



Avaya Operational Analyst
Release 7.0
Installation and Configuration

07-300072
Issue 2.0
July 2005

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Such intrusions may be either to/through synchronous (time-multiplexed and/or circuit-based) or asynchronous (character-, message-, or packet-based) equipment or interfaces for reasons of:

- Use (of capabilities special to the accessed equipment)
- Theft (such as, of intellectual property, financial assets, or toll-facility access)
- Eavesdropping (privacy invasions to humans)
- Mischief (troubling, but apparently innocuous, tampering)
- Harm (such as harmful tampering, data loss or alteration, regardless of motive or intent)

Be aware that there may be a risk of unauthorized intrusions associated with your system and/or its networked equipment. Also realize that, if such an intrusion should occur, it could result in a variety of losses to your company (including, but not limited to, human and data privacy, intellectual property, material assets, financial resources, labor costs, and legal costs).

Your responsibility for your company's telecommunications security

The final responsibility for securing both this system and its networked equipment rests with you, an Avaya customer's system administrator, your telecommunications peers, and your managers. Base the fulfillment of your responsibility on acquired knowledge and resources from a variety of sources, including, but not limited to:

- Installation documents
- System administration documents
- Security documents
- Hardware-/software-based security tools
- Shared information between you and your peers
- Telecommunications security experts

To prevent intrusions to your telecommunications equipment, you and your peers should carefully program and configure:

- Your Avaya-provided telecommunications systems and their interfaces
- Your Avaya-provided software applications, as well as their underlying hardware/software platforms and interfaces
- Any other equipment networked to your Avaya products.

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<http://www.avaya.com/support>

Avaya Training

Avaya provides training for Avaya Operational Analyst. For more information, contact Avaya University at:

Web site: http://www.avaya-learning.com/logon_form.asp

E-mail address: avaya.u.helpdesk@accenture.com

US telephone: 1-800-288-5327

Outside US telephone: +1-303-406-6089

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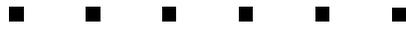
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Preface

Avaya Operational Analyst Release 7.0 Installation and Configuration describes the Avaya Operational Analyst (OA) installation and configuration procedures. These procedures are valid for OA 7.0 and any subsequent 7.0.x releases until this document is reissued.

This section includes the following topics:

- [Product description](#) on page 9
- [Intended users](#) on page 10
- [Reasons for reissue](#) on page 10
- [Organization](#) on page 10
- [Related information](#) on page 11

Product description

Avaya OA allows businesses to perform operational reporting for a multimedia contact center, smoothly growing from single channel analysis, to full interaction, multi-channel analysis with a common data model and common user interfaces across the contact center systems.

Avaya OA works with Avaya Interaction Center (Avaya IC), functioning as a contact center performance analysis system. Avaya OA provides reporting capabilities that supplement the Avaya IC reporting tools.

Avaya OA also works with the Avaya Call Management System (CMS) for extended, online historical data storage and multi-site analysis, receiving External Call History (ECH) data and historical interval data from up to 30 CMS servers and up to 240 ACDs.

Intended users

This information is intended for Avaya Professional Services Organization (PSO) personnel, business partners, and customers who install their own OA software.

Reasons for reissue

This is the second issue of this document. This updated document describes platform enhancements for OA 7.0, plus other required updates and corrections.

Organization

This document includes the following information:

- [Preparing for installation](#) on page 13 describes the prerequisites that must be checked and the procedures that must be done before you install Avaya OA subsystems, client software, and data collection software.
- [Installing Avaya OA components](#) on page 29 describes how to install the Avaya OA subsystems, client software, and data collection software.
- [Configuring Avaya OA subsystems and event collectors](#) on page 117 describes how to configure the Avaya OA components.
- [Making changes to installed Avaya OA components](#) on page 149 describes how to add, repair, move, or remove Avaya OA components.
- [Upgrading Avaya OA software](#) on page 269 describes how to upgrade the Avaya OA software.
- [Troubleshooting an installation](#) on page 309 describes how to troubleshoot installation problems.
- [Appendix A: Port assignments](#) on page 319 describes the TCP ports used with Avaya OA and Avaya IC configurations.
- [Appendix B: Changing the Cognos installation](#) on page 341 describes how to move the location of a Cognos installation.
- [Glossary](#) on page 357.

