Guide*.
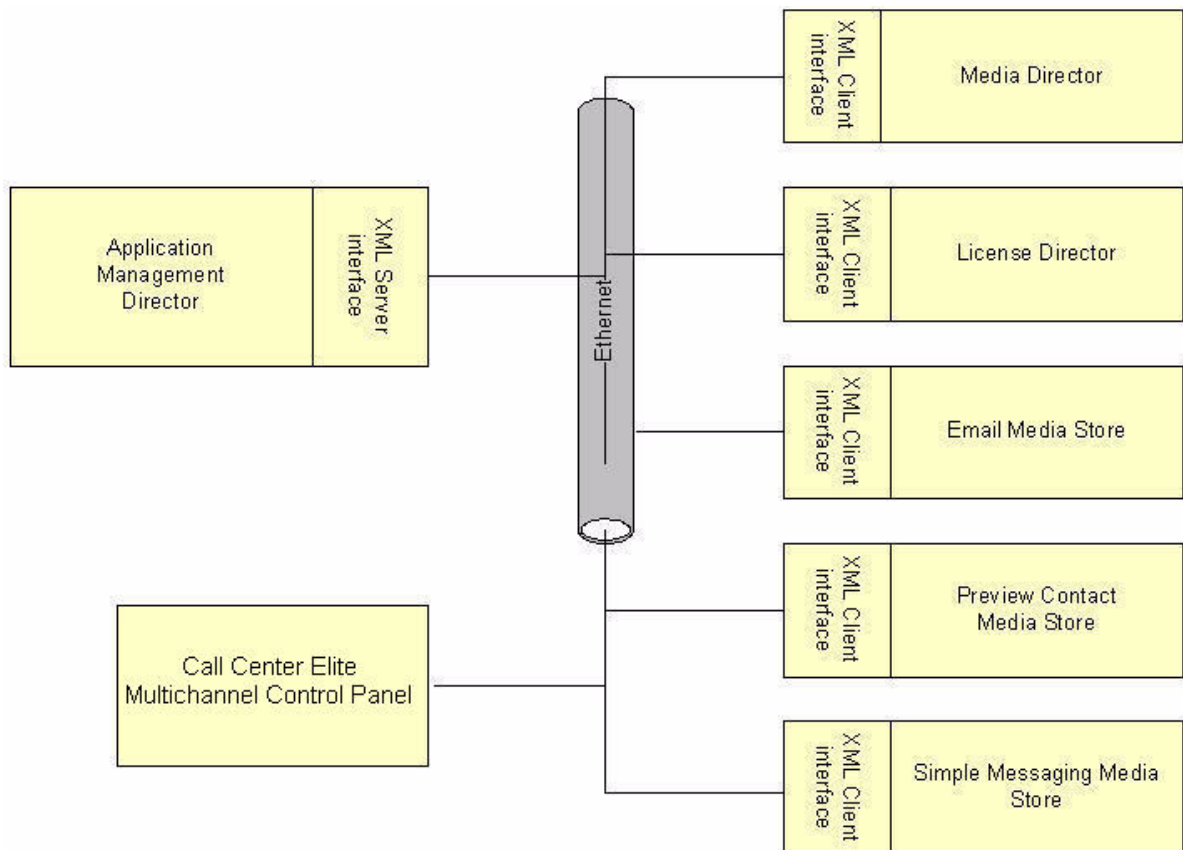
When Application Management Director starts up, it opens a connection to all running Call Center Elite Multichannel media stores, License Directors, XML Servers and Media Directors it finds on the network. It asks those applications to forward information relating to their configuration and operation. Call Center Elite Multichannel Control Panel then displays that information in graphical tree structure.
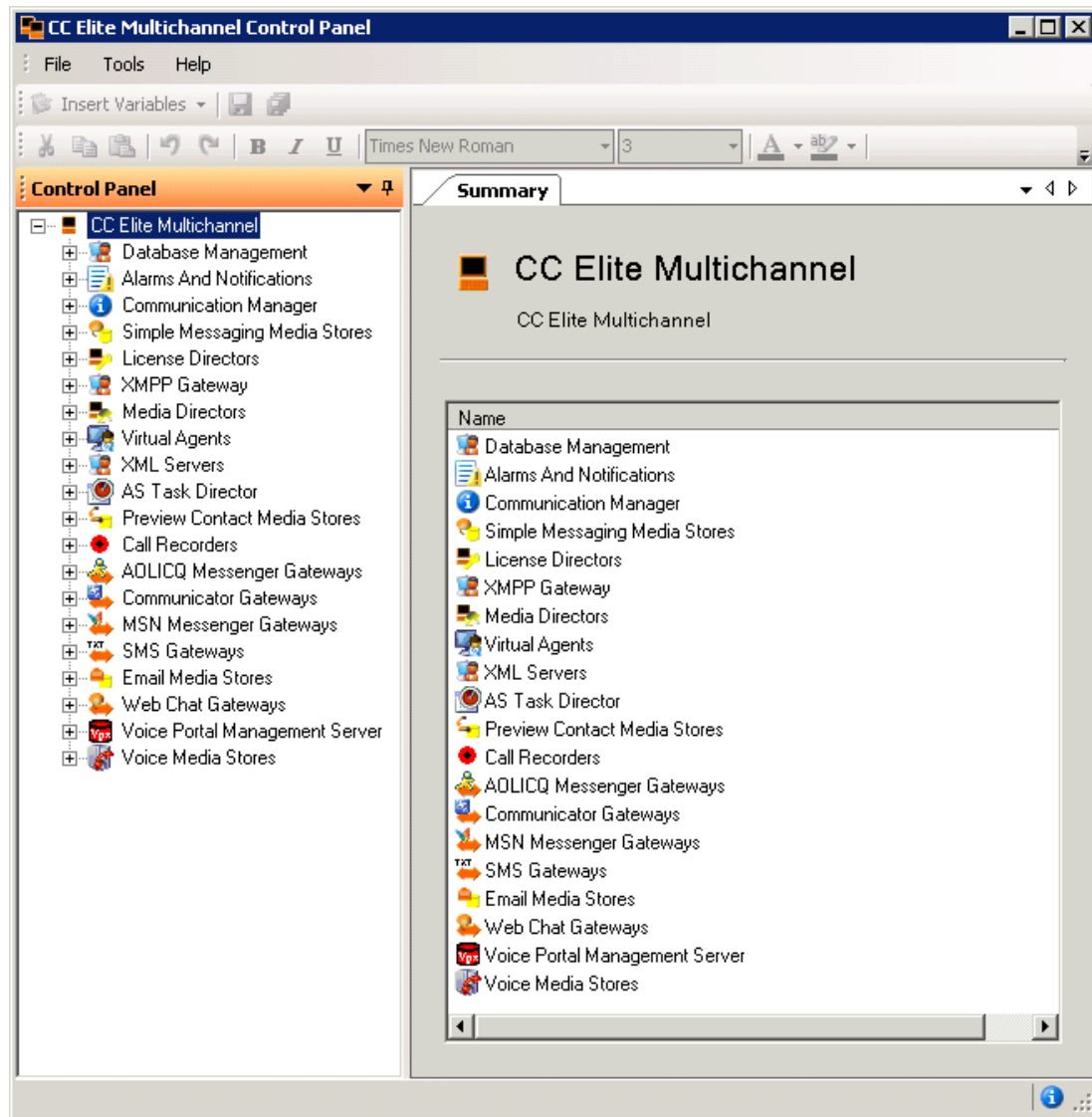
Connections to Application Management Director are established either by the multicast functionality or via the pre-configured data from the configuration set or both. When a connection is established to Application Management Director, Call Center Elite Multichannel Control Panel indicates that it is a management interface and asks the Application Management Director to send a complete list of available information. The console receives a collection of XML documents that allow it to accurately display that information within a hierarchical node structure.

