



# **Avaya Interaction Center and Avaya Operational Analyst Overview and Specification**

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# Chapter 1: Introduction

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## Purpose

This document describes tested Interaction Center (IC) and Operational Analyst (OA) characteristics and capabilities, including feature descriptions, interoperability, performance specifications, security, and licensing requirements.

This document is intended for people who want to gain a high-level understanding of the Interaction Center and Operational Analyst features, functions, capacities, and limitations.

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## Intended audience

This document is intended for people who want to gain a high-level understanding of the Interaction Center and Operational Analyst features, functions, capacities, and limitations.

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## Document changes since last issue

- All the tables have been updated regarding to 7.3.10 release
- JVM default options have been updated for Website and ICM

# Chapter 2: Interaction Center and Operational Analyst Overview

## Interaction Center overview

Avaya Interaction Center (IC) is a multimedia contact center solution that enables the contact center to route and manage transactions across multiple channels. These channels are voice, email, chat, and web-based e-commerce. Customers are routed to the best resource at the contact center. IC records and stores the details of the transactions.

IC combines server and client applications for enterprises to effectively manage information. IC provides a single view of the customer, a single set of business rules and workflows, and a single agent interface across all media.

IC can perform the following:

- Manage high volumes of customer contacts.
- Support a broad range of communication channels.
- Deliver consistent and integrated customer service.
- Capture, manage, and derive business value from all relevant customer information.

## Operational Analyst overview

Operational Analyst (OA) is a data collection and decision support system for IC and Call Management System (CMS).

The OA data collection system collects IC real-time events and processes them into summarized real-time and historical data. OA only supports collecting historical data and reporting for CMS.

The OA decision support system utilizes the stored real-time and historical data to report on most aspects of your contact center operation using:

- Avaya OA Basic Reports and Tabular Reports that provide data visibility and analysis. These reports help contact center supervisors to manage agent activities and to verify that the system is achieving service level goals across all channels.
- Avaya OA Advanced Reports and COGNOS based reports that provide historical analysis on each IC channel and provide reporting for the IC Business Applications.

### Important:

Advanced Reports are End of Sale (EoS) and End of Manufacturing Support. For more details, see the EoS notification at <https://downloads.avaya.com/css/P8/documents/101006063>. Content present in this document pertaining to Advanced Reports is kept for reference purpose for those who have implemented advanced reports prior to EoS and must not be referenced for any deployments post EoS.

**\* Note:**

- For Advanced reporting, Avaya OA uses COGNOS 7.4. COGNOS 7.4 runs only on the 32-bit Windows system and does not have a compatible version that can run on the 64-bit system. However, Avaya OA only supports Windows Server 2008 R2 and Windows Server 2012 R2. Therefore, you cannot use Advanced reporting on Windows Server 2008 R2, Windows Server 2012 R2, Solaris, or AIX. The Advanced Report sub system only functions on Microsoft Windows XP.
- Since, Microsoft Windows XP support is dropped in OA 7.3.3, Advanced Report sub system is no longer supported from OA 7.3.3 onwards.

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## New in this release

### Interaction Center (IC) 7.3.10 new in this release

- [Change in SSL communication](#) on page 9
- [OAuth 2.0 Support](#) on page 9

### Interaction Center (IC) 7.3.6 new in this release

- [Ability to filter pools by tenant for outbound emails on Avaya Agent Rich Client](#) on page 11

### Interaction Center (IC) 7.3.5 new in this release

- [Enhancement to chat notifications](#) on page 12
- [Multiple supervisors monitoring multiple chat and email workgroups](#) on page 13
- [Ability to pop out and pop in a chat tab to a separate window](#) on page 13
- [Display of Estimated Wait Time for non Business Advocate chat](#) on page 13

### Interaction Center (IC) 7.3.4 new in this release

- [Platform Upgrades in IC 7.3.4](#) on page 14
- [Java upgrade](#) on page 14
- [IC-Siebel integration to support Siebel 15.0.0.0.0](#) on page 14
- [Tomcat upgrade](#) on page 14
- [Ephox Html Editor upgrade](#) on page 14
- [Java Mail upgrade](#) on page 14
- [Variable number of wrap-up code types](#) on page 14
- [Support for dot and hyphen in the user names of agents](#) on page 14

### Operational Analyst (OA) 7.3.4 new in this release

- [Support for CMS R18 on both Solaris and Red Hat Enterprise Linux platforms](#) on page 31
- [Support for JRE 8 on Microsoft Windows and Red Hat Enterprise Linux](#) on page 31
- [Support for Tomcat 8 on Microsoft Windows and Oracle Solaris](#) on page 32
- [Support for Microsoft Windows 10 Professional](#) on page 32

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# IC Features

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## IC 7.3.11 features

### Internal Products

- WebLM 10.1.0.2
- CVLAN Client 10.1.0.2-11
- Aura 10.1, Aura 10.1.2
- AAWC End of Support

### Third Party Products

- Siebel Innovation Pack 22.7
- Java 1.8.0\_352 Open JDK.
- Log4J 2.17.1
- Windows 11
- Windows Server 2022
- ODBC Driver 13 for SQL Server and ODBC Driver 17 for SQL Server
- Internet Explorer End of Support
- Microsoft exchange 2019

### MS Graph API support

- Implemented to provide a possibility to work with Microsoft Exchange Online (Office365) cloud using Graph protocol instead of POP3, IMAP, SMTP.
- Allows outgoing/incoming operations
- Authorized as user or as Azure application
- Integrated with existing IC Oauth infrastructure
- Benefits:
  - Old email protocols can be omitted
  - IC can represent itself for Azure AD as trusted monolithic client

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## IC 7.3.10 features

### Internal Products

Support for the following platform updates:

- Web LM 8.1.3

### Third Party Products

- Java 8u292 – Open JDK
- Tomcat 10.0.4
- OpenSSL 1.1.1 (TLS 1.3 Support)
- Siebel Innovation Pack 21.5

### Change in SSL communication

- OpenSSL library version is upgraded to 1.1.x
- Directory Server (DS) and HTTPConnector Server are modified from IC 7.3.10 FP onwards to accept TLSv1.3 during TLS handshake.
- Alarm Server is modified from IC 7.3.10 FP onwards to support AES256 encryption.

## OAuth 2.0 Support

Since 7.3.10 Release IC supports OAuth 2.0. IC email account authorization uses OAuth2 to communicate with Microsoft Exchange Online accounts. Any other cloud services that use OAuth2 for authorization are not supported.

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## IC 7.3.9 features

### Internal Products

Support for the following platform updates:

- Aura 8.1.2 and 8.1.3
- CVLAN Client 7.1.2. Support of 8.1.3 will be provided in upcoming 7.3.9.1 patch
- Web LM 8.0.1 and 8.1.3

### Third Party Products

- VMware vSphere 7.0
- VMware Horizon View 8.0
- MS SQL Server 2019
- Oracle 19C
- Windows Server 2019
- Windows 10 latest updates
- Windows 8.1 latest updates
- ESXi 7.0
- Citrix XenApp 7.14
- Java 8u181 – Open JDK
- Tomcat 9.0.12
- OpenSSL 1.0.2o
- Siebel Innovation Pack 19.10, Siebel IP 20.9
- TinyMCE 5.4.2
- SNMP 3.0
- Microsoft Visual C++ Redistributable Package 2017

### Open JDK

Open JDK (Introduced in IC 7.3.9 SP)

Since IC 7.3.9 Release Oracle Java has been replaced with Open JDK Zulu Java for IC Server components. New Java binaries will be provided to Avaya folder during the Service Pack installation. Client applet-based applications such as AAWC still use Oracle Java.

### Cobrowse Feature removal

Cobrowse feature for Website chat and AARC has been removed since IC 7.3.9 Release. “Please wait” dialog for new chats has been removed from AARC as well.

### Microsoft Visual C++ Redistributable Package 2017

All IC components based on C++ code have been recompiled using Microsoft Visual C++ 2017. So Microsoft Visual C++ Redistributable Package 2017 needs to be installed on each machine with

IC components. This package will be installed during IC 7.3.9 Release installation.

### **SNMP v3 Support Open JDK**

Support of SNMP v3 protocol for IC Alarm server has been introduced in 7.3.9 release. The previous protocol version is still supported. Customer can continue using SNMP v2 or configure SNMP v3. See details in the following documents: Avaya Interaction Center Alarms User Guide, Avaya Interaction Center Core Services Programmer Guide, Avaya Interaction Center Administration Guide

### **CSPortal Enhanced logging**

Logging mechanism for IC CSPortal has been improved. New CSPortal logging feature uses log4j2 library.

### **Inter-domain Single-Step Conference scenario improvement**

Now in case of SSC between agents from different domains, it is possible to utilize the single VDUID.

When the target TS (monitoring the supervisor) gets a SSC call from an agent (monitored by other TS), it retrieves the UCID of the call from the C\_CONNECTED event and tries to find the existing VDUID using this UCID. The new option was implemented in TS - find\_vdu\_by\_ucid\_ssc. To enable the new feature, it is required to set this parameter to true for the TSeS via the IC Manager (double-click the TS server and navigate to the Configuration tab) and restart the TS servers.

### **Switch to Caller and Logout in Wrapup features for Siebel**

The Logout In Wrapup feature allows agents to log out while they have work items in wrapup state. In this case, the wrapup will be completed automatically prior to logout.

The Switch to Caller/Destination feature can be used during a consultation call, when an agent, which handles a call from a customer, needs assistance from other agent. This feature lets the agent switch between talking to the other agent and talking to the caller (the customer).

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## **IC 7.3.8 features**

### **Internal Products**

Support for the following platform updates:

- Avaya Aura 8.0
- Avaya CMS 18.1
- Avaya Experience Portal 8.0
- Orchestration Designer 8.0
- CVLAN Client 7.1.2
- Web LM 7.0.1

### **Third Party Products**

Support for the following third party products:

- VMware vSphere 6.5
- Microsoft SQL Server 2017
- Microsoft Windows Server 2016
- Microsoft Windows 10

- Citrix XenApp 7.17
- Java 8u181
- OpenSSL 1.0.2o

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## IC 7.3.6 features

### Ability to filter pools by tenant for outbound emails on Avaya Agent Rich Client

From IC 7.3.6 onwards, administrators can configure the `FilterPoolsByTenant` property to restrict the view of agents to only the pools of the tenant associated with the agent's primary workgroup.

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## IC 7.3.5 features

### Ability to pop out and pop in a chat tab to a separate window

IC 7.3.5 enables agents to pop out a tab with a chat task as a separate window. The separate window is independent and has its own toolbar. Agents can resize the window by dragging its borders and can also minimize and maximize the window. Agents cannot use the **Contact** menu in the popped out window and cannot close the popped out window when the chat is connected. The popped out window can be closed after the chat task is disconnected. Agents can also pop in the separate window back as a chat task on the main window.

Administrators can use the `AgentPreferences.xml` file to customize the dimensions and the close operations for the popped out window.

### Display of Estimated Wait Time for non Business Advocate chat

IC 7.3.5 provides the ability to display Estimated Wait Time (EWT) to customers when a non Business Advocate (BA) chat is routed to appropriate workgroups and no agent is available. Customers can see the EWT before the chat is routed to the agent. Customers see the EWT at every route step and in the language in which the chat is being carried out.

Administrators use IC Manager to configure EWT. By default, EWT is disabled.

### Enhancement to chat notifications

IC 7.3.5 provides the following enhancements to chat notifications:

- Web Agent icon or the popped out window flashing
- Color coding of chat items in a chat list
- Audio notifications

#### Web Agent icon flashing

Avaya Agent Rich Client (AARC) blinks the Web Agent icon or the popped out window when an agent receives a chat response, if:

- the chat window is inactive
- the chat window is minimized

- the agent is working on a different chat or email

After the chat window is brought back in focus, AARC stops blinking the Web Agent icon or the popped out window. If agents do not bring the chat window in focus, the Web Agent icon or the popped out window stops flashing and the icon or the window appears in solid orange. This orange color remains until the agent brings the chat window in focus.

Visual alerts are useful because agents might be busy working on other tasks while they wait for the customer to respond and therefore it is possible that agents might not notice when the customer responds. An audio notification is inadequate, because agents might have their audio muted or speakers turned down or off.

### **Color coding for chat list items**

AARC changes the background and text color of chat items in a chat list when the wait time exceeds the Service Level Agreement (SLA) levels set for agent response to chat messages. Administrators configure SLA levels in IC Manager. AARC resets the background and text color of the chat items in the chat lists to the default colors after the agent responds to the chat message. Administrators can set up to three threshold levels for color coding.

### **Audio notifications**

AARC sends a sound notification when an agent receives a chat response if:

- the chat window is inactive
- the chat window is minimized
- if the agent is working on a different chat or email

Administrators can customize sound alerts to indicate that customers have sent a chat response.

## **Multiple supervisors monitoring multiple chat and email workgroups**

From IC 7.3.5 onwards, an administrator can assign multiple supervisors to a single chat and email workgroup, and a single supervisor can be assigned to multiple workgroups. Therefore, supervisors can monitor a team of agents within the assigned workgroups without the agents being assigned to the supervisor. A single supervisor can monitor one agent at a time. In case of chat, Avaya Agent displays a monitored symbol after a supervisor starts monitoring an agent. Supervisors can view the status of other supervisors assigned to the same workgroup.

## **Support for blind transfer of chat contacts**

IC 7.3.5 supports blind transfer of chat contacts. Blind transfer allows agents to transfer the chat contact to a queue and get immediately dropped from the chat conference room without waiting for the other agent to receive the contact from the queue.

Using IC Manager, administrators configure whether agents can perform a consultative transfer or a blind transfer or both. Consultative transfer is the default option.

## **Support for TLS 1.2**

IC 7.3.5 implements Transport Layer Security (TLS) 1.2 for secure communications. IC 7.3.5 onwards Secure Sockets Layer (SSL) v3 is not supported.

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## IC 7.3.4 features

### Platform Upgrades in IC 7.3.4

IC 7.3.4 release provides the following upgrades:

- Microsoft Windows 10 Professional

### IC-Siebel integration to support Siebel 15.0.0.0.0

IC 7.3.4 supports integration with Siebel 15.0.0.0.0

On Red Hat Enterprise Linux 6.5, IC 7.3 Integration is only supported with Siebel Innovation Pack 14.0.0.0.0 and 15.0.0.0.0. If Siebel is installed on Red Hat Enterprise Linux Server 6.5, then the Siebel side IC integration components must be installed on the Siebel Linux Server (ICSideLinux package as ORB server and SiebelSideLinux package as AICD). The other IC Server components must be installed either on Microsoft Windows or Oracle Solaris.

## Java upgrade

In IC 7.3.4, Java runtime version is upgraded:

- From JRE 6u45 (32-bit only) to JRE 8u40 (32-bit only) on Windows platform.
- From JRE 6u45 (32-bit only) to JRE 7 (32-bit only) on Oracle Solaris Platform.

## Tomcat upgrade

In IC 7.3.4, Tomcat version is upgraded from Tomcat 6.0.37 to Tomcat 8.0.\*.

## Ephox Html Editor upgrade

In IC 7.3.4, Ephox Html Editor version is upgraded from 9.0.0.98 to 9.1.0.287.

## Java Mail upgrade

In IC 7.3.4, Java Mail version is upgraded from 1.4.7 to 1.5.2.

## Variable number of wrap-up code types

In IC 7.3.4, you can add up to seven more wrap-up code types in addition to the existing Reason and Outcome code types.

## Support for dot and hyphen in the user names of agents

In IC 7.3.4, you can create Agent IDs having dot and hyphen characters. For example, john.smith\_en.

---

## IC 7.3.3 features

### Platform Upgrades in IC 7.3.3

IC 7.3.3 release provides the following upgrades:

- VMWare 5.5 ESXi
- VMWare VDI (Horizon View 6)
- Microsoft Hypervisor 2012 and 2012 R2
- Citrix XenApp 7.5
- Citrix XenDesktop 7.5
- Microsoft SQL 2012 database (Standard and Enterprise edition)
- Microsoft SQL 2014 database (Standard and Enterprise edition)
- Oracle 12.1c database
- Microsoft Window 8.1 Professional
- Microsoft Window 2012 R2 Server (Standard and Datacenter edition) with IIS 8

- Website customer browser support for Microsoft Internet Explorer 11
- IC-Siebel integration to support Siebel 8.1.1.11 Open UI
- IC-Siebel integration to support Siebel 8.2.2.4 Open UI
- Localization of chat properties

For information on configuring IC, see *Avaya Interaction Center Installation and Configuration*.

IC Release 7.3.3 and later does not support the following:

- Microsoft Windows XP
- Microsoft Windows Vista
- Microsoft Internet Explorer 7
- Microsoft Internet Explorer 8
- IBM AIX
- IBM DB2 database

**\* Note:**

IBM AIX and IBM DB2 is only supported on Interaction Center 7.3, 7.3.1, and 7.3.2. For more information, see “Operating system compatibility”.

#### Related links

[Operating system compatibility](#) on page 46

## Support for SMTP authentication for outbound emails

IC 7.3.3 supports Simple Mail Transport Protocol (SMTP) authentication with Transport Layer Security (TLS) to secure authentication for outbound emails.

## SSL support for SMTP for outbound emails

IC 7.3.3 supports Secure Sockets Layer (SSL) security for SMTP to secure outbound emails.

## Maintain existing IC chat features and functionalities

IC 7.3.3 supports all existing IC 7.3.2 chat features and functionalities.

**\* Note:**

Running both CSPortal and out-of-the-box public website on same machine is not supported.

## EWT for web-based customers (with Avaya Business Advocate only)

Avaya Business Advocate supports displaying of the Expected Wait Time (EWT) on the website to customers wishing to chat with an agent.

## Support for Multi-tab

IC 7.3.3 supports chatting on multiple tabs of the same website URL. The chat communication running on each tab is consistent because all the tabs record the same messages.

## **Support for saving chat transcripts in the text format by customers**

Using IC 7.3.3 customers can save chat transcripts in the text format on their local machines. Chat transcripts are saved in plain text format only. Tabs, spaces, carriage return, and ASCII representation of emoticons are preserved.

## **Support for chat, scheduled call back, email form from mobile and tablet native apps on Android**

IC 7.3.3 supports chat, scheduled call back, email form from mobile and tablet native apps on Android.

For Android, only plain text is supported for sending emails as present in the browser version of CSPortal.

## **Survey page in CSPortal**

IC 7.3.3 provides a survey page in CSPortal that administrators can display to customers, after customers have completed chatting with agents. Administrators can collect customer feedback by using the survey page.

## **Support for customer account**

IC 7.3.3 supports creation of customer accounts on the Admin website.

## **Enhance chat transcript search and sort for agents and supervisors**

IC 7.3.3 enhances the chat transcript search and sort for agents and supervisors.

## **Email transcript search and sort for agents and supervisors**

IC 7.3.3 supports email transcript search and sort for agents and supervisors.

## **Reset chat timeout duration when customer reverts to agent**

IC 7.3.3 supports resetting the chat timeout duration when customer reverts to agent. This functionality is the same as was present in IC7.3.2 out-of-the-box website.

## **Set the schedule call back question character maximum length to 999 in the database**

IC 7.3.3 sets the schedule call back question character (nvarchar) maximum length to 999 in the database.

## **All chat APIs are based on REST**

In IC 7.3.3 all chat APIs are based on REST. REST supports chat clients on browsers and native applications of iOS and Android.

## EWT API

In IC 7.3.3 an API for EWT is available to Avaya Business Advocate customers for integrating into their web applications.

## Email filter enhancement to support regular expressions

IC 7.3.3 supports the use of regular expressions for email filters. An Email Filter Tool has been provided in the Design and Admin package for an administrator to test regular expression strings against the expected incoming email addresses.

## Chat timestamp feature

IC 7.3.3 supports displaying chat time on the agent chat screen.

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## IC 7.3.2 features

### Security enhancements in IC 7.3.2

#### General security fixes

- The server-side code for Secure Sockets Layer (SSL) is updated so that the server does not accept the SSLv2 connections, which results in a secure connection.
- The permitted cipher list is updated to use strong ciphers only on encrypted connections.
- The WebChannel connector server prevents malicious users from accessing files outside the Avaya Interaction Center installation folder.

#### Password encryption

Passwords are sent in an encrypted form when logging on to the following applications:

- RLManager
- Admin Website
- Software Development Kit
- Avaya Agent Web Client

### LDAP authentication for Admin Website and RLManager

The following IC components use LDAP authentication to log in:

- Admin Website
- RLManager

### Selective download of templates and statuses

Till IC 7.3.1, templates created in RLManager were accessible to all agents. However, all agents might not require access to all templates. Therefore, in IC 7.3.2, administrators and supervisors can restrict access of templates to specific workgroups.

Agents are always assigned to workgroups. In RLManager, you can now assign workgroups to folders. When agents log in to the agent client applications, Avaya Agent Rich Client (AARC) or

Avaya Agent Web Client (AAWC), only those templates that are inside folders mapped to the workgroup of the agent are downloaded. The root folder is virtually mapped to all workgroups. Therefore, templates belonging to a root folder are visible to all agents. The same logic applies to statuses also.

 **Note:**

In RL Manager, if you map the child workgroups to a folder, you must explicitly map all child workgroups to the required folder. By default, the child workgroups are not mapped to the folder when you map the parent workgroup to a folder.

With RLManager, supervisors can only modify those folders, templates, and statuses that are mapped to the workgroups of the supervisor. However, supervisors can view and copy any of these elements. Only users with the “Admin” role are given full access to all elements in RLManager.

In IC Manager, the administrator can configure an option for an agent to use selective downloading of template and statuses.

- Agent/Desktop/Resources - **Template Download**
- Agent/Desktop/Resources - **Status Download**

By default, selective downloading of templates and statuses is disabled to retain the earlier IC process. For more information about changing the properties, see *Avaya Interaction Center Administration Guide*.

## Secured authentication using Access Security Gateway

In IC 7.3.2, Access Security Gateway (ASG) provides a secured authentication mechanism to securely access the remote IC Servers and Administration systems.

ASG is a secured and strong authentication mechanism that Avaya service engineers can use to securely log in to a Windows system of a customer, where IC servers or administration software is installed. ASG uses the Challenge and Response authentication.

Microsoft Windows applications provide ASG as a plugin. ASG is installed when you install IC 7.3.2.

The ASG plugin is available only for the following platforms:

- Microsoft Windows 2008 R2 (Standard, Enterprise, and Datacenter edition)
- Microsoft Windows 7 (64-bit)
- Microsoft Windows 7 (32-bit)

Only the Windows Server, Design & Admin, and Windows Web Connector packages include the ASG plugin.

## Support for Internet Explorer 9 and 10 for AARC, AAWC, and admin components

IC 7.3.2 supports the 32-bit version of Microsoft Internet Explorer 9 and 10.

Following components are supported with Microsoft Internet Explorer 9 and 10:

- Avaya Agent Rich Client (AARC)
- Avaya Agent Thin Client
- IC public website
- IC Admin website
- Email template management (RL Manager)

## JRE and Tomcat Upgrade

In IC 7.3.2, JRE versions are upgraded as follows:

- Windows and Solaris systems: JRE upgraded from 1.6.0\_10 to 1.6.0\_45.
- AIX systems: JRE upgraded from 1.6.0 SR3 to 1.6.0 SR15.

In IC 7.3.2, Tomcat versions are upgraded from 6.0.14 to 6.0.37.

## Support for SIP endpoints

IC 7.3.2 supports the following SIP endpoints:

- 9608
- 9611
- 9621
- 9641

### Important:

IC 7.3.2 supports SIP endpoints only on the Windows platform with AES version 6.3 and later.

## WebLM version upgrade to 6.3.4

The IC 7.3.2 installer includes the WebLM 6.3.4 server. The WebLM client libraries that the IC license server uses are upgraded from 4.7.1 to 6.3.4.

In IC 7.3.2, Tomcat versions are upgraded from 6.0.14 to 6.0.37

## Ephox Editlive! HTML editor upgrade for Avaya Agent Rich Client

The Ephox Editlive! HTML editor is upgraded to the 9.0.0.98 version. This upgrade has improved the following functions at Web agent:

- Better handling of memory leaks
- New crash APIs for providing indications when the editor fails
- Better rendering of email messages

## Performance enhancement for the email migration tool

IC 7.3.2, provides the following enhancements in the email migration tool for migrating emails from the database:

- Performance enhancement: The new tool migrates emails faster than the earlier email migration tool. However, no difference is discernible in migrating the file-based emails to the database.
- Transactional migration: The email migration tool migrates emails in batches when records are migrated only one time. The email migration tool uses database transactions to commit or rollback an entire batch of records. There are no partial commits to the database. Either the entire batch fails or the entire batch succeeds.
- Date/Time migration: The date and time details in the records are converted from the UTC format to the LTC format before migration.

## Support for adding multiple attachments to an email

In IC 7.3.2, agents can add multiple attachments to a new email in Avaya Agent Rich Client (AARC). Agents can select and add multiple attachments using the `Control` or the `Shift` key.

## Support for RONA reason code

In IC 7.3.2, the Telephony Server configuration includes a new property called RONA Aux Reason Code. The Telephony Server uses this property value as the specific reason code for RONA calls with Business Advocate.

For RONA calls with Business Advocate, the Telephony Server earlier used the default AUX reason code configured in the Default Aux Reason Codes property in the Telephony Server configuration. With the default reason code, identifying the RONA calls and other calls in the reports was difficult. Therefore, IC 7.3.2 introduced the new property called RONA Aux Reason Code.

## RONA exit reason

In versions earlier to IC 7.3.2, for Redirection on No Answer (RONA) calls, the `exit_reason` field in the `routingevent` table was updated with the value `Normal`. The earlier version made it confusing to understand the exact exit reason. In IC 7.3.2, the `exit_reason` field is updated with the value `RONA` to indicate the correct exit reason.

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## IC 7.3.1 features

### Simplified IC Dump feature

The Simplified IC Dump feature helps IC processes to create core dump in various scenarios. The feature automatically creates the core dump in application crash scenarios. In other scenarios, where a process is still running, creating a core dump is similar to selecting the server in IC Manager, and then clicking a toolbar button.

Using the Simplified IC Dump feature, the IC application can perform the following:

- Create a core dump with correct bit value, that is, a 32-bit core dump.
- Create a full memory core dump file of the process.
- Create a core dump automatically on crash of any IC process, such as toolkit server or a client.
- Create a core dump of a running IC server through IC Manager without affecting the IC server process.
- Create a core dump in the IC installation location in the IC logs folder.
- Create a core dump with a unique name containing the time stamp to maintain earlier core dumps.

## Replace workgroup functionality

The Replace functionality is added to Multi Agent Edit feature of IC Manager. The Replace functionality helps simplify the process of replacing the workgroup membership of an agent with new workgroup membership. This allows moving all agents of one workgroup to another workgroup.

In Workgroup Membership window, a new button **Replace>>** is added with the add member (>>) and remove member (<<) buttons.

## Changes in the Agent Multi-Edit operation

### Only one operation at a time

You can only perform one operation at a time. The allowable operations are add, remove, or replace. Before you can perform the next operation, you must commit the changes by clicking **Apply** on the Agent Editor dialog box. By committing the changes, you ensure that the workgroup membership is updated with appropriate ordering before the next operation, which avoids database corruption.

### Display common members only

As the MultiEdit window displays common values across all the agents being edited therefore, only the common workgroups across all the agents are displayed as members of the field.

### Adding new workgroup

If a new workgroup is added in the member list, the workgroup is added at the last position in the member list for each individual agent.

### Removing workgroup from common member's list

If any workgroup is removed from the member list, the workgroup is removed from all agents who are being edited. The order of the workgroups that is present after the workgroup is removed is pushed up by 1.

### Workgroup re-ordering

Member reordering, that is, the member move-up and move-down arrow buttons are unavailable for MultiEdit, as the order of common groups might vary for all agents being edited.

## Microsoft Internet Explorer 10 support for chat escalation

IC 7.3.1 supports Microsoft Internet Explorer (IE) 10 for chat and collaboration. Use of IE 10 on the Agent side is not supported.

The following functionality is supported for customers using IE 10:

- Escalate a chat contact.
- Co-browse.
- Collaborative Form filling.

### Important:

IC 7.3.1 does not support Microsoft Internet Explorer 10 in Microsoft Internet Explorer 9 Mode, Microsoft Internet Explorer 10 in Microsoft Internet Explorer 8 mode, and Microsoft Internet Explorer 10 in Quirk mode.

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## IC 7.3 features

### Operational Analyst support

Interaction Center 7.3 integrates and works with OA 7.3.

### Avaya one-X<sup>®</sup> Agent support

IC 7.3 supports Avaya one-X<sup>®</sup> Agent 2.5 as an endpoint for IC agents.

### HTML editor replacement for Avaya Agent Rich Client

The new HTML editor provides IC agents with a customized email editor and enhanced HTML editing capabilities. Separate xml files are provided for configuring each of the following:

- New outbound emails
- Forward or reply for emails
- Email preview
- Resources configuration

Certain properties in the `Application.properties` file are obsolete. The properties are now configured in the xml files.

The new HTML editor provides the following functionality:

- Resource support: Editing, viewing, or previewing resources
- Email support: Editing, viewing, or previewing emails
- Hyperlink support: Hyperlinks work if present in the email body. To add hyperlinks in the email body a hyperlink button is present in the HTML toolbar of the HTML editor.
- Printing support: WebAgent uses Java Desktop Integration Component (JDIC) for printing emails because Editlive does not provide printing

- Print Screen support
- EditorUtil provides utility functions for the editor. The utility functions include a method that converts plain text to HTML that considers <br> as a line break. This function must be changed to use <p> tags.
- HTML part of the email: While sending out an email, data within the <body> tag has an associated style sheet declared inline.
- Email templates - Email templates insert a <p> tag instead of a <br> tag.

 **Note:**

Email templates impact existing email templates on the deployment site.

Before using the Avaya Agent Rich Client ensure that the fonts that are configured in the configuration files are already installed on the system where the Avaya Agent Rich Client is installed.

## Time in email template enhanced to support the 24-hour or 12-hour format

In the previous release of IC, Time format in the email templates sent from IC display a 24–hour format although the system time is set to a 12–hour format. IC Release 7.3 supports the 12–hour time format display in templates for countries using the following languages:

- Traditional Chinese
- Simplified Chinese
- Korean
- Japanese
- Thai
- English

Countries using the 24–hour time format continue to observe the existing pattern.

Daylight-Saving Time (DST) is not considered in the 12 to 24–hour conversion and vice-versa.

This feature is supported on all IC supported platforms. For example, Windows and Solaris.

 **Important:**

- The system time format is used by the %TIME% macro. Therefore, the system displays the 12–hour format only if the 12–hour time format is configured in the system.
- Any change to the time format requires a restart of the IC servers for the change to take effect.

## SNMP-MIB enhancement for different OIDs in Traps based on priority

In the previous release of IC, all alarms reported were under the same OID and the descriptions were changed by IC. Hence, NMS could not differentiate alarms based on their priority.

In IC Release 7.3.x, MIB includes a unique OID for alarms based on priority. New OIDs are added for critical (7), major (8), and minor (9) alarms. Traps contain one of these OIDs depending on the alarm severity.

## Ability to enter email display name in IC Manager

Using this feature, you can configure a display name for each email account configured in IC. If you configure this feature for all Outbound emails, the email client shows a display name to the customer instead of an email address. For example, on receiving a mail from support@testdomain.com, customers can see Support Test in the email client. This feature provides a user-friendly and logical way for customers to identify emails. If you do not configure the display name, customers continue to see the email address in the respective emails. For example, sales@testdomain.com.

## Options to set column width, size, and location of chat task list in IC agent

Using this feature, you can customize the chat list attributes. For example, you can change the column width, size, and location through the .cdl file. These changes persist over successive logins of Avaya Agent Rich Client.

In the next agent login, the most recent changes on the running application or the changed .cdl file take precedence over the other setting changes .

## Service Class OWT data in OA reports

In IC 7.2 the Oldest Wait Time (OWT) for OA reports calculations were based on the EDU.Createtime. In IC 7.3 release, the definition of OWT is as follows:

OWT: Waiting time of the oldest contact in a Service class Queue. The waiting time is calculated from the moment the contact enters the service class and not the time (EDU.Createtime) it enters the IC system. The time the contact enters the service class queue is also called as "QueueArrivalTime" (QAT) and synonymously called as ResourceRequestDate.

With the new definition, one can determine how long a call/contact has waited in the service class queue before getting assigned to an agent.