License Director

License Director is a central repository for all Call Center Elite Multichannel run-time licenses. License Director poll the licenses from the WebLM server, which can be configured in the Call Center Elite Multichannel Control Panel. For more information, see *Avaya Aura® Call Center Elite Multichannel License Director User Guide*.

License Director manages licensing by accepting license requests from Call Center Elite Multichannel applications. It only issues the number of licenses that have been purchased or made available for trial. If the number of licenses requested exceeds the number purchased, the request is denied.

The number of purchased run-time licenses are encrypted in a license key. There are following types of license keys:

- **Call Center Elite Multichannel Voice.** Required by:

  - Call Center Elite Multichannel Desktop (when used for its voice functionality only)

  - Supervisor (for the number of supervisors using Supervisor)

  - XML Server (for the number of client applications that connect to XML Server)

  - Applications built using Developer (for the number of users)

  Note:
  > You will only ever be issued with one Call Center Elite Multichannel Voice license key, which will cover all the voice applications you wish to run within your call center environment. If you ever wish to add an extra voice application, your existing license key will be upgraded to accommodate the additional run-time licenses.

- **Call Center Elite Multichannel Multimedia.** Required by Call Center Elite Multichannel Desktop. To use Call Center Elite Multichannel Desktop's full range of functionality (voice, multimedia and reporting), you need to buy one Call Center Elite Multichannel Multimedia license key with enough run-time licenses to cover the number of agents using Call Center Elite Multichannel Desktop and one Call Center Elite Multichannel Voice license key with the same number of run-time licenses.

- **Call Center Elite Multichannel IVR.** Required by Virtual Agent for the number of IVR ports it is configured to monitor.

- **Call Center Elite Multichannel MS-CRM.** Required by MS CRM Connector. To use MS CRM Connector, you need to buy one Call Center Elite Multichannel MS-CRM license key. This license key covers as many agents using MS-CRM connector, as the number of run-time voice licenses.

  Note:
  > According to the design, Call Center Elite Multichannel does not have uncounted licenses. Therefore MS-CRM license file is modified to add voice license count if the Voice license is present.

License Director has no direct user interaction once it has been installed. License information is added, deleted and modified using the WebLM server. For more information, see *Avaya Aura® Call Center Elite Multichannel License Director User Guide*.

Call Routing Server

The Call Routing Server enables intelligent call routing for inbound calls. The routing is based on received call data matched with customer information, contact center statistics or agent availability. The Call Routing Server monitors VDNs, registers for routing services, receives call events, issues routing instructions, and loads (manages) generic plug-ins, such as the SQL Plug-in, which gives the server access to SQL Server databases.
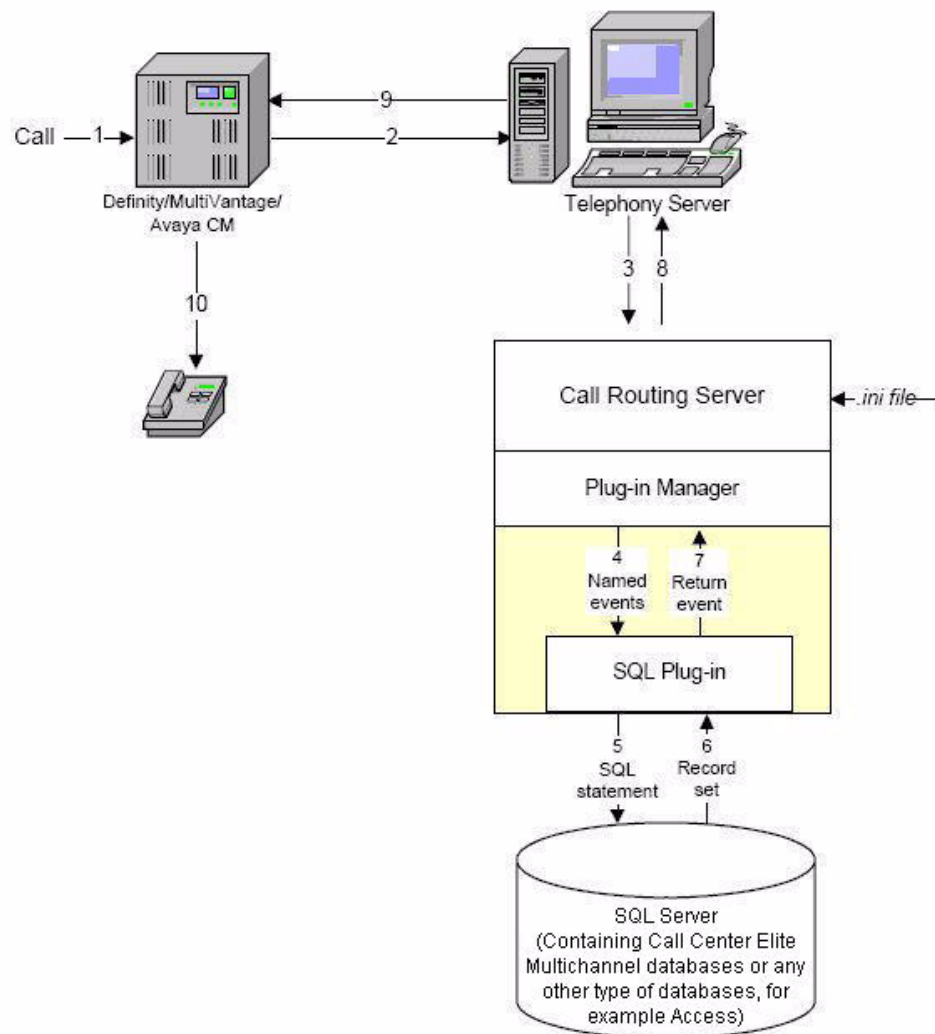
Configuration Server