In vespidl.pk, the TSA and WAA servers use the following APIs for ResourceRequest. These APIs have a new parameter added to indicate the time the ResourceRequest was sent to ResourceManager.

```
ResourceManager_RequestRsc/ORBStatus strReqId/string  
strResourceId/string slQualifiers/*SeqLong  
lOriginalRequestDate/long lFlags/long lTimeoutState/
```

```
ResourceManager_RequestRscExcept/ORBStatus strReqId/string  
slQualifiers/  
*SeqLong strExceptResourceId/string
```

## EDU Fields

In WAA server two new values, sc.state and sc.qat, are added in the EDU of the contact when it is processed by the WAA server. These values have no relevance outside the context of the WAA

server. When a contact is sent for ResourceRequest, the ResourceRequestDate is considered as the “QueueArrivalTime”, in case the contact was queued to a service class.

The TSA server does not add any of the fields mentioned to EDU of the contact.

 **Important:**

Do not use the sc.qat and sc.state fields in EDU. These are only for internal server use.

## Workflow server enhanced to handle large number of workflow channel assignments

In the previous release of IC, channel assignment and event flow association was done through the **Configuration** tab of the Workflow server. This resulted in a number of `vesp.imp` and `ds.ffid` files for a huge number of channel associations, which at times might result in request time outs.

In ICRelease 7.3.x, the Workflow server is enhanced to provide channel assignments through scripts. The channel associations are loaded by the Workflow server through synchronous startup flow or startup flow as `<project_name>.<script_name>`.

The following methods are introduced at a script level:

- ChannelAssign String Range, String InterfaceName, String AssignCriteria

For example, ChannelAssign "1", "TS", "\*r50001"

- ChannelAssociate String Range, String EventName, String FlowName

For example, ChannelAssociate "1", "TS.IncomingCall", "ts.incomingcall"

These script extensions can be used in a custom flow, configured as synchronous startup flow or startup flow. The channel assignment and event-flow association information goes into this flow.

The number of channel assignments for a Workflow server is configured using **assigncount** on the **Configuration** tab of the Workflow server. The maximum recommended value for **assigncount** is 2047.

 **Note:**

You can configure channel assignments and event flow associations through scripts. However, using the **Configuration** tab for this purpose is still supported.

While configuring channels and associations using scripts, validating the uniqueness of the range **Channel Assign Number** is the responsibility of the script writer. The range of channel associations must match **ChannelAssign**. If you do not provide unique ranges in the flow script, the Workflow server logs this condition and does not start.

## Support for displaying chat typing status

IC 7.3.x supports display of the typing status in a live chat in IC. This feature provides the typing status indication on the customer side and also the agent side. This feature also provides the name of the agent or customer who is typing in the chat window.

The following Avaya Agent Clients support this feature:

- Avaya Agent Rich Client
- Avaya Agent Web Client
- Avaya Agent SDK Client

Chat Typing Status supports the following features in IC 7.3.x:

- When an agent starts typing, IC displays the following message to the customer: [*agent preferred name*] is typing.
- When a customer starts typing, IC displays the following message to the agent: [*customer display name*] is typing.
- When you click the **enter** key, the **say** button, or the **push url** button, the typing status message is removed.
- In a multiple-party conference, when any one of the party starts typing, a typing status message is displayed to other parties in the conference.
- In a multiple-party conference, when one or more parties start typing, the following messages are displayed to other respective parties in the conference: [*customer\_display\_name1, customer\_display\_name 2*], [*Agent\_preferred\_name1, Agent\_preferred\_name2*] is typing.
- While typing, if a party does not press the **enter** key or the **say** or **push-url** buttons, after a specific configurable time interval, the message is not displayed to the other parties.
- After disconnecting and wrapping up a chat call, the typing status message gets removed.
- After joining multiple customers in a chat call using **join-us**, the typing status of the customers is displayed to each other and other parties in the call.
- You can configure the typing status message indication using the IC Admin website.

## Workflow Server Modification for Dynamic Queue Contact Entry

The PostQualification and PostQualificationEx blocks of the following workflows are modified:

- advocate.qualifyemail\_adv
- advocate.qualifychat\_adv
- advocate.qualifyvoice\_adv
- advocate.handle\_exception
- advocate.transfertoagent\_adv

SeqCouple, a new EDU parameter is added to arrival\_time in the PostQualification blocks mentioned earlier. By default, the arrival\_time field is set to EDU.Createtime and is used for contact priority calculations per service class. Using the arrival\_time field customers can customize and use flows to modify the contact priority calculations according to the business needs.

## Synchronization between the Siebel toolbar and deskphones

In IC 7.3, the Siebel client is enhanced to allow the agents to log back in through a Siebel browser even if the agents are already logged in to a deskphone. The agent client toolbar and the deskphone are synchronized on agent login.

## Support for cancelling a task with a specified status on the Web Admin page

In IC 7.3.x, you can use the Web Admin pages to cancel a task with a specified status, rather than only being able to cancel tasks without assigning any reason. You can specify any of the resolved statuses that are configured using RLManager.

On the Web Admin page, the administrator can see a drop-down list containing all the resolve statuses configured in the system. The administrator can then select any task and cancel the task using the appropriate resolve status for each business application.

## Support for Extended UI data in the Telephony Services Adaptor server

In IC 7.3.x, the Telephony Services Adaptor (TSA) server is enhanced to support Extended UII data. You can use the Enable Extended Data Support parameter, which is a new server configuration parameter to enable and disable handling extended data by the TSA server.

### Case 1

If you enable the Enable Extended Data Support configuration parameter, TSA first tries to get the Extended UII data from the Telephony server (TS) events. If that attempt is unsuccessful, then TSA tries to get the Extended UII data from the Electronic Data Unit (EDU) server. The newer TS APIs are called with the fetched Extended UII data.

### Case 2

If the Enable Extended Data Support configuration parameter is disabled, TSA does not try to get the Extended UII data either from the TS events or from the EDU server. The newer TS APIs are called with NULL or empty Extended UII data.

## Restrict the retries by WACD on requesting the WAA to qualify a task when no agent is logged into IC

The Web Agent Automatic Contact Distributor (WACD) server contains the RequestResourceRetryCount configuration parameter. This parameter controls the number of retries that the WACD RequestResource makes to the Web Advocate Adapter (WAA) server. For example, if you set the value of the RequestResourceRetryCount parameter to 1, WACD sends WACD.RequestResource maximum two times. The first time WACD tries to send and the second time WACD retries the action.

### Note:

Chat contacts in the Advocate mode use the RequestResourceRetryCount parameter.

If you do not configure the ResourceRequestRetryCount parameter, or provide a negative value for the ResourceRequestRetryCount parameter, the ResourceRequestRetryCount parameter value is set to the default value, 1000.

## Support for the Agent Server for Integration with Siebel server to read IC group properties without requiring a server restart

In IC 7.3.x, the Agent Server for Integration with Siebel (ASIS) server does not require you to restart the server to read the group properties set in IC Manager.

### **Note:**

After changing the group properties, agents must log in again for the changed properties to take effect.

## Support for adding TS UUID and ALIAS in EDU for IVR applications

TS can add its own UUID and an alias name in the voice.x.uuid and voice.x.owner EDU containers. Using this process you can identify the TS that created the particular EDUID.

## HttpVOX and VOX support for the TS.TransferExVDU method

HttpVOX and VOX support the TS.TransferExVDU method so that Extended UUI data is preserved while transferring a call.

## HttpVOX and VOX servers to support extension numbers in excess of 2<sup>^</sup>31

HttpVOX and VOX servers are compliant with the E.164-based dial plan.

## Monitoring IVR extensions using \*v assignment

By default, HttpVOX assigns stations using the “\*v” criteria. In the earlier IC releases, HttpVOX used to assign stations using the “\*p” criteria. This change is made to support the **Converse-On** step in vectors.

## WACD Admin page displays information about invalid email requalification attempts

For invalid email qualifications, the WACD Admin page displays the following message in red font:  
`waiting for qualification`

### **Note:**

Invalid qualification means that the workflow to qualify chat or email is unavailable, or the workflow is taking excessive time for qualification because of which WACD times out.

## Disable Ready/NotReady button if Siebel agents are not logged in to any channel for IC Siebel

The **Ready/NotReady** button is disabled if no Siebel agents are logged in to any channel for IC Siebel. The **Ready/NotReady** button is enabled when the connection resets and Siebel agents can log in to any channel for IC Siebel.

## Interaction Center 7.3 integration with LDAP

Enterprises widely use Lightweight Directory Access Protocol (LDAP) for user management. IC was using its own proprietary user management facility through a repository database to manage users. Because of this, enterprises had to manage users on both Active Directory or LDAP and IC, which made user synchronization difficult. Using IC integration with LDAP, users can synchronize with Active Directory or LDAP to make user management easier. Avaya Interaction Center 7.3.x supports LDAP versions 2 and 3 on Microsoft Windows Server 2008 R2 and Microsoft Windows Server 2012 R2.

## Performance gains in SDK WebServices using DS Authentication-Only API over full DS Login

A new DS Authenticate method is added for authentication using a username and password. The DS Authenticate method only verifies the authenticity and expiry of user credentials. Therefore, this method is faster than the existing login process that queries and updates various tables in the database. IC SDK WebServices is also updated to use the Authenticate method instead of the login process, to reduce the authentication time when calling a WebService.

## Windows 7 64-bit support

Interaction Center 7.3 supports Microsoft Windows 7 64-bit operating system for the following applications:

- Avaya Agent (Rich Client)
- Avaya Agent Web Client (Thin Client)
- BA Admin Tool
- BA Config Tool
- IC Manager
- Config Tool
- Config Accelerator
- SDK client

## Updating DCO Money fields

Consider the following points that specify the Currency formats in the **Regional and Language Options** when updating the **Money** fields, if custom applications use dcoMoney fields.

1. The Money fields do not accept input strings with spaces between the digits. For example, 123 456 789.
2. The default settings for “Decimal symbol” and “Digit grouping symbol” of any locale used needs to be same as the default setting on the machine where the DataServer runs.
3. The “Digit grouping” format must not be customized. Use the default formats for all the locales.

## OA Features

### OA 7.3.11 features

Support for the following platform updates:

- Upgrade Log4J to version 2.17.1
- Windows Server 2022
- CMS 18.1.0.4
- CMS 19.2.0.3

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### OA 7.3.10 features

Support for the following platform updates:

- Avaya CMS 19.2.0.1
- Java 8u292 – Open JDK (For Integration with CMS 19.2.0.1 package)

---

### OA 7.3.9 features

#### Internal Products

Support for the following platform updates:

- Avaya CMS 19.1 (with additional patch AOA 7.3.9.1)

#### Third Party Products

Support for the following third party products:

- VMware vSphere 7.0
- Microsoft SQL Server 2019
- Oracle 19C
- Microsoft SQL Server 2019
- Windows Server 2019
- Windows 10 latest updates
- Windows 8.1 latest updates
- ESXi 7.0
- Java 8u181 – Open JDK
- Tomcat 9.0.12

#### Microsoft Visual C++ Redistributable Package

All OA components based on C++ code have been recompiled using Microsoft Visual C++ 2017. Therefore, Microsoft Visual C++ Redistributable Package 2017 needs to be installed on each machine with IC components. This package should be installed manually before OA 7.3.9 Release installation.

## Enhanced authentication for reporting

- New authentication features were added:
- Session authentication
- Logout mechanism
- Login page was added
- Idle timeout feature

## Secure LDAP support

Starting from 7.3.9 AIC supports secure LDAP connections (LDAPs). A certificate should be generated and installed on MS Active Directory server. In addition, this certificate needs to be added to Java key store on OA machine.

---

## OA 7.3.8 features

### Internal Products

Support for the following platform updates:

- Avaya CMS 18.1

### Third Party Products

Support for the following third party products:

- VMware vSphere 6.5
- Microsoft SQL Server 2017
- Microsoft Windows Server 2016
- Microsoft Windows 10
- Java 8u181

---

## OA 7.3.4 features

### Support for CMS R18 on both Solaris and Red Hat Enterprise Linux platforms

OA 7.3.4 supports CMS R18. The additional column data added in the interval tables of CMS R18 would not be exported to the OA historical database. The OA data model for CMS R18 would be treated as per the CMS R16 database model. CMS R18 added following new ECH field

- Tenant: The ID of the tenant partition to which the resource belongs.

In OA 7.3.4 there are no changes in functionality in any of the CMS interval tables. There are no changes to the ECH functionality. There is no functionality difference from between CMS 16.1, 16.2, 16.3, 17.0, or 18.0 in OA. For more information about the previously mentioned features, see the CMS R18.0 User Guide.

### Support for JRE 8 on Microsoft Windows and Red Hat Enterprise Linux

OA application now supports JRE 1.8.xx on Microsoft Windows and 1.7.0\_xx for Server components on Oracle Solaris platform (OA and CMS) The procedure for OA upgrade or Migrate remains the same as in previous release.

## Support for Tomcat 8 on Microsoft Windows and Oracle Solaris

OA application now supports Tomcat 8 for its Reporting application for all the supported platforms namely Microsoft Windows and Oracle Solaris.

- On Microsoft Windows, the Stumbras-Tomcat Reporting service has been permanently discontinued. A new service named `Avaya OA Reporting Application` is the new OA Reporting service name (A windows service for OA Reporting server), part of OA Reporting component install.
- You must have JRE 1.8.0\_xx (latest version) on the OA Reporting supported Desktops.
- On OA Reporting Web page, the option for downloading the JRE and Reporting support files using the `Install Supporting Files` URL link is removed from OA 7.3.4. Appropriate JRE versions (latest 180\_xx), 32 bit, on OA Report desktop is a mandatory pre-requisite. The other supporting files required for running the 3D reports are automatically downloaded by the OA Reporting applet.

## Support for Microsoft Windows 10 Professional

OA 7.3.4 now supports Microsoft Windows 10 Professional. For browser based client applications like OA Reporting and OA Administration Client only Internet Explorer 11 32-bit is supported on Microsoft Windows 10 Professional.

---

## OA 7.3.3 features

### Platform Upgrades in OA 7.3.3

OA 7.3.3 release provides the following upgrades:

- Microsoft Window 8.1 Professional
- Microsoft Window 2012 R2 Server (Standard and Datacenter edition)
- Microsoft SQL 2012 (64 bit) (Standard and Enterprise edition)
- Microsoft SQL 2014 (64 bit) (Standard and Enterprise edition)
- Oracle 12.1c on Solaris SPARC and Windows platform
- Microsoft Internet Explorer versions 9 (32-bit), 10 (32-bit), and 11 (32-bit)
- CMS 17 FP4
- VMWare 5.5 ESXi
- Microsoft Hypervisor 2012 and 2012 R2

OA 7.3.3 Release does not support the following:

- Microsoft Windows XP
- Microsoft Windows Vista
- Microsoft Internet Explorer 7

- Microsoft Internet Explorer 8
- IBM AIX
- IBM DB2 database

**\* Note:**

IBM AIX and IBM DB2 are supported only on OA 7.3, 7.3.1, and 7.3.2. For more information, see “Operating system compatibility”.

- OA Advanced reports

**\* Note:**

For Advanced reporting, Avaya OA uses COGNOS 7.4. COGNOS 7.4 runs only on the 32-bit Windows system and does not have a compatible version that can run on the 64-bit system. However, Avaya OA only supports Windows Server 2008 R2 and Windows Server 2012 R2. Therefore, you cannot use Advanced reporting on Windows Server 2008 R2, Windows Server 2012 R2, Solaris, or AIX.

The Advanced Report sub system only functions on Microsoft Windows XP. Since, Microsoft Windows XP support is discontinued in OA 7.3.3, Advanced Report sub system is not supported from OA 7.3.3 onwards.

#### Related links

[Operating system compatibility](#) on page 46

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## OA 7.3.2 features

### Support for CMS R17.0.x on both Solaris and Red Hat Enterprise Linux platforms

OA 7.3.2 supports CMS R17, R17 FP1, R17 FP2, and R17 FP3. There are no changes in functionality in any of the CMS interval tables. There are no changes to the ECH functionality.

There is no functionality difference from between CMS 16.1, 16.2, 16.3 or 17.0 in OA. For more information about CMS features, see *CMS R17.0 User Guide*.

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## OA 7.3 features

### Microsoft Windows 2008 R2 (Standard, Enterprise, and Datacenter edition) support

OA 7.3 supports Microsoft Windows 2008 R2 (Standard, Enterprise, and Datacenter edition).

Windows Server 2008 R2 extends the Windows Server 2003 operating system, providing a more efficient way to manage and control access to local and remote resources while easily integrating into your existing Windows Server 2003 environment. Windows Server 2008 R2 provides a

scalable, security-enhanced Web platform that provides seamlessly interoperability with UNIX-based systems. Windows Server 2008 R2 also enables new scenarios including simplified branch server management, improved identity and access management, and more efficient storage management.