The Configuration Server acts as a central repository of configuration information for Call Center Elite Multichannel Desktop. It allows a contact center or network administrator to change an application's configuration information without needing to go to individual desktops.

All the information processed by the server is stored in a database (SQL Server or SQL Server Express). Because the server operates as a service and has no user interface, adding configuration data to the database is done via a separate application called Configuration Manager.

You can configure the Configuration server through the Configuration Server Manager. The Configuration Server Manager has an ability to start and stop the Configuration server.

The Configuration Client control integrates the Call Center Elite Multichannel Feature with its configuration information. The Configuration Client control allows Call Center Elite Multichannel to transparently access information, regardless of the location of Call Center Elite Multichannel. This Configuration Client control is stored on the client system during the installation of Call Center Elite Multichannel.
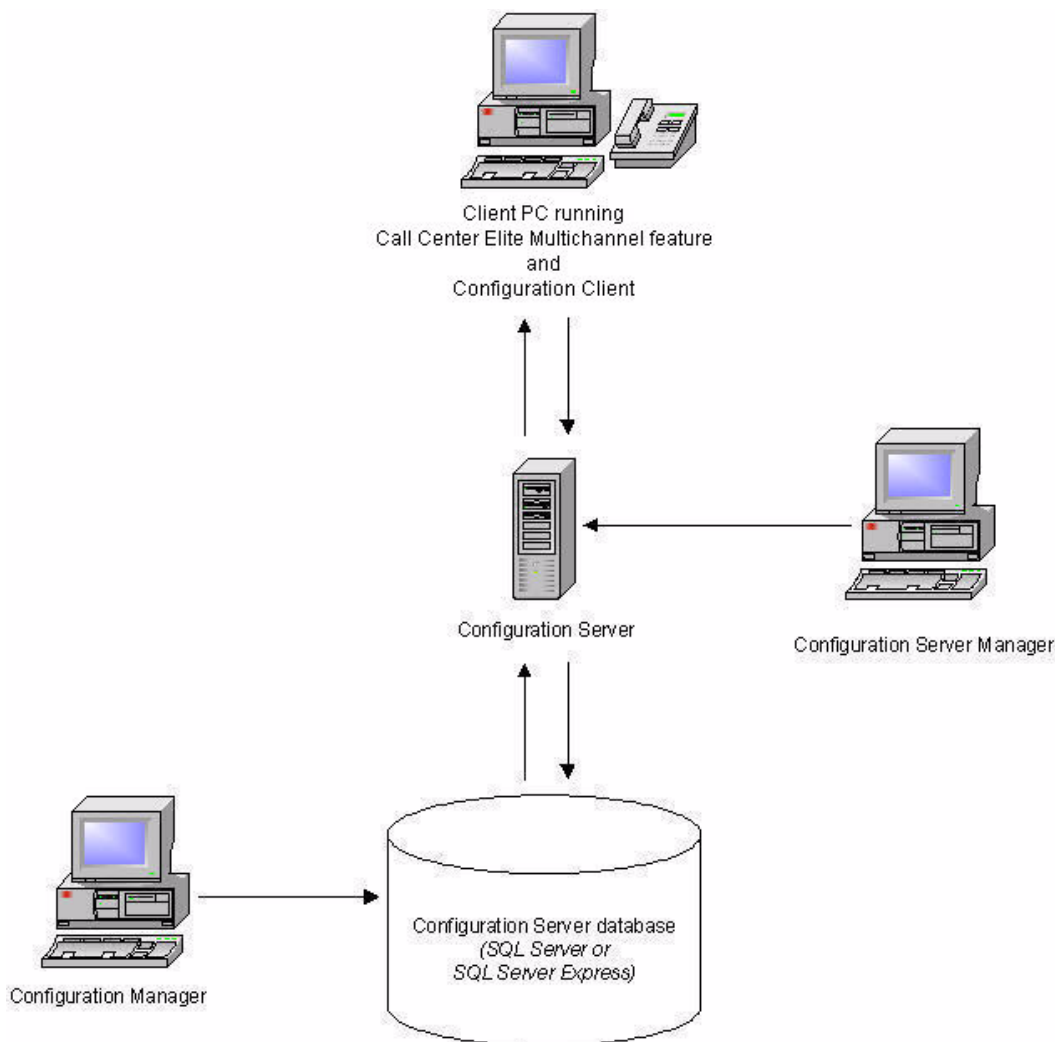
Task Director

The Task Director provide mechanisms to execute tasks as per the defined schedule. In Avaya Call Center Elite Multichannel, Task Director is provided as server component that user can install and configure. Using Task Director, users can do the following:

- Define the task
- Store the task in a database
- Define an instance of a task
- Edit the task definition
- Access the defined tasks stored in a central database
- Manage the defined tasks:

  Administrator can interact with the task definitions. This allows the administrator to:

  - View the tasks that have been defined
  - View scheduling details of each task, like:
    - Type of a task. For example: email, report, and so on
    - Where the task will be executed
    - Scheduled rules
    - When the next execution is scheduled
  - Make a task active or inactive
  - Request a one-off execution of a task
- Monitor the task execution:
- In this, an administrator can interact with task instances. Specifically the administrator will be able to view:
  - Which tasks have been executed
  - When they were executed
  - If and when they completed
  - What was the terminating condition for the task
  - Which tasks are currently running
  - Which tasks are scheduled to run in the next period where the period is provided by the administrator
  - Terminate a running task

Following are the tasks that can be scheduled using the Task Director:

- Create reports
- Create ASMSData databases
- Import data into ASContact database
- Create Preview Contact lists
- Cleanup Databases

Interaction Data Service

The Interaction Data Service is the suite name for three Call Center Elite Multichannel products:

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

All three servers work together to gather, store and display statistical data on Call Center Elite Multichannel voice and multimedia work items. All use a single database (ActiveInteractionData).