**\* Note:**

You can only perform a fresh install of OA on Microsoft Windows 2008 R2 (Standard, Enterprise, and Datacenter edition).

## Oracle Solaris 10 support

OA 7.3 supports Solaris 10.

Solaris 10 introduces changes in the installation of the operating system to provide a simplified and unified installation process. Solaris 10 also contains features such as Predictive Self-Healing and Solaris Zones software partitioning technology. Predictive Self-Healing includes significant changes to the booting and service administration processes. Zones are used to make the operating system services virtual and provide an isolated and secure environment for running applications.

## IBM AIX 6.1 support

OA 7.3 supports AIX 6.1.

AIX 6.1 provides improved flexibility and security, superior performance, increased system utilization and efficiency, and easy administration.

## Microsoft Windows 7 support

OA7.3 supports the 64-bit version of Windows 7 for the Avaya OA Data API utility and Report client with Microsoft Internet Explorer version 8.0.

Windows 7 provides improved backup and restore functions and performance and security. Windows 7 also provides Instant Search, Windows Sidebar, Problem Reports and Solutions, and Windows System Assessment Tool.

## Microsoft SQL Server 2008 R2 support

OA 7.3 supports the 64-bit version of the Microsoft SQL Server 2008 R2 (Standard and Enterprise) database.

Microsoft SQL Server 2008 R2 provides a comprehensive business platform for data integration, analysis, and reporting. Microsoft SQL Server 2008 R2 supports the highest performance, availability, and security to run your applications with native data encryption, secure default settings, and password policy enforcement.

**\* Note:**

On Windows Server 2008 R2, OA only supports the 64-bit version of SQL Server 2008 R2.

## Oracle 10g, 11g, and 11.2g support

OA 7.3 supports the 64-bit version of the Oracle 10g, 11g, and 11.2g database.

The Oracle database provides tools that automate the well-structured DBA tasks, freeing-up the DBA to pursue more challenging work. The Oracle database also includes features such as Automatic Memory Tuning, SQL Performance Analyzer, Automated Storage Load Balancing, and Automatic Diagnostic Repository.

## IBM DB2 9.5 support

OA 7.3 supports DB2 9.5.

DB2 9.5 provides a way to easily manage common and critical tasks and extend the workload management capabilities. DB2 9.5 also provides enhanced security, performance enhancements with radical improvements in query time for complex queries, and high availability of data.

## Microsoft Internet Explorer 8.0 support

OA 7.3 supports the Microsoft Internet Explorer 8.0 (32-bit) browser.

Microsoft Internet Explorer 8.0 (32-bit) provides improved navigation through tabbed browsing. Internet Explorer 8.0 also provides advanced printing, reading and subscription to RSS feeds, and web search from the toolbar.

## Active Directory support

OA 7.3 supports Active Directory on Microsoft Windows 2008 R2 (Standard, Enterprise, and Datacenter edition).

## Support for Apache Tomcat on Solaris

OA 7.3 supports Apache Tomcat 6.0.32 on Solaris.

Apache Tomcat is a Java servlet container and a web server from the Apache software foundation. Apache tomcat is bundled with the Avaya OA 7.3 installer.

## CMS R16.1, R16.2, and R16.3 support

OA 7.3 supports CMS R16.1, R16.2, and R16.3.

From CMS R16.0, new data items are added to support the following features of Communication Manager 6:

- Interruptible AUX
- Preferred Skill Level Routing

The Interruptible AUX and Preferred Skill Level Routing features are available as a part of CMS R16.1, R16.2, and R16.3 implementation.

The OA 7.3.x data model does not support the Interruptible AUX and Preferred Skill Level Routing features, which are included as part of the different interval tables for CMS R16.1.

**\* Note:**

OA 7.3.x does not completely support CMS R16.1. You cannot export the additional column data added in the interval tables of CMS R16.1 to the OA historical database. The Avaya OA data model for CMS R16.1 is treated the same as the CMS R16 database model.

## VMWare 4.1 and 5.0 support

OA 7.3 supports VMWare ESX / ESXi 4.1 and ESX / ESXi 5.0.

When deploying Avaya OA using VMWare ESX servers, you must ensure that you continue to follow:

- Avaya OA prerequisites and deployment guidelines as documented in *Avaya Operational Analyst Installation Planning and Prerequisites*.
- CPU, Memory, and Disk sizing guidelines from the sizing tool.

Tune the system performance and the monitor virtual machines using appropriate VMWare tools. Avaya recommends performing all tuning and virtual machine reorganization using tools, such as VMotion. To avoid a possible undesirable impact on the operation of Avaya OA, perform these tasks in a standard maintenance window when Avaya OA is not operational.

## Secure Sockets Layer support

OA 7.3 supports the Secure Sockets Layer (SSL) functionality.

In OA, you can configure SSL for the Stumbras reporting server to receive data on a secured https port. With SSL, client applications can communicate securely with the server over a network.

## Cognos 7.4 support

OA 7.3 adds support for Cognos 7.4. Cognos 7.4 provides web support.

## Optional database management

The database administrator must configure the Avaya OA database during the OA installation.

For Oracle installations, on Windows or Solaris, requirements for the database administrator user are revised. In Avaya OA 7.1, the DB Administrator user required the SYSDBA role, but now in Avaya OA 7.3, the DB Administrator user requires the DBA role. However, Oracle SYS user can still be used for OA installation. You must meet the other database user attributes specified in *Avaya Operational Analyst Installation Planning and Prerequisites*.

## Support for the Agent State by Channel functionality

OA 7.3 adds the Agent State by Channel functionality.

By capturing and reporting agent state information by channel, OA provides comprehensive information to contact center managers to help them to understand how their agents are currently working.

The agent state by channel reporting feature is an extension of the agent availability by channel reporting feature. Agent state by channel provides reporting in addition to the overall state reporting, which reports on the general agent state across all channels.

By capturing the agent state information, OA can calculate how long agents spend in each state. These durations include the following:

- Logged in duration - The time that the agent is logged in to the channel.
- Work duration - The time that the agent is in the Active, Occupied, or Wrap-up state for the channel.
- Occupied duration - The time that the agent is working at their maximum task load for a particular channel, making the agent unavailable to receive additional contacts on this channel. Use the IC Manager to set the task load.
- Non contact duration - The time that the agent is in the channel, but unavailable for contact work. For example, when the agent is in the AUX state, during computer hardware, software failure, or other equipment failure.
- Idle duration - The time that the agent is in the channel doing no work, but is available for work.

 **Note:**

Each duration is fully defined in the OA 7.3 data model.

These measures provide additional resources to contact center managers to help them to understand how their agents are currently working, and where they can make process improvements.

## Cross-domain authentication support

OA 7.3 adds support for cross-domain authentication that provides graded authentication for users from different domains. Cross-domain authentication is useful especially when users from different domains within the same organization want to access and execute the basic and tabular reports of Avaya OA.

By adding support for cross-domain authentication, users from trusted domains can use OA to access resources in the other domains by validating their credentials. For cross-domain authentication to work successfully, a two-way trust relation must be established between two domains through the Active Directory Server. One of the domains is a primary domain and the other is a secondary domain, which is trusted by the primary domain.

The following scenario is an example of how cross-domain authentication is supported by OA:

Users	Primary Domain (Whether the user is a member of the Primary Domain)	Trusted Domain (Whether the user is a member of the Trusted Domain)	Whether the user can access resources from both the domains...
User A	Yes	Yes	Yes
User A	No	Yes	No
User C	Yes	No	No

**! Important:**

The data presented in the matrix is based on the assumption that both the primary and the secondary trusted domain are mutually trusted domains.

The user (User A) from a group affiliated to a group from the Trusted Domain is already added to a group in the Primary Domain to ensure that the user (User A) gets to use the resources from the Primary Domain.

The user (User B) from a group affiliated to a group from the Trusted Domain must be added to a group in the Primary Domain to ensure that the user (User B) gets to use the resources from the Primary Domain.

The user (User C) from a group affiliated to a group from the Primary Domain needs to be added to a group in the Trusted Domain to ensure that the user (User C) gets to use the resources from the Trusted Domain.

OA groups must be of the Universal type so that users from other trusted domains can be added into these groups.

Cross-domain authentication is supported in OA 7.3 considering the following:

- A two-way trust relationship must be established between the primary and trusted domains through the Active Directory Server.
- The users from the trusted domain must be added in OA groups. For example, oaadmin, oarpt, oarptwriter, and OA groups similar on the primary domain.
- The `autserver.properties` file must be provided with a new property:

```
TRUSTEDDOMAINS = Fully qualified Domain Name1, Fully qualified Domain Name2
```

where *Fully qualified Domain Name1* and *Fully qualified Domain Name2* are domains trusted to and by the primary domain. The trusted domains are separated by a comma.

For example,

```
TRUSTEDDOMAINS = punoadom3.avaya.com, punoadom2.avaya.com
```

Prerequisites for a user who requires to use cross-domain authentication are the following:

- The user must have access to shared resources at the Windows level.
- The user must have the required rights to access OA reports.

**! Important:**

The primary domain name must not be listed in the TRUSTEDDOMAINS property of the `autserver.properties` file.

**CORBA infrastructure change**

OA 7.3 has undergone a generic CORBA infrastructure change, wherein the Java Naming Service replaces the C++ naming service.

**\* Note:**

This change does not impact the OA features visible to you.

**IC feature comparison**

The following table summarizes the operational and functional changes in IC by release. The intent of this table is to identify changes in the way existing functionality is invoked or changes to existing functional behavior.

Feature	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7311
<b>Chat Features</b>												
Options to set column width, size, and location of chat task list in IC agent.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Chat Typing Status Support.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Web chat UI and API	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Security Enhancements	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Automatic public chat disconnect when caller inactivity crosses the disconnect interval set in ICM	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Tool to configure and deploy CSPortal Client or Public Website on IIS	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
Maintaining existing AIC R7.3.2 FP chat feature and functionalities	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
EWT for web based customers (with IC BA only)	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
Support for chat session across multiple tabs in CSPortal.	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓

*Table continues...*

Feature	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Save chat transcripts in txt format in CSPortal	X	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓
Survey page in CSPortal	X	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓
Support for customer account in CSPortal	X	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓
Enhanced chat transcript search & sort for agents & supervisors	X	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓
Reset chat timeout duration when customer responds back to agent	X	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓
Set schedule call back question char max length (nvarchar) to 999 in database	X	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓
All chat API to be REST based	X	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓
Chat properties localized	X	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓
Tabbed pane for chat tasks	X	X	X	X	X	✓	✓	✓	✓	✓	✓	✓
Ability to pop out and pop in a chat tab to a separate window	X	X	X	X	X	✓	✓	✓	✓	✓	✓	✓
Enhancement to chat notifications	X	X	X	X	X	✓	✓	✓	✓	✓	✓	✓
Multiple supervisors monitoring multiple chat and email workgroups	X	X	X	X	X	✓	✓	✓	✓	✓	✓	✓
Support for blind transfer of chat contacts	X	X	X	X	X	✓	✓	✓	✓	✓	✓	✓
Display of Estimated Wait Time for non Business Advocate chat	X	X	X	X	X	✓	✓	✓	✓	✓	✓	✓
<b>Email Features</b>												
SSL support for SMTP (outbound)	X	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓
Support for SMTP authentication	X	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓
HTML Editor Replacement for Rich Client.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Time in Email Template enhanced to support 24-hour or 12-hour format.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ability to enter Email display name in IC Manager.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Indication by WACD about invalid email requalification attempts.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Selective download of Templates based on Admin configuration	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Table continues...

Interaction Center and Operational Analyst overview

Feature	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Enhanced Email Migration Tool***	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Password encryption when login request is sent to RL Manager	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Support for adding multiple attachments into an email	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Email transcript search & sort for agents & supervisors	X	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ability to filter pools by tenant for outbound emails on Avaya Agent Rich Client	X	X	X	X	X	X	✓	✓	✓	✓	✓	✓
OAuth 2.0 Support	X	X	X	X	X	X	X	X	X	X	✓	✓
Graph API Support	X	X	X	X	X	X	X	X	X	X	X	✓
<b>Telephony Features</b>												
TSA Server enhanced for Extended UUI Data Support.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Adding UUID and ALIAS of TS in EDU for IVR application.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
HttpVOX and VOX support TS.TransferEX method.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
VOX Server to handle extension numbers in excess of 2^31.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Monitoring IVR extension using *v assignment.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SSL Enabled communication between HTTPConnector Server and Dialog Designer 5.1.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mask phone password field in IC manager	X	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Other Features</b>												
Performance gains in SDK WebServices using DS Authentication-Only API over full DS Login.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
LDAP authentication support for Admin Website and RL Manager	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
LDAP integration with Avaya Interaction Center.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Restrict the retries by WACD on requesting the WAA to qualify a task when no agent is logged into IC.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
WebAdmin Page Cancel Task with Specified Status.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Table continues...

Feature	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Workflow Server Modification for Dynamic Queue Contact Entry.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Workflow Server enhanced to handle large number of Workflow channel assignments.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Service Class OWT data in OA reports.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Added Hyperlink button in the HTML toolbar for HTML Editor (only) in Rich Client.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Reporting provision for RONA exit reason: For RONAed calls exit_reason field in the routingevent table (repository database) is populated with the value 'rona'	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Configuration for the Aux RONA reason code.	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Support for chat, SCB, email form from native apps of mobile & tablet apps (IOS & Android)	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
EWT API (with ICBA)	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
Support for adding variable no of wrapup codes (only for AARC)	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓
Synchronization between Siebel toolbar and Hard phone.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Enhanced ASIS to read IC group properties without restart.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Disable 'Ready/NotReady' button if agent has not logged into any channel for IC-Siebel.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
VMM Service/Voice (IV) Chat	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓
Support for TLS 1.2	✗	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓
Support for TLS 1.3	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓

## Feature comparison of Avaya Agent Clients

The following table lists the feature comparison between various Agent Clients that IC 7.3.x supports.

Note: Avaya Web Client is not supported since IC 7.3.11.

Channel / Feature	Functionality Supported	Avaya Rich Client	Avaya Web Client	Avaya SDK Client	Avaya Siebel Native Client	Avaya Siebel Hybrid Client
Voice	Answer	✓	✓	✓	✓	✓
	Blind Transfer	✓	✓	✓	✓	✓
	Consult	✓	✓	✓	✓	✓
	Conference	✓	✓	✓	✓	✓
	Hold/ Reconnect	✓	✓	✓	✓	✓
	Wrap	✓	✓	✓	✓	✓
	Transfer to Virtual Queue	✓	✓	✓	✓*	✗
	Switch to caller	✓	✓	✓	✗	✗
	Transfer to Agent	✓	✓	✓	✓	✓
Email	Reply / Reply All	✓	✓	✓	✓	✓
	Forward	✓	✓	✓	✓	✓
	Defer	✓	✓	✓	✓	✓
	Use local/global resource for responses/ Email Templates	✓	✓	✗	✗	✗
	Dismiss	✓	✓	✓	✗	✓
	Transfer to Agent	✓	✓	✓	✗	✓
	Transfer to Virtual Queue	✓	✓	✓	✓	✗
	HTML Editor HyperLink toolbar button	✓	✗	✗	✗	✗
	Ability to download	✓	✓	✗	✗	✗

Table continues...

Channel / Feature	Functionality Supported	Avaya Rich Client	Avaya Web Client	Avaya SDK Client	Avaya Siebel Native Client	Avaya Siebel Hybrid Client
	and use preconfigured email templates					
	Ability to filter pools by tenant for outbound emails	✓	✗	✗	✗	✗
Chat	Answer	✓	✓	✓	✗	✓
	Transfer to Agent	✓	✓	✓	✗	✗
	Conference	✓	✓	✓	✗	✓
	Use local/global resource for responses	✓	✓	✗	✗	✗
	Wrap	✓	✓	✓	✗	✓
	Emoticons	✓	✓	✓	✗	✓
	Chat Typing status	✓	✓	✓	✗	✓
	Join Us	✓	✓	✓	✗	✓
	Transfer to Virtual Queue	✓	✓	✓	✗	✓
	Blind transfer chat to queue	✓	✗	✗	✗	✗
	Contact History	View	✓	✓	✓	✗
Filter		✓	✓	✓	✗	✗
Supervisor	Monitor/Un-Monitor	✓	✓	✓	✗	✓
	Visible / Invisible	✓	✓	✓	✗	✓
Multimedia Support		✓	✓	✓	✗	✓

*Table continues...*

Interaction Center and Operational Analyst overview

Channel / Feature	Functionality Supported	Avaya Rich Client	Avaya Web Client	Avaya SDK Client	Avaya Siebel Native Client	Avaya Siebel Hybrid Client
Selective After Call Work		✗	✗	✗	✓	✗
Variable no of Wrapup codes		✓	✗	✗	✗	✓

# Chapter 3: Interoperability

## IC Interoperability

### Operating system compatibility

#### Supported Server operating systems

Table 1: Server operating systems supported in IC by release

Operating system	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Windows 2022 Server (Standard and Datacenter edition)												Y
Windows 2019 Server (Standard and Datacenter edition)										Y	Y	Y
Windows 2016 Server (Standard and Datacenter edition)									Y	Y	Y	Y
Windows 2012 R2 Server (Standard and Datacenter edition)				Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows 2008 Server R2 (x64) (Enterprise Edition)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Oracle Solaris 10 update 9 for	Y	Y	Y	Y	Y	Y	Y	Y	Y			

Table continues...

Operating system	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
SPARC platform												
Red Hat Enterprise Linux 6.5 (64 Bit) Only for Siebel Integration					Y	Y	Y	Y	Y	Y	Y	Y
IBM AIX 6.1 update 3	Y	Y	Y									

### Supported Desktop operating systems

Table 2: Desktop operating systems supported in IC by release

Operating system	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Microsoft Windows 11 (x64)												Y
Microsoft Windows 10 (32 and 64 Bit)					Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows 8.1				Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows 7 (32 and 64 Bit)	Y	Y	Y	Y	Y	Y	Y	Y	Y			
Microsoft Windows Vista	Y	Y	Y									
Microsoft Windows XP	Y	Y	Y									

## Product compatibility

For the latest and most accurate compatibility information, go to <http://support.avaya.com/CompatibilityMatrix/Index.aspx>.

## IC interoperability with OA

The following table lists which versions of IC are compatible with which versions of OA. A “Y” indicates that the corresponding item is supported in the specific release.

**Table 3: IC 7.3.x interoperability with OA 7.3.x**

	OA 7.3	OA 7.3.1	OA 7.3.2	OA 7.3.3	OA 7.3.4	OA 7.3.5	OA 7.3.6	OA 7.3.7	OA 7.3.8	OA 7.3.9	OA 7.3.10	OA 7.3.11
IC 7.3	Y	Y										
IC 7.3.1		Y	Y									
IC 7.3.2			Y	Y	Y							
IC 7.3.3			Y	Y	Y	Y	Y	Y	Y			
IC 7.3.4				Y	Y	Y	Y	Y	Y			
IC 7.3.5					Y	Y	Y	Y	Y			
IC 7.3.6							Y	Y	Y			
IC 7.3.7							Y	Y	Y			
IC 7.3.8							Y	Y	Y			
IC 7.3.9							Y	Y	Y	Y	Y	Y
IC 7.3.10										Y	Y	Y
IC 7.3.11										Y	Y	Y

## IC interoperability with Avaya Aura® Application Enablement Services (AES)

The following table lists which versions of IC are compatible with which versions of AES. A “Y” indicates that the corresponding item is supported in the specific release.

**Table 4: IC 7.3.x interoperability with AES**

AES version	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
AES 5.2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
AES 6.1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
AES 6.2		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
AES 6.3			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
AES 6.3.1			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
AES 6.3.3			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
AES 7.0					Y	Y	Y	Y	Y	Y	Y	Y
AES 7.0.1						Y	Y	Y	Y	Y	Y	Y
AES 7.1								Y	Y	Y	Y	Y
AES 7.1.1								Y	Y	Y	Y	Y
AES 7.1.3								Y	Y	Y	Y	Y
AES 8.0								Y	Y	Y	Y	Y
AES 8.0.1									Y	Y	Y	Y
AES 8.1.2										Y	Y	Y
AES 8.1.3										Y	Y	Y
AES 10.1											Y	Y

### IC interoperability with Avaya Aura® Call Center Elite (Call Center Elite)

The following table lists which versions of IC are compatible with which versions of Call Center Elite. A “Y” indicates that the corresponding item is supported in the specific release.

**Table 5: IC 7.3.x interoperability with Call Center Elite**

Call Center Elite version	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Call Center Elite 5.2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Call Center Elite 6.0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Call Center Elite 6.0.1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Call Center Elite 6.2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Call Center Elite 6.3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Call Center Elite 6.3.6			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Call Center Elite 7.0					Y	Y	Y	Y	Y	Y	Y	Y
Call Center Elite 7.0.1						Y	Y	Y	Y	Y	Y	Y
Call Center Elite 7.1								Y	Y	Y	Y	Y
Call Center Elite 7.1.1								Y	Y	Y	Y	Y
Call Center Elite 8.0								Y	Y	Y	Y	Y

### IC interoperability with Avaya Aura® Communication Manager (Communication Manager)

The following table lists which versions of IC are compatible with which versions of Communication Manager. A “Y” indicates that the corresponding item is supported in the specific release.

**Table 6: IC 7.3.x interoperability with Communication Manager**

Communication Manager version	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Communication Manager 5.2.1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Communication Manager 6.0.1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Communication Manager 6.2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Communication Manager 6.3			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Communication Manager 6.3.2			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Communication Manager 6.3.6			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Communication Manager 6.3.8				Y	Y	Y	Y	Y	Y	Y	Y	Y
Communication Manager 7.0					Y	Y	Y	Y	Y	Y	Y	Y
Communication Manager 7.0.1						Y	Y	Y	Y	Y	Y	Y
Communication Manager 7.1								Y	Y	Y	Y	Y

*Table continues...*

Interoperability

Communication Manager version	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Communication Manager 7.1.1								Y	Y	Y	Y	Y
Communication Manager 7.1.3								Y	Y	Y	Y	Y
Communication Manager 8.0								Y	Y	Y	Y	Y
Communication Manager 8.0.1									Y	Y	Y	Y
Communication Manager 8.1.2										Y	Y	Y
Communication Manager 8.1.3										Y	Y	Y
Communication Manager 10.1											Y	Y
Communication Manager 10.1.2												

**IC interoperability with Avaya Aura® Session Manager (Session Manager)**

The following table lists which versions of IC are compatible with which versions of Session Manager. A “Y” indicates that the corresponding item is supported in the specific release.

**Table 7: IC 7.3.x interoperability with Session Manager**

Session Manager version	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Session Manager 6.2			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Session Manager 6.3			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Session Manager 6.3.4			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Session Manager 6.3.8			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Session Manager 6.3.9				Y	Y	Y	Y	Y	Y	Y	Y	Y

*Table continues...*

Session Manager version	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Session Manager 7.0					Y	Y	Y	Y	Y	Y	Y	Y
Session Manager 8.0									Y	Y	Y	Y
Session Manager 8.1.2										Y	Y	Y
Session Manager 8.1.3										Y	Y	Y
Session Manager 10.1												Y
Session Manager 10.1.2												Y

### IC interoperability with Avaya Aura® System Manager (System Manager)

The following table lists which versions of IC are compatible with which versions of System Manager. A “Y” indicates that the corresponding item is supported in the specific release.

**Table 8: IC 7.3.x interoperability with System Manager**

System Manager version	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
System Manager 6.2				Y	Y	Y	Y	Y	Y	Y	Y	Y
System Manager 6.3.4			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
System Manager 6.3.8			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
System Manager 6.3.10				Y	Y	Y	Y	Y	Y	Y	Y	Y
System Manager 7.0					Y	Y	Y	Y	Y	Y	Y	Y
System Manager 8.0								Y	Y	Y	Y	Y
System Manager 8.1.2										Y	Y	Y
System Manager 8.1.3										Y	Y	Y
System Manager 10.1											Y	Y
System Manager 10.1.2												Y

## IC interoperability with Avaya Aura® Experience Portal (Experience Portal)

The following table lists which versions of IC are compatible with which versions of Experience Portal. A “Y” indicates that the corresponding item is supported in the specific release.

Interoperability

**Table 9: IC 7.3.x interoperability with Experience Portal**

Experience Portal version	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Experience Portal 6.0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Experience Portal 7.0			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Experience Portal 7.0.1				Y	Y	Y	Y	Y	Y	Y	Y	Y
Experience Portal 7.1						Y	Y	Y	Y	Y	Y	Y
Experience Portal 7.2								Y	Y	Y	Y	Y
Experience Portal 8.0									Y	Y	Y	Y
Experience Portal 8.1.1												Y

## IC interoperability with Avaya Aura® Orchestration Designer (Orchestration Designer)

The following table lists which versions of IC are compatible with which versions of Orchestration Designer. A “Y” indicates that the corresponding item is supported in the specific release.

**Table 10: IC 7.3.x interoperability with Orchestration Designer**

Orchestration Designer version	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Orchestration Designer 6.0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Orchestration Designer 7.0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Orchestration Designer 7.0.1				Y	Y	Y	Y	Y	Y	Y	Y	Y
Orchestration Designer 7.1						Y	Y	Y	Y	Y	Y	Y
Orchestration Designer 7.2								Y	Y	Y	Y	Y
Orchestration Designer 8.0									Y	Y	Y	Y
Orchestration Designer 8.1.1												Y

## IC interoperability with Avaya Aura® Workforce Optimization

The following table lists which versions of IC are compatible with which versions of Avaya Aura® Workforce Optimization. A “Y” indicates that the corresponding item is supported in the specific release.

**Table 11: IC 7.3.x interoperability with Avaya Aura® Workforce Optimization**

Avaya Aura® Workforce Optimization version	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Avaya Aura® Workforce Optimization 12			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Avaya Aura® Workforce Optimization 15.1							Y	Y	Y	Y	Y	Y
Avaya Aura® Workforce Optimization 15.2.1												Y

## IC interoperability with Avaya Contact Recorder

The following table lists which versions of IC are compatible with which versions of Avaya Contact Recorder. A “Y” indicates that the corresponding item is supported in the specific release.

**Table 12: IC 7.3.x interoperability with Avaya Contact Recorder**

Avaya Contact Recorder version	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Avaya Contact Recorder 15.1.1								Y	Y	Y	Y	Y
Avaya Contact Recorder 15.1.2								Y	Y	Y	Y	Y
Avaya Contact Recorder 15.2												Y

## Supported databases

**Table 13: Databases versions supported in IC by release**

Database Version	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Microsoft SQL 2019 (Standard and Enterprise edition)										Y	Y	Y
Microsoft SQL 2017 (Standard and Enterprise edition)								Y	Y	Y	Y	Y
Microsoft SQL 2016 (Standard and Enterprise edition) SP1								Y	Y	Y	Y	Y
Microsoft SQL 2016 (Standard and Enterprise edition)							Y	Y	Y	Y	Y	Y
Microsoft SQL 2014 (Standard and Enterprise edition)				Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft SQL 2012 (Standard and Enterprise edition)				Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft SQL 2008 (Standard and Enterprise edition)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Oracle 19C										Y	Y	Y
Oracle 12.1c				Y	Y	Y	Y	Y	Y	Y	Y	Y
Oracle 11g and 11g R2	Y	Y	Y	Y	Y	Y	Y	Y	Y			

*Table continues...*

Database Version	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Oracle 10g	Y	Y	Y	Y								
IBM DB2 9.5	Y	Y	Y									

### Supported Database Client software

Table 14: Database Client software supported in IC by release

Database Client software	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Oracle Database 11g Client Release 11.2.0.1.0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Oracle Database 11g Client Release 11.2.0.4.0				Y	Y	Y	Y	Y	Y	Y	Y	Y
Oracle Database 12c Client Release 12.1.0.2.0				Y	Y	Y	Y	Y	Y	Y	Y	Y
SQL Server Native Client	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SQL Server Native Client 10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SQL Server Native Client 11				Y	Y	Y	Y	Y	Y	Y	Y	Y

## Supported Virtualization software

Table 15: Virtualization software supported in IC by release

Virtualization software	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
VMware vSphere 7.0										Y	Y	Y
VMware vSphere 6.5								Y	Y	Y	Y	Y
VMware VDI (HORIZON VIEW 8)										Y	Y	Y
VMware VDI (HORIZON VIEW 7)							Y	Y	Y	Y	Y	Y
VMware VDI (HORIZON VIEW 6)				Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware 7.0 ESXi (WIN)										Y	Y	Y
VMware 6.0 ESXi (WIN)					Y	Y	Y	Y	Y	Y	Y	Y
VMware 5.5 ESXi (WIN)				Y	Y	Y	Y	Y	Y	Y	Y	Y
VMWare 4.1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Citrix XenDesktop 7.11								Y	Y	Y	Y	Y
Citrix XenDesktop 7.17									Y	Y	Y	Y
Citrix XenApp 7.5				Y	Y	Y	Y	Y	Y	Y	Y	Y
Citrix XenApp 7.14										Y	Y	Y
Citrix XenApp 7.17									Y	Y	Y	Y
Citrix XenDesktop 7.5				Y	Y	Y	Y	Y	Y	Y	Y	Y
Citrix XenApp 6.0 on Windows 2008 R2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

## Supported Siebel Integration

**Table 16: Siebel Integration supported in IC by release**

Siebel software	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Siebel 22.7												Y
Siebel 21.5										Y	Y	Y
Siebel 20.9										Y	Y	Y
Siebel 19.10										Y	Y	Y
Siebel 16.0.0.0.0						Y	Y	Y	Y	Y	Y	Y
Siebel 15.18.0.0								Y	Y	Y	Y	Y
Siebel 15.0.0.0.0					Y	Y	Y	Y	Y	Y	Y	Y
Siebel 14.0.0.0.0					Y	Y	Y	Y	Y	Y	Y	Y
Siebel 8.2.2.4 open UI				Y	Y	Y	Y	Y	Y	Y	Y	Y
Siebel 8.1.1.11 open UI				Y	Y	Y	Y	Y	Y	Y	Y	Y
Siebel 8.1.1.x	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Siebel 7.8.2.13	Y	Y	Y							Y	Y	Y

## Supported Web Server software

**Table 17: Web Server software supported in IC by release**

Web Server software	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
IIS 10										Y	Y	Y
IIS 8				Y	Y	Y	Y	Y	Y	Y	Y	Y
Hosting IC website using IIS 7.0 on Windows 2008 R2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hosting IC website using IBM HTTP Server 7.x on AIX 6.1	Y	Y	Y									

*Table continues...*

## Interoperability

Web Server software	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Oracle iPlanet Web server 7.0.13	Y	Y	Y	Y	Y	Y	Y	Y	Y			
IBM HTTP Server 7.0	Y	Y	Y									

## Browser compatibility

Avaya IC includes support for several Web browsers for End-Customer Chat Escalations in Interaction Center 7.3.x Service Pack. The following table includes the browser versions tested at the time of release of this Service Pack for End-Customer Chat Escalations:

**Table 18: Web browsers supported for End-Customer Chat Escalations in IC by release**

Web Browser supported	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Microsoft Edge												Y
Microsoft Internet Explorer (32-bit only)	Y — Microsoft Internet Explorer 7.0 , 8.0 and 9.0*	Y — Microsoft Internet Explorer 8.0, 9.0 and 10.0	Y — Microsoft Internet Explorer 8.0, 9.0 and 10.0	Y — Microsoft Internet Explorer 9.0, 10.0 and 11.0	Y — Microsoft Internet Explorer 9.0, 10.0 and 11.0	Y — Microsoft Internet Explorer 9.0, 10.0 and 11.0	Y — Microsoft Internet Explorer 9.0, 10.0 and 11.0	Y — Microsoft Internet Explorer 9.0, 10.0 and 11.0	Y — Microsoft Internet Explorer 9.0, 10.0 and 11.0	Y — Microsoft Internet Explorer 9.0, 10.0 and 11.0	Y — Microsoft Internet Explorer 9.0, 10.0 and 11.0	Not supported
Mozilla Firefox	Y — Mozilla Firefox 9.0	Y — Mozilla Firefox 23.0.1	Y — Mozilla Firefox 28	Y — Mozilla Firefox 34.0	Y — Mozilla Firefox 34.0	Y — Mozilla Firefox 46.0	Y — Mozilla Firefox 46.0	Y — Mozilla Firefox 46.0	Y — Mozilla Firefox 46.0	Y — Mozilla Firefox 46.0	Y — Mozilla Firefox 46.0	Y — Mozilla Firefox 46.0
Google Chrome	Y — Google Chrome 16.0	Y — Google Chrome 29.0	Y — Google Chrome 33	Y — Google Chrome 39.0	Y — Google Chrome 39.0	Y — Google Chrome 49.0	Y — Google Chrome 49.0	Y — Google Chrome 49.0	Y — Google Chrome 49.0	Y — Google Chrome 49.0	Y — Google Chrome 49.0	Y — Google Chrome 49.0
Apple Safari	Y — Apple Safari 5.1.2	Y — Apple Safari 6.0	Y — Apple Safari 7.0.2	Y — Apple Safari 7.0.2	Y — Apple Safari 7.0.2	Y — Apple Safari 7.0.2 and 9.1.1.	Y — Apple Safari 7.0.2 and 9.1.1.	Y — Apple Safari 7.0.2 and 9.1.1.	Y — Apple Safari 7.0.2 and 9.1.1.	Y — Apple Safari 7.0.2 and 9.1.1.	Y — Apple Safari 7.0.2 and 9.1.1.	Y — Apple Safari 7.0.2 and 9.1.1.
Opera	Y — Opera 11.61	Y — Opera 12.01	Y — Opera 20	Y — Opera 26.0	Y — Opera 26.0	Y — Opera 26.0	Y — Opera 26.0	Y — Opera 26.0	Y — Opera 26.0	Y — Opera 26.0	Y — Opera 26.0	Y — Opera 26.0