Interaction Data Server - Voice and Presence: This server monitors VDNs, splits/skills, trunk groups and agent extensions to gather detailed statistical information about all facets of a call. The server receives real-time information from your Avaya Communication Manager and, based on the regularity you specify, calculates statistics, such as talk and wait-time averages. Data is stored in the ActiveInteractionData database.

Interaction Data Server - Multimedia: This server receives a stream of event information from all Call Center Elite Multichannel media stores and Media Directors and aggregates this into real-time and historical information on all multimedia work items that flow through your call center. Data is stored in the ActiveInteractionData database.

Interaction Data Server - View: This server allows you to access the statistical data generated by Interaction Data Server - Voice and Presence and Interaction Data Server - Multimedia and to display that data on individual client PCs. Interaction Data Server - View is currently used by the premier desktop application Call Center Elite Multichannel Desktop, and it can also be used by developers to build their own client applications.

Note:
Interaction Data Server - View replaces the current Interaction Data Client.
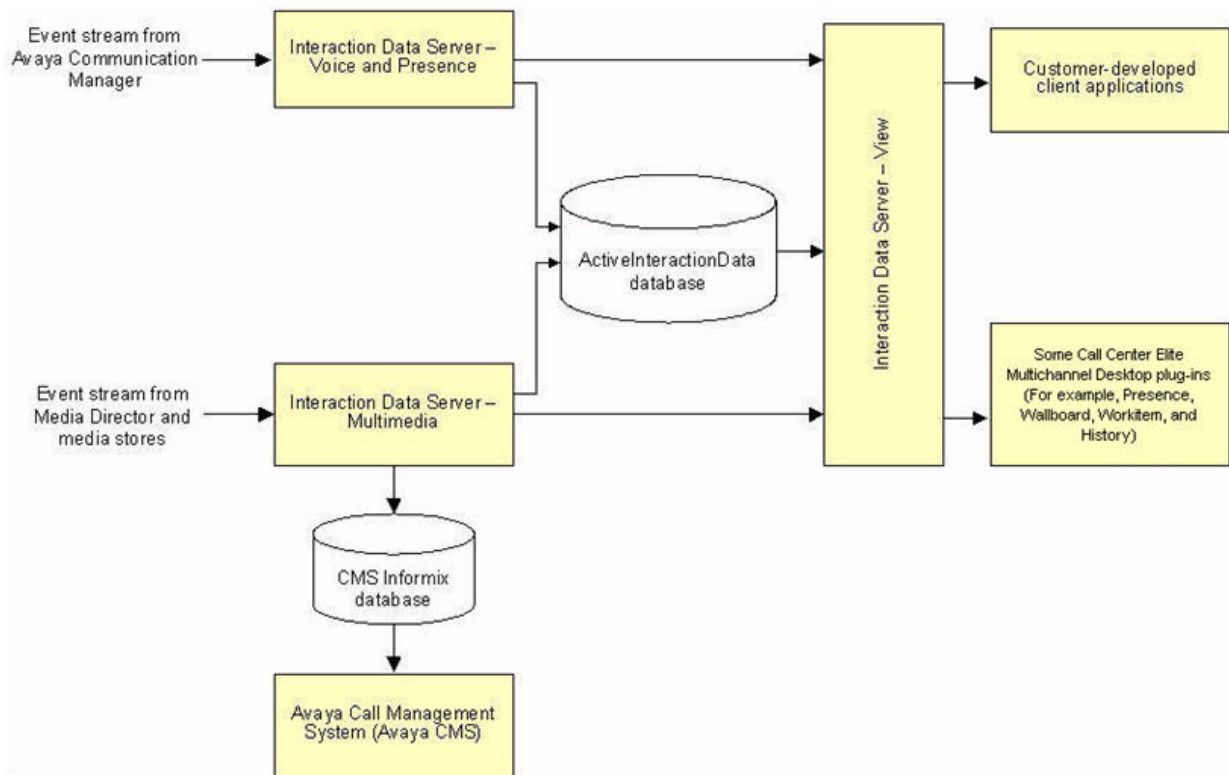
Call Center Elite Multichannel also makes some of the multimedia reporting data held within the Interaction Data Service easily available to the Avaya Call Management System (Avaya CMS) package. For more information about reporting, see *Avaya Call Management System Supervisor Reports* on the Avaya support site at: http://support.avaya.com.

TTrace System

TTrace stands for Avaya Trace System. The Trace System receives output (logs/traces) from applications and stores it to the file system. The outputs are separated according to originator.

As the file system on a server is a critical resource, it is possible to file the outputs on a remote computer. The outputs can be viewed and controlled using an application. Access to the files containing the records is not restricted in any way.

Attributes of TTrace

TTrace offers the following attributes.

- Central generation and administration of log files.
- Online evaluation of log contents with the option of responding automatically to certain contents (escalation)
- Easy to switch categories on and off
- Short explanation for the categories
- Low network load due to compact protocol
- Simple commands can be sent to the TTrace clients
- Categories managed in the component (Library, Executable)
- Debuggable
- Flexible (can be used without pre-defined instrumentation macros)

For more information about TTrace system and the system components, see the following guides:

- *Avaya Aura® Call Center Elite Multichannel TTrace Console User Guide*
- *Avaya Aura® Call Center Elite Multichannel TTrace Console Installation Guide*
- *Avaya Aura® Call Center Elite Multichannel Control Panel User Guide*

Call Recording

Using the Call Recording plug-in, agents can record the calls with a customer and replays the recorded calls.

In Call Center Elite Multichannel Desktop, the recording functionality is provided by integrating the Avaya Contact Recorder (ACR) application. For more information on ACR, see the respective documentation provided with the application.