*Table continues...*

Web Browser supported	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
<p>* Collaboration is not supported on Microsoft Internet Explorer 9.0</p> <p>** Microsoft Edge browser is the default browser in Microsoft Windows 10. You must only use Internet Explorer browser for IC applications.</p> <p>To be able to chat with an agent, the customer must activate the cookies on the browser.</p>												

Avaya IC supports only the Microsoft Internet Explorer browser for various IC client applications, such as AAWC and AARC. Email Template Administration and Website applications supports only the Microsoft Internet Explorer browser. The following table includes the browser versions tested at the time of release of this Service Pack for IC client applications, and Email Template Administration and Website applications:

**Table 19: Web browsers supported for IC client applications, Email Template Administration, and Website applications in IC by release**

Web Browser supported	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Microsoft Edge												Y
Microsoft Internet Explorer (32-bit only)	Y — Microsoft Internet Explorer 7.0 , 8.0 and 9.0*	Y — Microsoft Internet Explorer 8.0, 9.0 and 10.0	Y — Microsoft Internet Explorer 8.0, 9.0 and 10.0	Y — Microsoft Internet Explorer 9.0, 10.0 and 11.0	Y — Microsoft Internet Explorer 10.0 and 11.0	Y — Microsoft Internet Explorer 10.0 and 11.0	Y — Microsoft Internet Explorer 10.0 and 11.0	Y — Microsoft Internet Explorer 10.0 and 11.0	Y — Microsoft Internet Explorer 10.0 and 11.0	Y — Microsoft Internet Explorer 10.0 and 11.0	Y — Microsoft Internet Explorer 10.0 and 11.0	Y — Microsoft Internet Explorer 10.0 and 11.0
<p>* Collaboration is not supported on Microsoft Internet Explorer 9.0</p> <p>** Microsoft Edge browser is the default browser in Microsoft Windows 10. You must only use Internet Explorer browser for IC applications till 7.3.10. You must use Microsoft Edge since IC 7.3.11</p>												

## Other supported software

**Table 20: Other software supported in IC by release**

Software supported	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Avaya software												
Secured authentication using ASG (Access			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Table continues...

Interoperability

Software supported	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Security Gateway)												
ASG plug- in on Windows 2012 for AIC				Y	Y	Y	Y	Y	Y	Y	Y	Y
Non-Avaya software												
Java Runtime Environment												
JRE 8u352 OpenJDK Zulu												Y
JRE 8u292 OpenJDK Zulu											Y	
JRE 8u181 OpenJDK Zulu										Y		
JRE 8u181 Oracle									Y	Y (only AAWC)	Y (only AAWC)	
JRE 1.8.0_40 on Microsoft Windows					Y	Y	Y	Y	Y			
JRE 1.7.0 on Oracle Solaris					Y	Y	Y	Y	Y			
JRE 1.6.0_45 on Microsoft Windows and Oracle Solaris				Y								
JRE 1.6.0_10 on Microsoft Windows and Oracle Solaris			Y	Y								
1.6.0 SR3 to 1.6.0 SR15 on IBM AIX			Y	Y								
Tomcat												
Tomcat 10.0.4											Y	Y
Tomcat 9.0.*										Y		
Tomcat 8.0.*					Y	Y	Y	Y	Y			
Tomcat 6.0.37				Y								
Tomcat: 6.0.14			Y									
Java Mail												

Table continues...

Software supported	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
Java Mail 1.6.1												Y
Java Mail 1.5.2					Y	Y	Y	Y	Y	Y	Y	
Java Mail 1.4.7				Y								
Ephox Html Editor												
Editor Editlive 9.1.0.603							Y	Y	Y			
Editor Editlive 9.1.0.287					Y	Y						
Editor Editlive 9.0.0.98				Y								
Editor Editlive 7.5.2.106			Y									
TinyMCE HTML Editor												
TinyMCE 5.4.2										Y	Y	Y
SIP end point support			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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## Third-party product requirements

For information about third-party applications supported in Interaction Center, see *Avaya Interaction Center Installation Planning and Prerequisites*.

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## OA Interoperability

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### Product compatibility

For the latest and most accurate compatibility information, go to <http://support.avaya.com/CompatibilityMatrix/Index.aspx>.

#### OA interoperability with IC

For information about which versions of IC are compatible with which versions of OA, see [Table 3: IC 7.3.x interoperability with OA 7.3.x](#) on page 48.

**OA interoperability with CMS**

The following table lists which versions of OA are compatible with which versions of CMS. A “Y” indicates that the corresponding item is supported in the specific release.

**Table 21: OA 7.3.x interoperability with CMS on the Solaris SPARC platform**

CMS on the Solaris SPARC platform	OA 7.3	OA 7.3.1	OA 7.3.2	OA 7.3.3	OA 7.3.4	OA 7.3.5	OA 7.3.6	OA 7.3.7	OA 7.3.8	OA 7.3.9	OA 7.3.10	OA 7.3.11
CMS 15	Y	Y										
CMS 16	Y	Y	Y	Y	Y	Y	Y	Y	Y			
CMS 16.1	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*			
CMS 16.2	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*			
CMS 16.3	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*			
CMS 17			Y*	Y*	Y*	Y*	Y*	Y*	Y*			
CMS 17 FP1			Y*	Y*	Y*	Y*	Y*	Y*	Y*			
CMS 17 FP2			Y*	Y*	Y*	Y*	Y*	Y*	Y*			
CMS 17 FP3			Y*	Y*	Y*	Y*	Y*	Y*	Y*			
CMS 17 FP4				Y*	Y*	Y*	Y*	Y*	Y*			
CMS 18				Y*	Y*	Y*	Y*	Y*	Y*			
CMS 19												
* OA 7.3.x supports CMS versions 16.1 onwards. OA considers CMS version 16.1 and later as CMS R16 and treats its historical interval data and the ECH data according to the CMS R16 format and version.												

**Table 22: OA 7.3.x interoperability with CMS on the RHEL platform**

CMS on the RHEL platform	OA 7.3.2*	OA 7.3.3*	OA 7.3.4*	OA 7.3.5*	OA 7.3.6*	OA 7.3.7*	OA 7.3.8*	OA 7.3.9*	OA 7.3.10	OA 7.3.11
CMS 17	Y	Y	Y	Y	Y	Y	Y	Y		
CMS 17 FP1	Y	Y	Y	Y	Y	Y	Y	Y		
CMS 17 FP2	Y	Y	Y	Y	Y	Y	Y	Y		
CMS 17 FP3	Y	Y	Y	Y	Y	Y	Y	Y		
CMS 17 FP4		Y	Y	Y	Y	Y	Y	Y		
CMS 18			Y	Y	Y	Y	Y	Y	Y***	Y
CMS 18.1						Y	Y	Y	Y***	Y
CMS 18.1.0.4										Y
CMS 19							Y**	Y**	Y	Y
CMS 19.1							Y**	Y**	Y	Y

*Table continues...*

CMS on the RHEL platform	OA 7.3.2*	OA 7.3.3*	OA 7.3.4*	OA 7.3.5*	OA 7.3.6*	OA 7.3.7*	OA 7.3.8*	OA 7.3.9	OA 7.3.10	OA 7.3.11
CMS 19.2.0.1									Y	Y
CMS 19.2.0.3										Y
* OA 7.3.2, OA 7.3.3, and OA 7.3.4 on the Linux platform supports only CMS R17.x and CMS R18 and treats its historical interval data and the ECH data according to the CMS R16 format and version. ** CMS 19 and 19.1 are not supported by OA 7.3.8 or 7.3.9 by default. For support download OA 7.3.8.1 or 7.3.9.1 patches *** CMS 18 and 18.1 are not supported by OA 7.3.10 by default. For support download OA 7.3.10.1 patch										

## Client software requirements

The minimum software requirements for a desktop system running Avaya OA reports or using the Avaya OA Administration client are listed in the following tables. A “Y” indicates that the corresponding item is supported in the specific release.

### Important:

The Report client software must not be installed on an OA or IC server system. Running reports on a server system can adversely affect the performance of the server.

**Table 23: Desktop Operating Systems supported in OA by release**

Desktop Operating System*	OA 7.3	OA 7.3.1	OA 7.3.2	OA 7.3.3	OA 7.3.4	OA 7.3.5	OA 7.3.6	OA 7.3.7	OA 7.3.8	OA 7.3.9	OA 7.3.10	OA 7.3.11
Microsoft Windows 11												Y
Microsoft Windows 10 Professional**					Y	Y	Y	Y	Y	Y	Y	
Microsoft Windows 8.1 Professional**				Y	Y	Y	Y	Y	Y	Y	Y	
Microsoft Windows 7**	Y	Y	Y	Y	Y	Y	Y	Y	Y			
Microsoft Windows Vista	Y	Y	Y	Y								
Microsoft Windows XP	Y	Y	Y									
*You cannot operate the Avaya OA client software and the Report client, on a Microsoft Windows 2008 R2 Server (Standard, Enterprise, and Datacenter edition) or Microsoft Window 2012 R2 Server (Standard and Datacenter edition). **In Avaya OA, the Data API utility and Administration Client are compliant with Windows 7 (64-bit), Windows 8.1, and Windows 10 platforms. You can view the reports on the Windows 7, Windows 8, and Windows 10 platform using Internet Explorer browser.												

**Table 24: Web browsers supported in OA by release**

Microsoft Internet Explorer Version	OA 7.3	OA 7.3.1	OA 7.3.2	OA 7.3.3	OA 7.3.4	OA 7.3.5	OA 7.3.6	OA 7.3.7	OA 7.3.8	OA 7.3.9	OA 7.3.10	OA 7.3.11
Microsoft Internet Explorer 7.0 (32-bit)	Y	Y	Y									
Microsoft Internet Explorer 8.0 (32-bit)	Y	Y	Y									
Microsoft Internet Explorer 9.0 (32-bit)				Y	Y							
Microsoft Internet Explorer 10.0 (32-bit)				Y	Y	Y	Y	Y	Y			
Microsoft Internet Explorer 11.0 (32-bit)				Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Edge												Y

**Table 25: Java Runtime Environment versions supported in OA by release**

Java Runtime Environment (JRE) Version*	OA 7.3	OA 7.3.1	OA 7.3.2	OA 7.3.3	OA 7.3.4	OA 7.3.5	OA 7.3.6	OA 7.3.7	OA 7.3.8	OA 7.3.9	OA 7.3.10	OA 7.3.11
JRE 1.6.0_07 (Windows and Solaris)	Y	Y	Y	Y								
JRE 1.6.0_10 (AIX)	Y	Y	Y									

*Table continues...*

Java Runtime Environment (JRE) Version*	OA 7.3	OA 7.3.1	OA 7.3.2	OA 7.3.3	OA 7.3.4	OA 7.3.5	OA 7.3.6	OA 7.3.7	OA 7.3.8	OA 7.3.9	OA 7.3.10	OA 7.3.11
JRE 1.6.0_45 (for reporting URL)				Y								
JRE 1.7.0_80 (Solaris)					Y	Y	Y	Y	Y			
JRE 1.8.0_45 (Windows and RHEL)					Y	Y	Y	Y	Y			
Java 8u181 – Open JDK - Zulu (Windows)										Y	Y	
Java 8u292 64-bit – Open JDK - Zulu (RHEL)											Y	Y
Java 8u345 64-bit – Open JDK - Zulu (RHEL)												Y
* Avaya OA Administration Client does not work with versions of JRE other than those versions specifically listed here.												

**Table 26: Java Runtime Environment versions supported for client (OA Reporting) by release**

Java Runtime Environment (JRE) Version*	OA 7.3	OA 7.3.1	OA 7.3.2	OA 7.3.3	OA 7.3.4	OA 7.3.5	OA 7.3.6	OA 7.3.7	OA 7.3.8	OA 7.3.9	OA 7.3.10	OA 7.3.11
JRE 1.6.0_07	Y	Y	Y									
JRE 1.6.0_10	Y	Y	Y									
JRE 1.6.0_45				Y								
JRE 1.8.0_xx*					Y	Y	Y	Y	Y	Y	Y	Y
<p>* Avaya OA 7.3.4 reporting client is tested with JRE version 1.8.0_45.</p> <p><b>* Note:</b></p> <ul style="list-style-type: none"> <li>When you open OA Reports (3D), the browser might display the following message:  <pre>JRE is expired, do you want to Upgrade or Run this time.</pre>                     Click <b>Run this time</b>.                      When you open Basic reports, you might get some notifications or dialogs. Accept the notifications to proceed.                 </li> </ul>												

**Table 27: Database Client versions supported in OA by release**

Database Client Version* **	OA 7.3	OA 7.3.1	OA 7.3.2	OA 7.3.3	OA 7.3.4	OA 7.3.5	OA 7.3.6	OA 7.3.7	OA 7.3.8	OA 7.3.9	OA 7.3.10	OA 7.3.11
Microsoft SQL Server 2008 R2 (32-bit)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft SQL Server 2012/2014 R2 (32-bit)				Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft SQL Server 2016/2017 (32-bit)								Y	Y	Y	Y	Y
Microsoft SQL Server 2019												
Oracle 11g Release 2 (32-bit)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Oracle 12.1c (32-bit)				Y	Y	Y	Y	Y	Y	Y	Y	Y
Oracle 19C										Y	Y	Y
IBM DB2 9.5	Y	Y	Y									
<p>* On the Microsoft SQL 2008 R2, Microsoft SQL 2012, or Microsoft SQL 2014 installer, select the <b>x86</b> option to install the 32-bit version of the SQL Server.</p> <p>** Only the <b>Admin</b> type and <b>Runtime</b> type of Oracle Client installation (32-bit) is certified for OA on both Microsoft Windows and Oracle Solaris platform.</p>												

### Server software requirements

The following tables lists the OA software infrastructure required for each OA subsystem or client package. Deployment of software components might vary, depending on your system configuration and performance requirements. The version numbers associated with the supporting applications are specific to the release of OA. A “Y” indicates that the corresponding item is supported in the specific release.