Agents can use the recording buttons on the Voice toolbar of Call Center Elite Multichannel Desktop to start and stop recording a call. Recorded calls are stored on the ACR server.

In Call Center Elite Multichannel Desktop, agents can search the recorded calls based on the date, agent name, customer, and VDN. Agents can also schedule a call recording, enter comments to a call recording, and give score to a call recording. Supervisors can also record and replay the recorded calls that agents in their group are handling.

For more information about recording and replaying recorded calls, see *Avaya Aura® Call Center Elite Multichannel Desktop User Guide*.

For more information about configuring the Call Recording service, see *Avaya Aura® Call Center Elite Multichannel Control Panel User Guide*.

Voice Portal Config Server

In Call Center Elite Multichannel Control Panel, the Voice Portal Management Server (VPMS) can be configured. Using VPMS, agents can view and configure features from the Voice Portal application. Agents can also view the Voice Portal reports using the Call Center Elite Multichannel Reporting application.

For more information, see *Avaya Aura® Call Center Elite Multichannel Control Panel User Guide and Avaya Aura® Call Center Elite Multichannel Reporting User Guide*.

Media Director

Media Director distributes non-voice work items to contact center agents. This item could be an email, a web chat, AOL or MSN session, an sms, or an outbound call request. The distribution of the work item is achieved using the queuing algorithms built into your Avaya Communication Manager.

Media Director uses the phantom call capabilities of the switch to generate a call and place it into a specified queue. Phantom calls are those generated by a CTI application that have no physical station as the originating point. This call is distributed by the switch using standard queuing algorithms and blended with other traditional voice calls. When the phantom call is delivered to an agent, the Media Director associates it with the highest-priority work item and allows data specific to the work item to be transferred to the agent desktop.

Non-voice work items originate from plug-in modules called media stores. Media stores connect to disparate sources such as email servers or web servers and interact with the Media Director and clients using a well-defined protocol.

Media Proxy

Media Proxy is a bridge component that manages the connections between Media Director and any number of client applications running on the same computer.

Running as a Windows service in the background, Media Proxy:

- Reduces network traffic when multiple client applications on one machine need to connect to the Media Director

- Automatically connects to the Media Director when it restarts (client applications do not need to re-connect to the Media Director when it restarts)

- Allows users to use Call Center Elite Multichannel Desktop when building client applications.

Virtual Agent

Virtual Agent is a Call Center Elite Multichannel service that allows you to process work items using 'virtual' agents instead of real agents. It gives you the ability to send out email or text messages to customers via a group of virtual agents - essentially creating an automated messaging service. What's more, Virtual Agent gives customers who call a phone number answered by an Avaya Voice Portal, access to data that is stored in the customer database of Call Center Elite Multichannel. Once again, Virtual Agent's process the multimedia work items that are generated when these incoming phone calls are received. There is no manual effort (other than some initial set-up by an administrator) required.

Virtual Agent's process work items the way 'real' agents do - they log in to the XML Server of Call Center Elite Multichannel, consume a station DN and (optionally) an agent ID, and then wait to receive and deliver Call Center Elite Multichannel work items. The Virtual Agent service supports up to 300 concurrent virtual agents, each capable of receiving one work item per second. The service starts automatically with the server's operating system, and is fully configured via Call Center Elite Multichannel Control Panel.

Virtual Agent Web Service

Much of the functionality associated with this work item is made available via a web service that will be available to consuming applications (like Dialog Designer) and will allow complete control of the work item such as accept, close, suspend, and other Work Item specific functions. The web service also gives access to work item data, notes and chat functionality.

Support for Dialog Designer (Avaya IR/Voice Portal)

The Virtual Agent Web Service allows direct access from the Dialog Designer VXML into Call Center Elite Multichannel and will give IR/VP script access to all Work Item data for all work item types. Each IVR Port will be configured as a Virtual Agent end-point and will consume a Call Center Elite Multichannel IVR license.

Outbound Worker

The Outbound worker is intended as a mechanism to automatically send simple outbound messages to a list of contacts that have been loaded in to a Preview Contact program. The Outbound Worker can be used to send SMS (Short Message Service) text messages to mobile phones as well as simple email messages as well. The outbound worker receives Preview Contact workitems the same as an agent sitting at a desk would, therefore requires the same Voice and Multimedia licenses, and automatically processes these workitems.

XML Server

The XML Service consists of the XML Server, which converts the existing CSTA II interface of Avaya Computer Telephony software to CSTA III XML (eXtensible Markup Language), and XML Client, which allows developers to build CTI applications in a .Net framework.

The CSTA XML-over-TCP interface presented by XML Server complies with the international standard for computer telephony interfacing as set by the European Computer Manufacturers Association (ECMA).
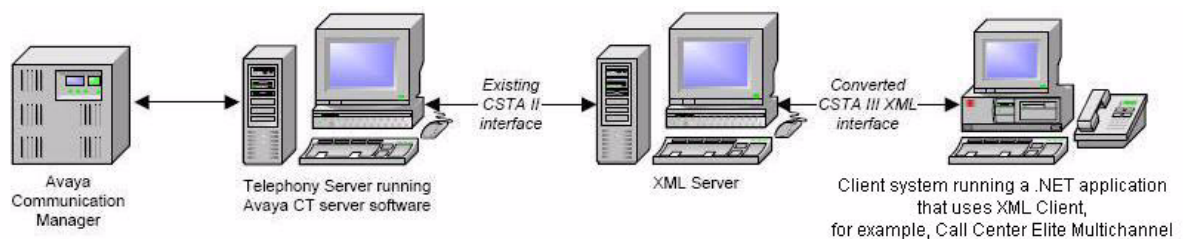
Media Stores

Preview Contact Media Store

Preview Contact Media Store is one of many data stores that interact with the Media Director, Media Proxy and Call Center Elite Multichannel Desktop to deliver non-voice work items to contact center agents.

Running as a service, the Preview Contact Media Store allows you to blend on-screen customer contact prompts with inbound/outbound calls, essentially using this work to fill in the gaps between peaks in inbound call traffic.

Preview contact is defined as distributing a customer record to an agent so that the agent can initiate contact with the customer by phone.