**Table 28: Databases versions supported in OA by release**

Database Version	OA 7.3	OA 7.3.1	OA 7.3.2	OA 7.3.3	OA 7.3.4	OA 7.3.5	OA 7.3.6	OA 7.3.7	OA 7.3.8	OA 7.3.9	OA 7.3.10	OA 7.3.11
Microsoft SQL 2019 (64 bit) (Standard and Enterprise edition)										Y	Y	Y
Microsoft SQL 2017 (64 bit) (Standard and Enterprise edition)								Y	Y	Y	Y	Y
Microsoft SQL 2016 (64 bit) (Standard and Enterprise edition) SP 1								Y	Y	Y	Y	Y
Microsoft SQL 2016 (64 bit) (Standard and Enterprise edition)							Y	Y	Y	Y	Y	Y
Microsoft SQL 2014 (64 bit) (Standard and Enterprise edition)				Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft SQL 2012 (64 bit) (Standard and Enterprise edition)				Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft SQL 2008 (Standard and Enterprise edition)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

*Table continues...*

Database Version	OA 7.3	OA 7.3.1	OA 7.3.2	OA 7.3.3	OA 7.3.4	OA 7.3.5	OA 7.3.6	OA 7.3.7	OA 7.3.8	OA 7.3.9	OA 7.3.10	OA 7.3.11
Oracle 19C										Y	Y	Y
Oracle 12.1c				Y	Y	Y	Y	Y	Y	Y	Y	Y
Oracle 11g and 11g R2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Oracle 10g	Y	Y	Y	Y	Y							
IBM DB2 9.5	Y	Y	Y									

**Table 29: Server Operating Systems supported in OA by release**

Operating System	OA 7.3	OA 7.3.1	OA 7.3.2	OA 7.3.3	OA 7.3.4	OA 7.3.5	OA 7.3.6	OA 7.3.7	OA 7.3.8	OA 7.3.9	OA 7.3.10	OA 7.3.11
Microsoft Windows 2022 Server Standard and Datacenter edition)											Y	Y
Microsoft Windows 2019 Server Standard and Datacenter edition)										Y	Y	Y
Microsoft Windows 2016 Server (Standard and Datacenter edition)								Y	Y	Y	Y	Y
Microsoft Windows 2012 R2 Server (Standard and Datacenter edition)				Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows 2008 R2 (Standard, Enterprise, and Datacenter edition)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Oracle Solaris* 10 update 9 (32 bit and 64 bit)	Y	Y	Y	Y	Y	Y	Y	Y	Y			

Red Hat Enterprise Linux **			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
IBM AIX 6.1 update 3	Y	Y	Y									
<p>*Solaris is only supported on SPARC platform.  **For the supported version of RHEL see the CMS documentation available on the Avaya support site.</p>												

# Chapter 4: Performance specifications

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## Capacity and scalability specifications

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### Capacity information

This section provides capacity related information for Interaction Center (IC) 7.3.x.

 **Important:**

The IC sizing tool is updated based on the performance testing results in IC 7.3.3. You can download the latest sizing tool from the Avaya support site.

### Voice capacity

This section provides information on the Voice calling capacity of IC. An Out-of-the-box setup was used for testing the capacity. The system configuration used for testing is as follows:

- The Telephony Server was installed and configured on a system with four processors and 4 GB RAM.
- Other servers running on the Telephony Server system were Telephony Queue Statistics (TSQS), Electronic Data Unit (EDU), Agent Data Unit (ADU), Report, and WF.

This chapter provides capacity related information for Interaction Center (IC) 7.3.x.

#### Scenario for IC 7.3.2

Agents accept voice calls and then release the call after 3 minutes. The wrap-up duration configured for all agents is 30 seconds.

**Table 30: Capacity information for Telephony Server (TS) without HTTPVox-EP routing**

Number of agents	Calls per hour	Contact duration	Wrap-up duration	VDN	Test Duration	Average CPU usage
1800	18000	3 minutes	30 seconds	12	120 hours	40%

 **Note:**

The capacity in Table 1 is tested on an Out-of-the-box system. While designing the system, you must consider other factors such as agent performing transfers or conferences or integration with other products. These results are valid for IC 7.3.2 and later.

Call flow:

- Customer dial a VDN which is adjunct routing to TS
- TS rout this call to queue VDN where agents are logged in, queue VDN's vector is queue call to skill
- Once call routed to skill any available agent gets a call.

**Table 31: Capacity information for Telephony Server (TS) with HTTPVox-EP routing**

Number of agents	Calls per hour	Contact duration	Wrap-up duration	VDN	No. of EP Ports (HTTPVox)	Test Duration
1200	12000	3 minutes	30 seconds	12	300	72 hours

Call flow:

- Customer dials a VDN which is adjunct routing to TS.
- TS route this call to IVR VDN, IVR VDN's vector route call to EP hunt group where all EP ports are assigned, call route to any EP available port.
- EP invoke OD application when EP gets a call on the port.
- OD application executes the call flow and then transfers the call to Queue VDN where AIC agents are logged in, queue VDN's vector is queue call to skill.
- After the call is routed to skill any available agent gets a call.

**\* Note:**

Tested with four HTTP requests (newcall, getEDU, setEDU and transfer from AAEP to ICC via HttpConnector) with 1200 agents on a single TS. When calls are made at the rate of 12500 calls per hour, call failures were noticed and TS was taking time to respond to any requests.

**Table 32: Capacity information for Telephony Server (TS) with HTTPVox-EP routing with Two TS solution**

Number of agents	Calls per hour	Contact duration	Wrap-up duration	VDN	No. of EP Ports (HTTPVox)	Test Duration
1800	18000	3 minutes	30 seconds	12	400	72 hours

**\* Note:**

Above capacity information is supported only with the following two Telephony Server combinations

- Configure TS\_1, HTTPVox, Httpconnector, TSQS, ADU, EDU, WorkFlow\_1 (for HttpConnector) and WorkFlow\_2 (for TS\_1) in voice domain and TS\_2 WorkFlow, ADU, EDU and Report in another voice domain.
- Voice agents are required to login with TS\_2
- EP ports assignment through HTTPVox is required with TS\_1

- Call routing, queue monitoring, and EP port monitoring are required to taken care at TS\_1

Call flow:

- Customer dials a VDN which is adjunct routing to TS\_1
- TS\_1 route this call to IVR VDN, IVR VDN's vector route call to EP hunt group where all EP ports are assigned, call rout to any EP available port.
- EP invoke OD application when EP gets a call on the port.
- OD application execute the call flow and then transfer call to Queue VDN where AIC agents are logged in, queue VDN's vector is queue call to skill
- After call is routed to skill, any available agent gets a call, agents are logged through TS\_2

## Email capacity

### Email server capacity for IC 7.3.2

The following table provides information about the number of emails that the email server can handle each hour.

**Table 33: Capacity information for the email server**

Size of the incoming email	Number of emails that can be handled in an hour
25 kb	2000
50 kb	1650
100 kb	1350
450 kb with attachments	300

To increase the email handling capacity, you can add additional email servers. To match the poller server capacity, you must have a minimum four IC email servers for every poller server. The capacities mentioned in table 1 are achieved when the Autoresponse feature is enabled and 70% agents are replying to emails.

**\* Note:**

- You can configure up to four email servers for every poller server configured.
- The maximum size of an attachment including email text is 10MB.

### Poller server capacity for IC 7.3.2

The following table provides information about the number of emails that a single poller server can download and save in a database for different sizes of incoming emails in 1 hour.

**Table 34: Capacity information for the email server**

Size of the incoming email	Number of emails that can be handled in an hour
25 kb	4000
50 kb	3500
100 kb	3000
450 kb with attachments	1000

The number of emails that can be processed by the poller server depends on the size of the email and the performance of the database. To increase the capacity, you can increase the number of poller servers.

**\* Note:**

The capacity information for poller server mentioned in the table mentioned is based on a single email account. If the number of email accounts are more the capacity increases. The maximum capacity of each poller server is 9000 text emails per hour. One poller server can poll 500 different email accounts. To achieve full capacity of the poller server, you can configure a minimum of three email accounts on every poller server.

### Capacity for Avaya Agent Web Client for email channel

The Number of agents column shows the maximum number of email-enabled agents that can be logged in to a single instance of Avaya Agent Web Client (AAWC) considering the size of the email.

**Table 35: Capacity information for AAWC for the email channel**

Number of agents	Size of incoming email	Size of outgoing email
200	1 Mb	1 Mb
200	500 Kb	500 Kb
300	250 Kb	250 Kb
500	100 Kb	100 Kb

### Chat capacity for IC 7.3.2 and 7.3.3

**Table 36: Capacity information for the chat channel with CSPortal**

Number of agents	Chat duration	Concurrent chats	Number of Chat contacts per hour
500	5-7 minutes	350	3500

**Table 37: Chat capacity per server**

Per Server	Agents	Concurrent chats	Number of Chat contacts per hour
CSPortal	500	350	3500–6000
ICM Server	700	350	3500–6000
WACD	2000	350	3500–6000
Attribute	700	350	3500–6000
SDK	500	350	3500–6000

### Web Schedule Callback server capacity for IC 7.3.2

The Web Scheduled Callback (WSCallback) server retrieves the scheduled call from the database and delivers it to the agent as a Chat&Callback task. The WSCallback server is also responsible for the following tasks:

- Establishing a connection with the repository database.
- Polling the database at regular intervals to find the scheduled call.
- Creating a Chat&Callback task at a scheduled time.

**Table 38: Capacity information for the Chat and Callback channel**

Number of agents	Chat duration	Number of Chat contacts per hour
500	3 minutes	6000

### WACD Capacity

Support for	Maximum number supported
Number of multimedia agents	2000
Total Number of queued contacts (email or chat)	60000

#### **Note:**

Maximum of 2000 multimedia agents can login to an IC system. One ICM supports maximum of 700 agents logged in to chat channel.

### Multiple Supervisor Capacity from IC 7.3.5

**Table 39: Capacity information for the Multiple supervisor support on Avaya Agent Rich Client (AARC) from IC 7.3.5**

Maximum number of supervisors that can monitor one agent	Maximum number of agents one supervisor can monitor	Maximum number of tasks one supervisor can monitor	Maximum number of workgroups one supervisor can monitor
4	10	10	10

## HTTP Connector capacity for IC 7.3.5

The HTTP Connector element represents a Connector component that supports the HTTP/1.1 protocol. It enables Catalina to function as a stand-alone web server, in addition to its ability to execute servlets and JSP pages.

A particular instance of this component listens for connections on a specific TCP port number on the server. One or more such Connectors can be configured as part of a single Service, each forwarding to the associated engine to perform request processing and create the response.

Each incoming request requires a thread for the duration of that request. If more simultaneous requests are received than can be handled by the currently available request processing threads, additional threads are created up to the configured maximum (the value of the `maxThreads` attribute). If still more simultaneous requests are received, they are stacked up inside the server socket created by the Connector, up to the configured maximum (the value of the `acceptCount` attribute). Any further simultaneous requests receive “connection refused” errors, until resources are available to process them.

The following is the capacity information for HTTP Connector with ping request:

No of Requests	Duration	Thread Delay	Min	Max	Avg	TPS	CNT
6000	30 minutes	1000 milliseconds	105	35583	420.19	299494	164.31

- Min: The shortest time the request has taken (in milliseconds)
- Max: The longest time the request has taken (in milliseconds)
- Avg: The average time for the request (in milliseconds)
- CNT: The number of time the request has been executed
- TPS: The number of transactions per second for the request
- BPS: The bytes per second processed by the request
- Err: The number of errors for the request
- Rat: Failed request ration

### \* Note:

The capacity information for HTTP Connector mentioned in the table has been derived from six consecutive iterations. The maximum capacity for each of the Connector is 12000 requests per hour on the basis of exploratory testing.

## AAWC and SDK agent capacity

A single instance of AAWC or SDK supports up to 500 agents.

### AAWC hardware requirement

AAWC capacity is tested on the following hardware specifications:

CPU	Physical Hardware: 1 CPU with 4 Cores each of 2.80 GHz Virtual Machine Hardware: 2.80 GHz <ul style="list-style-type: none"> <li>• Number of virtual sockets: 2</li> <li>• Number of cores per sockets: 2</li> </ul>
RAM	6 GB
Free Disk Space	10 GB
Free space on the partition where the temporary folder resides	3 GB

### SDK hardware requirement

SDK agent capacity is tested on the following hardware specifications:

CPU	Physical Hardware: 1 CPU with 4 Cores each of 2.80 GHz Virtual Machine Hardware: 2.80 GHz <ul style="list-style-type: none"> <li>• Number of virtual sockets: 2</li> <li>• Number of cores per sockets: 2</li> </ul>
RAM	6 GB
Free Disk Space	10 GB
Free space on the partition where the temporary folder resides	3 GB

## Capacity information for Interaction Center single box solution

This section provides capacity related information for Interaction Center (IC) 7.3.x.

**! Important:**

IC supports a maximum of 250 agents, if the agent type is Rich Client or AAWC.

**Table 40: Capacity information**

Channel	Number of agents	Contacts per hour	Contact duration	Wrap-up duration	Load duration	Peak CPU usage	Peak Memory usage
Voice <sup>1</sup>	200	3200 to 3500	4 to 5 minutes	30 seconds	72 hours	70%	55%
Email <sup>2</sup>	200	1500	5 to 6 minutes	30 seconds	72 hours	70%	55%

*Table continues...*

Channel	Number of agents	Contacts per hour	Contact duration	Wrap-up duration	Load duration	Peak CPU usage	Peak Memory usage
Chat <sup>3</sup>	200	1000 to 1200	6 to 7 minutes	30 seconds	72 hours	70%	55%
<p><sup>1</sup> HTTPVox server supports Experience Portal 200 ports.</p> <p><sup>2</sup> Size of the incoming email is between 25–50 KB. If the size of the incoming email is larger than 50 KB, then the number of emails that the email server can handle will reduce.</p> <p><sup>3</sup> Up to 160 concurrent chats have been tested.</p>							

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## Scalability considerations

You can consider the following to make IC more scalable:

- To meet the high volume of customer interaction and chat contacts requirements on the Web Management Website, you can add more than one Internet Call Manager (ICM) server. You can add more than one ICM to increase the number of supported chat contacts and permit greater scalability. If the IC system includes more than one ICM server:
  - Configure a Central Internet Routing Service (CIRS) server to provide load balancing for the ICM servers.
  - Host each ICM server on a separate computer.
- To meet the failover and scalability requirements of a contact center, you can add more Tomcat servers for the Client SDK or Web Services.
- To improve scalability, you can use the Load balancing Avaya Agent Web Client server deployment. Load balancing deployment improve scalability because load balancing is performed by the HTTP server at the beginning of each client session.

## Interaction Center Client Software Development Kit scalability

The Client SDK provides the following support for scalability:

- Up to 500 agents per Client SDK server
- Clustered deployment option for multiple Client SDK servers

---

## IC Tunable

### IC Tunable parameters

IC server configurable setting:

Performance specifications

Server	Tunable	Location
ADU Servers (channel connectors)	Idle time = 600 Max Active ADUs = 32000 Allowed Assigns = 32000	On the ADU server tab
EDU Server (Voice)	Random kill interval = 120 No user interval (sec) = 3600 Max active EDUs = 90000 Scan interval = 6 Allowed Assigns = 90000 Pool Size = 10000	On the EDU server tab
EDU Server (Email and Web)	Random kill interval = 120 No user interval (sec) = 900 Max active EDUs = 90000 Scan interval = 6 Allowed Assigns = 90000 Pool Size = 10000	On the EDU server tab
Data Server (Web and Email)	Request Handler Thread Pool Size = 45 DB Connection Pool Size =35	On the Data Server tab
	Database Connection Timeout (min) =10 Database Retry interval (sec) =15	Advanced property on the Data Server tab
Report Server	Database Writer Threads = 6 Request Handler Threads = 10 Enable Spooling = selected	Advanced property on the Report tab
WACD	ProcessRequestThreads =30 QualifyFlowTimeout =3600	Enter this parameter on the WACD server's Configuration tab.
	Agent Timeout (sec) =300	On the WACD server tab
Poller	POP3 Cycle wait time (sec) = 20 Maximum Messages Retrieved per POP3 Cycle=240	On the Poller server tab
	SizeLowerThresh = 500000000 SizeUpperThresh = 1000000000	Enter this parameter on the Poller server's Configuration tab
ICEMail	MaximumEventPerWorkflow = 30 Maxemailsinmemory = 300	Enter this parameter on the ICEmail server's Configuration tab

Table continues...

Server	Tunable	Location
	SizeLowerThresh = 500000000 SizeUpperThresh = 1000000000 NumEmailsFetch = 50	
	Database Queries Retries = 10 Analyze Flow Timeout = 300 IC Server Retry Interval = 20 Email Threads = 30 Processor Request Threads = 30 Outbound Email Flow Timeout = 1800	Advanced property on the ICMail Server tab
Comhub	Threads = 30	On the Comhub server tab
WorkFlow (Email)	Event Threads = 40	On the Workflow server tab
	Worker Threads = 64	Advanced property on the Workflow Server tab
Workflow (Voice)	Event Threads = 100	On the Workflow server tab
	Worker Threads = 150	Advanced property on the Workflow Server tab
WorkFlow (Web)	Event Threads = 40	On the Workflow server tab
	Worker Threads = 100	Advanced property on the Workflow Server tab
Attribute server	icmbridge.processthreads =6	Enter these parameters on the Attribute server's Configuration tab
TSA	threadpool = 60	Enter these parameters on the TSA server's Configuration tab
WAA	threadpool = 60	Enter these parameters on the WAA server's Configuration tab
TS	thread_pool_size=200	Enter these parameters on the TS server's Configuration tab
HttpConnector(Voice)	Requesthandlercount = 50	Enter these parameters on the HTTPConnector server's Configuration tab
Website JVM Options	--JvmMs 256 --JvmMx 800	Config Tool on Website/CSPortal server machine
ICM JVM Options	-Xms256m -Xmx800m	Config tool on ICM server machine

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## Redundancy and high availability for IC servers

You can make ICEmail, Poller, and WebACD servers redundant by creating clusters for each type of server.

Cluster is a group of two identical servers in which only one server is functional at a time. Each server in a cluster acts as a redundant server to another. One server acts as a primary server and the other acts as secondary server. Only one server is functional at a time. If the functional server stops running, the other server automatically becomes functional.

You can create multiple clusters for ICEmail and Poller servers. However, you can create only one cluster for WebACD server.

Multiple clusters for ICEmail and Poller helps you to poll emails from multiple exchange servers, thereby scaling the functionality of these servers.

# Chapter 5: Hardware requirements

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## IC hardware requirements

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### Hardware requirements for Design and Administration tools

The following table lists the minimum hardware requirements for design and administration workstations in a Windows environment.

These hardware requirements do not include third-party components, such as database management, email, telephony, and web-hosting services. For information about requirements for these components, see the manufacturer's documentation.

Component	Minimum requirement
CPU	Physical Hardware: 1 CPU with 2 Cores each of 2.20 GHz Virtual Machine Hardware: 2.20 GHz <ul style="list-style-type: none"><li>• Number of virtual sockets: 1</li><li>• Number of cores per sockets: 2</li></ul>
RAM	2 GB  <b>Note:</b> If you are using Microsoft Windows 8.1 then you must have minimum 4 GB RAM.
Free disk space	10 GB
Free space on the partition where temp folder resides	3 GB
Monitor Resolution	1280x1024 (16 bit/32 bit colors)
Minimum Monitor Resolution	1024x768 (256 colors)
 <b>Note:</b>	The above hardware requirements are also applicable for setting up a virtual machine.




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### Hardware requirements for IC servers

The following table lists the minimum hardware requirements for IC servers.

## Hardware requirements


These hardware requirements do not include third-party components, such as database management. For information about requirements for these components, see the manufacturer's documentation.

Component	Minimum requirement
CPU	Physical Hardware: 1 CPU with 4 Cores each of 2.80 GHz Virtual Machine Hardware: 2.80 GHz <ul style="list-style-type: none"><li>• Number of virtual sockets: 2</li><li>• Number of cores per sockets: 2</li></ul>
RAM	4 GB  <b>Note:</b> If you are using Microsoft Windows Server 2012 then you must have minimum 6 GB RAM.
Free disk space	80 GB  <b>Note:</b> The free disk space is the minimum requirement. If you plan to have large amount of application log files, plan the disk space accordingly.
Free space on the partition where temp folder resides	10 GB
 <b>Note:</b> The above hardware requirements are also applicable for setting up a virtual machine.	


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## Hardware requirements for Avaya Agent WebConnector/SDK

The following table lists the minimum hardware requirements for Avaya Agent WebConnector:

Component	Minimum requirement
CPU	Physical Hardware: 1 CPU with 4 Cores each of 2.80 GHz Virtual Machine Hardware: 2.80 GHz <ul style="list-style-type: none"><li>• Number of virtual sockets: 2</li><li>• Number of cores per sockets: 2</li></ul>
RAM	4 GB  <b>Note:</b> If you are using Microsoft Windows Server 2012 then you must have minimum 6 GB RAM.
Free disk space	10 GB

*Table continues...*

Component	Minimum requirement
Free space on the partition where temp folder resides	3 GB
<p> <b>Note:</b> The above hardware requirements are also applicable for setting up a virtual machine.</p>	

## Hardware requirements for agent workstations



The following table lists the minimum hardware requirements for agent workstations in a Windows environment.

These hardware requirements do not include third-party components, such as database management, email, telephony, and web-hosting services. For information about requirements for these components, see the manufacturer's documentation.

### Hardware requirements for the Avaya Agent interface

The following table lists the minimum hardware requirements for agent workstations installed with Avaya Agent.

If you plan to run additional components on the agent desktop computer, you must allow a minimum of 6 GB of RAM and 400 MB of free disk space for Interaction Center agent applications.

Component	Minimum requirement
CPU	Physical Hardware: 1 CPU with 2 Cores each of 2.20 GHz Virtual Machine Hardware: 2.20 GHz <ul style="list-style-type: none"> <li>• Number of virtual sockets: 1</li> <li>• Number of cores per sockets: 2</li> </ul>
RAM	2 GB <p> <b>Note:</b> If you are using Microsoft Windows 8.1 then you must have minimum 4 GB RAM.</p>
Free disk space	10 GB
Free space on the partition where temp folder resides	3 GB
Monitor Resolution	1280x1024 (16 bit/32 bit colors)
Minimum Monitor Resolution	1024x768 (256 colors)
<p> <b>Note:</b> The above hardware requirements are also applicable for setting up a virtual machine.</p>	

### Hardware requirements for the Avaya Agent Web Client interface

The following table lists the minimum hardware requirements for the workstations of agents who use Avaya Agent Web Client:

Component	Minimum requirement
CPU	Physical Hardware: 1 CPU with 2 Cores each of 2.20 GHz Virtual Machine Hardware: 2.20 GHz <ul style="list-style-type: none"> <li>• Number of virtual sockets: 1</li> <li>• Number of cores per sockets: 2</li> </ul>
RAM	2 GB <p><b>* Note:</b> If you are using Microsoft Windows 8.1 then you must have minimum 4 GB RAM.</p>
Free disk space	Diskless workstations are not supported.
Monitor Resolution	1280x1024 (16 bit/32 bit colors)
Minimum Ethernet connection	1 Mbps
<p><b>* Note:</b> The above hardware requirements are also applicable for setting up a virtual machine.</p>	

## Hardware requirements for IV Chat

Communication Manager must have at least one TN2302 Medpro board to work with Voice chat, as the VMM service requires the G.723-5.3 IP codec.

For configuring IVChat, see *Avaya Interaction Center Installation and Configuration*.

**\* Note:**

From IC 7.3.4, Voice Media Manager (VMM) service is not supported.

## Hardware requirements for Interaction Center single box solution

**Table 41: Minimum hardware requirements for Interaction Center single box solution**

Component	Minimum Requirement
CPU	Physical Hardware: 1 CPU with 8 cores of 2.2 to 3.0 GHz Virtual Machine Hardware: <ul style="list-style-type: none"> <li>• Total number of cores: 8</li> <li>• Number of virtual sockets: 2</li> <li>• Number of cores per sockets: 4</li> </ul>
RAM	12 GB without SDK login.

*Table continues...*

Component	Minimum Requirement
	Avaya recommends a minimum of 16 GB.
Disk	120 GB
Network Speed	1 GBps


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## OA hardware requirements

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### Hardware requirements for OA client system

The following table lists the minimum hardware requirements for a desktop system running OA reports or using the Administration client:

Component	Minimum requirement
CPU	Intel-compatible 1 GHz
RAM	1 GB
Video	A graphics adapter capable of displaying 1024 x 768 pixels and 32,768 colors, with at least 8 MB of on-board RAM, and supporting 3D OpenGL acceleration. The latest driver version specifically issued for the video adapter, not the Microsoft version, must be used.
Virtual memory	700 MB allocated to the paging file
Free disk space	200 MB
 <b>Note:</b> The above hardware requirements are also applicable for setting up a virtual machine.	

# Chapter 6: Security

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## Security specification

For information on security for Avaya Interaction Center, see *Avaya Interaction Center 7.3.x Security Guide*.

For information on security for Operational Analyst, see *Operational Analyst 7.3.x Security Guide*.

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## Security for Interaction Center accounts

Interaction Center (IC) has security features for agent and administrator accounts and passwords. The security features include configurable parameters for Interaction Center accounts, such as:

- Maximum log-in attempts before account is disabled.
- Rules for password change intervals.
- Rules for password validity, such as minimum and maximum number of alphabetic and numeric characters.
- Records of the creation and changes to all login accounts.
- Encryption of passwords before sharing them on network for logging to Website, RLManager, Avaya Agent Web Client and SDK.

These security features help defend the IC system against unauthorized users and malicious use.

 **Note:**

Use IC security features with the other contact center security measures.

For more information about how to configure the security parameters, see *Avaya Interaction Center 7.3.x Administration Guide*.

---

## Network security

Ensure that the network provides a minimum of the following security for all computers that host IC servers and applications:

- Secure physical location.
- Properly administered user IDs and permissions.

- Protection from network-based attacks.
- Regular review of program logs.

---

## Security patches and hot fixes for Microsoft IIS

You must check the Microsoft Website for security bulletins and hot fixes for Microsoft IIS that describe possible security issues and solutions. Review the security bulletins after you install Microsoft IIS, make any required configuration changes, and apply the required patches.

You can find a listing of current security bulletins, patches, and hot fixes for Microsoft IIS from the following Website: <http://www.microsoft.com/technet/security/current.aspx>.

Continue to monitor the Microsoft security bulletins and apply all future hot fixes when made available.

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## Security for Unix platforms

Users must avoid running Avaya software as the root user, where possible, for security reasons. For more information, see *Avaya Interaction Center Installation Planning and Prerequisites*.

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## Port utilization

For complete port matrix information for Interaction Center, see *Interaction Center Port Matrix* at the Avaya Support website: <http://support.avaya.com/security>.

For complete port matrix information for Operational Analyst, see *Operational Analyst Port Matrix* at the Avaya Support website: <http://support.avaya.com/security>.

# Chapter 7: Licensing requirements

## Avaya Interaction Center licensing requirements

You must obtain a license file for your configuration of Avaya Interaction Center before you complete your installation and configure your Interaction Center (IC) system. IC cannot function without a valid license file for all components included in your IC system. The steps you must take to obtain a license file begin when you select and purchase your IC system.

You must obtain a license for IC systems, including production, development, and test systems. Licenses for production systems include all of the features and capacities that you purchased for your IC system. Licenses for non-production systems include up to 10 concurrent users.

**\* Note:**

If your upgrade includes new servers, you must obtain a new license.

To obtain an Interaction Center license file, consult your Avaya representative or Avaya Partner representative

Avaya Interaction Center supports WebLM Standard for licensing. The following table list the WebLM versions supported in IC by release:

WebLM Server / Client Versions supported	IC 7.3	IC 7.3.1	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
4.7.1	Y	Y										
6.3.4			Y	Y	Y							
6.3.10					Y	Y	Y					
6.3.17					Y	Y	Y					
7.0					Y	Y	Y	Y	Y			
7.0.1					Y	Y	Y	Y	Y			
7.1								Y	Y			
7.1.2								Y	Y			
8.0.1										Y	Y	Y
8.1.3											Y	Y
10.1.0.2 (10.1.0.0.1 for client*)												Y

For more information about how to install and configure your Interaction Center license file, see *Avaya Interaction Center Installation Planning and Prerequisites* and *Avaya Interaction Center Installing and Configuring*.

### Supported WebLM on VMWare

The following table provides information on the WebLM versions supported on IC. These WebLM are deployed using OVA in a virtualized environment.

WebLM Server Versions supported on VMWare	IC 7.3.2	IC 7.3.3	IC 7.3.4	IC 7.3.5	IC 7.3.6	IC 7.3.7	IC 7.3.8	IC 7.3.9	IC 7.3.10	IC 7.3.11
6.3.4	Y	Y	Y							
6.3.10			Y	Y	Y					
6.3.17			Y	Y	Y					
7.0			Y	Y	Y	Y	Y			
7.0.1			Y	Y	Y	Y	Y			
7.1						Y	Y			
7.1.2						Y	Y			
8.0.1								Y	Y	Y
8.1.3									Y	Y
10.1.0.2										Y

### Operational Analyst licensing requirements

You can obtain an OA license by sending an email to [icoakeyrequest@avaya.com](mailto:icoakeyrequest@avaya.com).

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## Licensing for Interaction Center in Citrix

If your IC system includes agent desktop applications in Citrix, the following licenses are required:

- The appropriate number and kind of Citrix licenses.
- An IC license for every agent and supervisor who will be concurrently logged in to IC.

If an IC system includes Citrix, no reduction is there in the number of IC licenses that are required. The Web License Manager monitors the number of agents who log in to IC. If the number of agents who attempt to log in to IC exceeds the number of licenses, the Web License Manager denies access to those log in attempts that exceed the licensed number.

For more information about licensing for Interaction Center in Citrix, see *Avaya Interaction Center Installation Planning and Prerequisites*.

# Chapter 8: Related resources

## Documentation

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

Title	Use this document to:	Audience
Planning		
<i>Avaya Interaction Center Installation Planning and Prerequisites</i>	get information about supported third-party platforms and other prerequisites required for Avaya Interaction Center, including installation information. Avaya Interaction Center also includes planning and deployment information for Avaya Interaction Center.	<ul style="list-style-type: none"> <li>• Avaya Business Partners</li> <li>• Customers</li> <li>• Implementation engineers</li> </ul>
<i>Avaya Operational Analyst Installation Planning and Prerequisites</i>	get information about supported third-party platforms and other prerequisites required for Avaya Operational Analyst, including installation information . Avaya Operational Analyst also includes planning and deployment information for Avaya Operational Analyst.	<ul style="list-style-type: none"> <li>• Avaya Business Partners</li> <li>• Customers</li> <li>• Implementation engineers</li> </ul>
Implementing		
<i>Avaya Interaction Center Installation and Configuration on Windows/Solaris/AIX</i>	get information about installation and configuration information for all Avaya Interaction Center components on Windows operating system.	<ul style="list-style-type: none"> <li>• Application consultants</li> <li>• Integration consultants</li> <li>• Avaya Business Partners</li> <li>• Customers</li> </ul>
<i>Avaya Operational Analyst Installation and Configuration</i>	get information about installation and configuration information for all Avaya Operational Analyst components.	<ul style="list-style-type: none"> <li>• Application consultants</li> <li>• Integration consultants</li> <li>• Avaya Business Partners</li> <li>• Customers</li> </ul>
Supporting		

Table continues...

Title	Use this document to:	Audience
<i>Avaya Interaction Center Administration Guide</i>	get detailed information about using Interaction Center Manager to configure and administer the domains and servers for Interaction Center.	<ul style="list-style-type: none"> <li>• Administrators</li> </ul>
Using		
<i>Interaction Center Avaya Agent Web Client Guide</i>	get detailed information about using the Agent Web Client interface for handling multimedia calls.	<ul style="list-style-type: none"> <li>• Agent</li> <li>• Administrators</li> </ul>

## Finding documents on the Avaya Support website

### About this task

Use this procedure to find product documentation on the Avaya Support website.

### Procedure

1. Use a browser to navigate to the Avaya Support website at <http://support.avaya.com/>.
2. At the top of the screen, enter your username and password and click **Login**.
3. Click on **Product Support** menu.
4. Click **Documents**.
5. In the **Search Product** box, type the product name and then select the product from the drop-down list.
6. If there is more than one release, select the appropriate release number from the **Select Release** drop-down list.
7. In the **Enter Keyword** (optional) field, input any keyword related to product.  
In the **Select Content Type** (optional) select the type of document you are looking for,  
For example, if you are looking for user guides, select **User Guides** in the **Content Type** filter. Only documents in the selected category will appear in the list of documents.
8. Click **Search** icon.

## Training

The following courses are available on the Avaya Learning website at <http://www.avaya-learning.com>. After logging in to the website, enter the course code or the course title in the **Search** field and press **Enter** or click > to search for the course.

Course code	Course title
ATC01175WEN	Interaction Center and Operational Analyst overview
ATC01176IEN	Interaction Center administration and configuration
AUCC100010695	Interaction Center-Siebel integration
ATC100011017	Interaction Center-Siebel integration, installation, and troubleshooting

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## Viewing Avaya Mentor videos

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

### About this task

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

### Procedure

- To find videos on the Avaya Support website, go to <http://support.avaya.com> and perform one of the following actions:
  - In **Search**, type `Avaya Mentor Videos` to see a list of the available videos.
  - In **Search**, type the product name. On the Search Results page, select **Video** in the **Content Type** column on the left.
- To find the Avaya Mentor videos on YouTube, go to [www.youtube.com/AvayaMentor](http://www.youtube.com/AvayaMentor) and perform one of the following actions:
  - Enter a key word or key words in the **Search Channel** to search for a specific product or topic.
  - Scroll down Playlists, and click the name of a topic to see the available list of videos posted on the website.

 **Note:**

Videos are not available for all products.

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## Support

Go to 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.

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