Installed on a system running Microsoft Windows Server 2008 R2 SP1 (Enterprise and Standard) 32-bit and 64-bit, the Preview Contact Media Store retrieves contact details from a SQL database. The task to contact a group of contacts is defined in the database as a campaign. The campaign is prescribed to start at a certain date/time and run until another date/time. It can run over multiple time periods and may be recursive that means starting every Monday morning at 9:00.

Campaigns can be scheduled to coincide with:

- different shifts
- quieter times of the day (low-peak call times)
- times of the day when it is easy to contact customers.

A campaign's configuration identifies which queue work items must queue to and their priority within that queue.

Simple Messaging Media Store

The Simple Messaging Media Store is one of many media stores that interact with the Media Director, Media Proxy and Call Center Elite Multichannel Desktop to deliver non-voice work items to contact center agents.

Running as a service, it sits between Media Director and the following simple messaging gateways: Web Chat Gateway, MSN Messenger Gateway, AOL-ICQ Instant Messenger Gateway and Short Message Service Gateway.

Simple Messaging Media Store provides the base (common) messaging functionality required by these gateways, allowing you to blend customer messages via email, a web chat, AOL or MSN sessions, and sms with inbound/outbound telephone calls.

Installed on a system running Microsoft Windows 2008 Server R2 SP1 (Enterprise and Standard) 32-bit and 64-bit, the Simple Messaging Media Store uses its configuration data and the information specified in its database schema to:

- Send simple messages from different gateways to different Media Director queues
- Give queuing priority to messages received from special customers
- Reject messages from certain customers and automatically email them that this has happened
- Only allow messages from certain customers to queue to certain Media Director queues.

Email Media Store

The Email Media Store is one of many media stores that interact with the Media Director, Media Proxy and Call Center Elite Multichannel Desktop to deliver non-voice work items to contact center agents.

Running as a service, the Email Media Store allows you to blend customer email inquiries with inbound/outbound telephone calls, essentially using this work to fill in the gaps between peaks in call traffic.

The Email Media Store receives emails from one or more mail servers using the POP3 protocol.

Installed on a system running Microsoft Windows 2008 Server R2 SP1 (Enterprise and Standard) 32-bit and 64-bit, the Email Media Store uses its configuration data and the information specified in its database schema to:

- Distribute emails sent to certain mailboxes to certain queues in the Media Director
- Manage that distribution by making email queues 'open' for certain times and days of the week
- Give queuing priority to emails received from special customers
- Assign different queuing priorities to the first email a customer sends and all subsequent emails they send as part of the same conversation
- Reject emails from certain customers and automatically email them that this has happened
- Only allow emails from certain customers to queue to a certain email queue automatically inform a customer (via email) that their email has been received during or outside the operating hours of that queue.

Voice Media Store

Voice Media Store delivers voice work items (a visual representation of a phone call) to contact center agents through Call Center Elite Multichannel Desktop.

Voice work items are 'answered' by agents who verbally respond to a customer's inquiry while processing (and closing) the work item on their screen.

Agents can use any number of the features available to them through Call Center Elite Multichannel Desktop, such as:

- Assigning a work code to their voice work item
- Recording notes for their voice work item (or displaying previously made notes for a work item that has history)
- Printing all the information relating to their voice work item
- Inserting autotext into their work item notes (or any text field on a customized vertical tab)

- Viewing the conversation history of a customer, or retrieving a work item that was previously closed.

Voice work items are stored like other multimedia work items (for example: email or simple message work items) in the `ASMSControl` and `ASMSData` Databases.

As this work item shows, Voice Media Store creates and stores a sequence of data that shows the progress of the call through various devices within the switch:

If the customer's calling number has been matched with a contact record in the ASContact Database, a vertical contact tab appears on the left as part of the work item (as shown above).

While handling this inquiry, an agent can click this tab and edit the customer's contact record. If the customer has not been matched with a contact record, the agent can create a new contact record and associate it with this work item. Next time the customer makes contact, their contact record will automatically display as part of the work item. Each contact record has a unique Contact ID as listed at the top of the Contact tab.

Media Gateways

Web Chat Gateway

Web Chat Gateway interacts with the Simple Messaging Media Store to give internet-using customers the ability to interact with call center agents. Web chat functionality allows the customer, browsing the client's web site, to click a URL and have a session initiated with the call center agent. Using this session, the customer and agent can exchange text-based messages allowing a simple conversation to take place.

MSN Messenger Gateway

MSN Messenger Gateway interacts with the Simple Messaging Media Store to give customers or business associates who enjoy using MSN Messenger the ability to interact with call center agents. MSN Messenger Gateway allows you to blend MSN instant messages with inbound telephone calls. By using your existing computer telephony environment, they can enjoy the benefits of priority queuing and distribution to agents with relevant skills and knowledge.

AOL-ICQ Instant Messenger Gateway

AOL-ICQ Instant Messenger Gateway interacts with the Simple Messaging Media Store to give customers or business associates who enjoy using AOL or ICQ Instant Messenger the ability to interact with call center agents. AOL-ICQ Instant Messenger Gateway allows you to blend AOL or ICQ instant messages with inbound telephone calls. By using your existing computer telephony environment, they can enjoy the benefits of priority queuing and distribution to agents with relevant skills and knowledge.

Communicator Gateway

In Avaya Aura® Call Center Elite Multichannel, Communicator Gateway is a server application that provides conversion from Office Communicator Server to Call Center Elite Multichannel Simple Messaging Media Store. This helps agents to communicate with clients who uses Office Communicator.

For more information, see *Avaya Aura® Call Center Elite Multichannel Communicator Gateway User Guide.*

Short Message Service Gateway

Sending text message is a popular, convenient and cheaper way of using your mobile phone to communicate.

Call Center Elite Multichannel now broadens the customer service capability of your contact center by allowing you to blend SMS (short message service) messages with inbound telephone calls. Customers or business associates who like the convenience of mobile messaging can make contact with you and receive the same treatment as regular callers.

By using your existing computer telephony environment, they can enjoy the benefits of priority queuing and distribution to agents with relevant skills and knowledge.

Short Message Service Gateway works alongside the Simple Messaging Media Store, Media Director and Call Center Elite Multichannel Desktop as part of a multimedia suite.

Simple Messaging Media Store is one of three media stores that deliver a range of non-voice work items to contact center agents. Providing base messaging functionality for the Web Chat Gateway, it:

- Gives queuing priority to messages received from special customers
- Rejects messages from certain customers and automatically email them that this has happened
- Only allows messages from certain customers to queue to certain Media Director queues.

Short Message Service Gateway sits between the remote server and Simple Messaging Media Store:
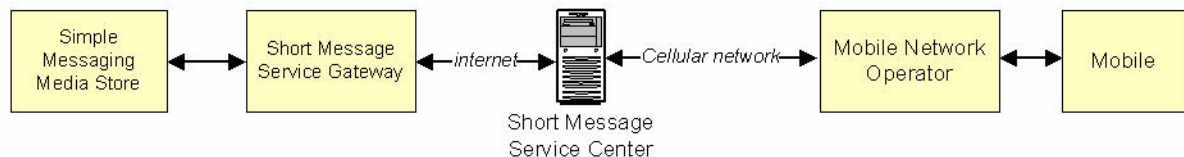
XMPP Gateway

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

Plug-ins

There are currently four Call Center Elite Multichannel plug-in components.

Rules Plug-in

The Rules Plug-in is a plug-in component that allows you to create a simple set of rules that automatically perform actions on call events that meet certain criteria. This rule functionality is similar to the email rules capability in Microsoft Outlook.

Without changing an application's code, you can use the Rules Plug-in to enhance desktop functionality. For example, you can configure rules to:

- Deflect calls from a specific CLI to voicemail
- Open another application or web site
- Send data and key strokes to another customer-related application
- Bring another window to the front to help process a call
- Pass data to another application that supports DDE

Essentially, a rule fits into a simple statement; when a certain event occurs and a call property matches this value, do this action then either continue rules processing, jump to another rule or stop.

The Rules Plug-in is started by the controlling application. The configuration data passed to it consists of the mandatory generic plug-in configuration data and a list of rules to be processed.

The functionality to build valid rules that relate to a specific desktop product is managed by the individual controlling application. The application uses the Rules Plug-in to execute those rules.
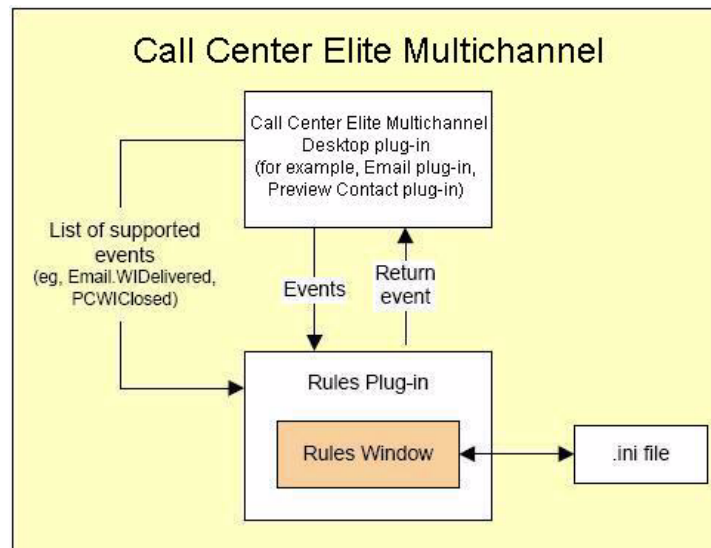
The Rules Plug-in and the Rules Wizard are installed as part of the Call Center Elite Multichannel Desktop installation.

Script Plug-in

Script Plug-in is a simple plug-in that takes advantage of scripting engines developed by Microsoft and others, to allow simple scripts written in VB Script or Java Script to be executed and provide services to the Call Center Elite Multichannel suite.

This plug-in can be plugged in to any Call Center Elite Multichannel server application that supports the Plug-in Manager, such as Virtual Agent and the Call Routing Server.

All scripting engines that conform to the Microsoft standard implement the ActiveScript interface. This common interface allows all scripting engines to be consumed by parent applications in an identical manner regardless of the scripting language they implement.

The two most commonly available scripting engines are VB Script and Jscript from Microsoft. These are components installed with Internet Explorer.
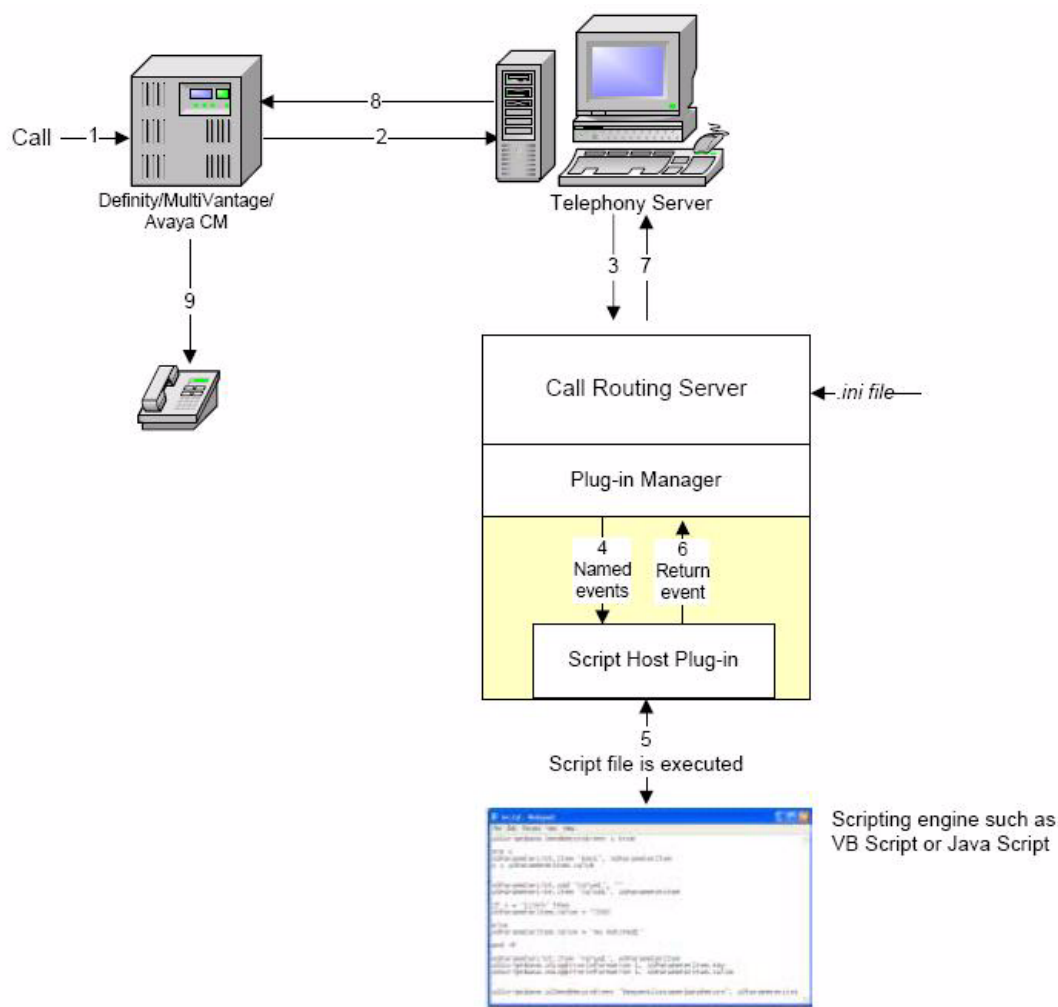
SOAP Plug-in

The SOAP Plug-in is a simple plug-in that allows you to integrate Avaya Call Center Elite Multichannel server applications with any web service or SOAP service on an intranet or the internet, without the need for new development on the server.

This plug-in can be plugged in to any Call Center Elite Multichannel server application that supports the Plug-in Manager, such as IVR Server and the Call Routing Server.

SOAP Plug-in uses the Microsoft Simple Object Access Protocol (SOAP) to connect to the web service and allow web-based information to be available to the controlling application.

What is SOAP?

SOAP is a message-based protocol based on XML for accessing services on the Web. Initiated by Microsoft, IBM and others, it employs XML syntax to send text commands across the Internet using HTTP.

SQL Plug-in

The SQL Plug-in is a simple plug-in mechanism that allows you to integrate Avaya Call Center Elite Multichannel server applications with any SQL Server database without the need for new development on the server.

This plug-in can be plugged in to any Call Center Elite Multichannel server application that supports the Plug-in Manager, such as IVR Server and the Call Routing Server.

SQL Plug-in uses Microsoft ADO to connect to a database and allow simple SQL functionality to be available to the controlling application. The plug-in's detailed configuration set allows named events to be received from the controlling application. The events and associated parameters are converted to a direct SQL statement which is then passed to the database for processing. Returned results are extracted from the returned record set and passed back to the controlling application via an associated return event.
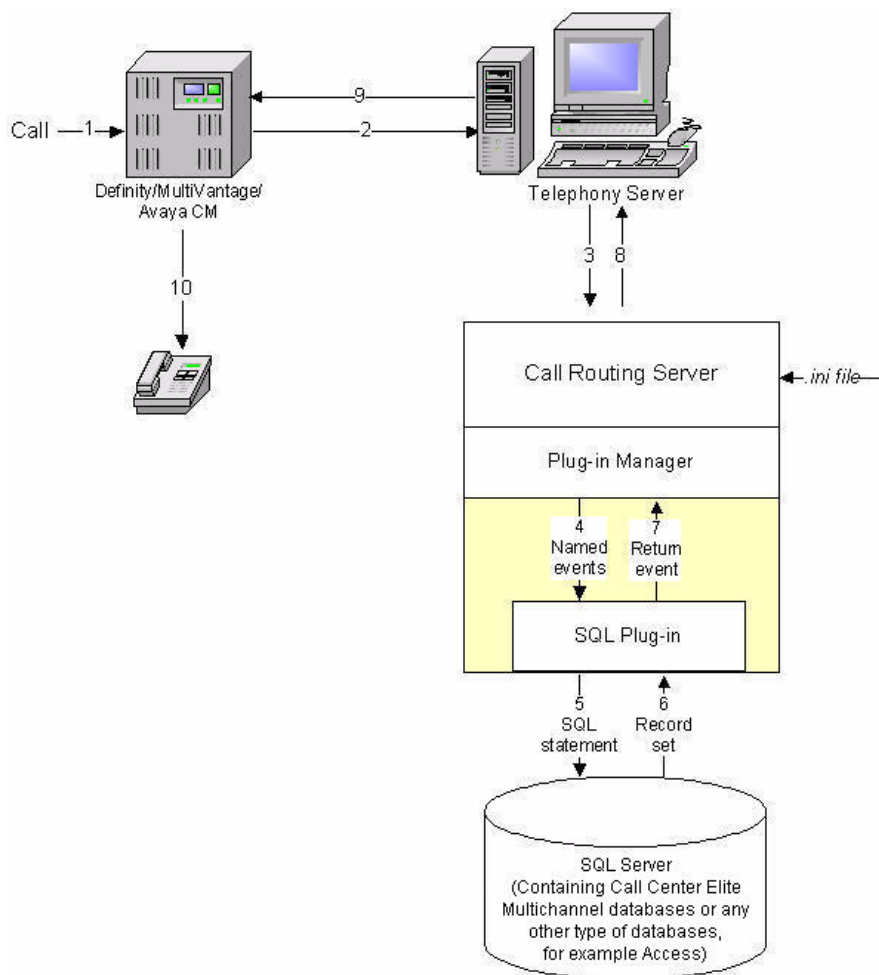
Communication Manager (CM) Plug-in

The Communication Manager Plug-in is a simple plug-in that allows you to view and configure the settings of the Communication Manager server that are using for Call Center Elite Multichannel.

In the Call Center Elite Multichannel Control Panel, you can add a connection to the communication manager server that you want to use for Call Center Elite Multichannel. For more information, see the *Avaya Aura® Call Center Elite Multichannel Control Panel User Guide.*

You can configure the settings for the following objects:

- Agents
- Stations
- Skills
- VDNs
- HolidayTables
- ServiceHoursTables
- Software Version

Chapter 4:   Developer

Developer is a collection or 'toolkit' of .Net assemblies for Avaya switches. Developers can use these controls to quickly build CTI applications without Agent. Developer controls make it is possible to build the foundation of a soft phone with no coding required. The toolkit includes:

- XML Client
- XML Station
- XML Routing
- XML VDN
- Multimedia

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