Related information

The following table lists all of the Avaya OA information, both documents and online help systems:

Title	Number	Compas ID
<i>Avaya Operational Analyst 7.0 What's New in Operational Analyst</i>	07-300405	111978
<i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>	07-300071	111976
<i>Avaya Operational Analyst Release 7.0 Installation and Configuration</i>	07-300072	111977
<i>Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting</i>	07-300073	107357
<i>Avaya Operational Analyst Release 7.0 Reports Reference</i>	07-300074	111980
<i>Avaya Operational Analyst 6.1.3 Data API Utility</i>	07-300075	101720
<i>Avaya Operational Analyst 7.0 Administration Client Online Help</i>	See Administration client help or library CD-ROM	
<i>Avaya Operational Analyst 7.0 Basic Reports Online Help</i>	See Report client help	
<i>Data Model Help</i>	See product CD-ROM	
<i>Security Guide</i>	See product CD-ROM	

The following table lists Avaya IC information that may be helpful:

Title	Number	Compas ID
<i>Avaya Interaction Center Release 7.0 Installation Planning and Prerequisites</i>	07-300099	107128
<i>Avaya Interaction Center Release 7.0 Installation and Configuration</i>	07-300100	107234
<i>Avaya Interaction Center 7.0 Business Advocate Configuration and Administration</i>	07-300106	107874

Preface

The `Release.pdf` file contains the latest notes about installation of OA components. Avaya recommends that you read these notes before installation.

After installation, you can view the release notes at:

- `%PABASE%\doc\Release.pdf` (Windows)
- `$PABASE/doc/Release.pdf` (Solaris and AIX)

The default installation directories that represent `%PABASE%` and `$PABASE` are:

- `c:\Program Files\Avaya\BI` (Windows)
- `/export/home/biadmin/BI` (Solaris)
- `/home/biadmin/BI` (AIX)

The database operations explained in this document require the services of either a qualified database administrator or a systems integrator who possesses in-depth knowledge of database fundamentals and of the operating system. Some suggested reference materials include:

- For Oracle databases:
 - Oracle8i 8.1.7 Installation Guide for Windows
 - Oracle8i 8.1.7 Client Installation Guide for Windows
 - Oracle8i Administrator's Reference Release 3 (8.1.7) for Sun SPARC Solaris
 - Oracle8i Installation Guide Release 3 (8.1.7) for Sun SPARC Solaris
 - Oracle9i Database Installation Guide (Windows)
 - Oracle9i Client Installation Guide Release 2 (9.2.0.1.0) for Windows
 - Oracle9i Installation Guide Release 2 for UNIX Systems
 - Oracle9i Administrator's Reference for UNIX Systems
 - The Legato Storage Manager administrator guide
- For Microsoft SQL databases:
 - Microsoft SQL Server 2000 Books Online
 - Microsoft database documentation
- For DB2 databases, the DB2 documentation, which is available online after you install the database software.
- For TimesTen databases, the TimesTen documentation, which is available online after you install the Real-time subsystem. The documentation is copied to the following location:
 - `%PABASE%\doc\TimesTen` (Windows)
 - `$PABASE/doc/TimesTen` (Solaris and AIX)

For detailed information about how to install operating system software, refer to the documentation that accompanies the operating system software.



Preparing for installation

Before you begin the OA installation, read the following sections and do any procedures given in these sections:

- [Software on the Avaya OA CD-ROM](#) on page 14
- [Path definitions](#) on page 18
- [Security for Unix platforms](#) on page 21
- [Preinstallation checklist](#) on page 22
- [Subsystem and client software installation considerations](#) on page 26
- [Avaya OA installation examples](#) on page 27

Software on the Avaya OA CD-ROM

The OA software CD-ROM includes the following:

- [Server applications](#) on page 14
 - Historical subsystem
 - Real-time subsystem
 - Report subsystem
- [Client applications](#) on page 15
 - Administration
 - Basic Reports
 - Advanced Reports
 - Data API Utility
- [Data collection applications](#) on page 16
 - Source-CMS
 - Source-EC (Event Collector)
 - Source-EC Bridge (Event Collector Bridge)
- [Third-party applications](#) on page 17
 - Java Runtime Environment (JRE)
 - TimesTen Database

Server applications

Avaya OA server components consist of core (common) software applications. This core is automatically and transparently installed when required, based on which components of OA are installed.

Historical subsystem

The Historical subsystem analyzes the data in the database. This release of OA requires Oracle 8i, Oracle 9i, Microsoft SQL Server 2000, or DB2 to create and operate the database.

Real-time subsystem

The Real-time subsystem processes the active work items in the real-time database. This release of OA requires the TimesTen Real-time database software, which is installed automatically when you select the Real-time subsystem while installing OA.

Report subsystem

The Report subsystem and Advanced Report subsystem provides the Web-based report framework necessary to run Basic Reports or Advanced Reports.

Client applications

Avaya OA client components are applications that are active on clients to help you manage many of the OA functions. These applications can be installed on hardware as described in [Client PC minimum hardware requirements](#) on page 33 and on software as described in [Client software requirements](#) on page 37 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.

Administration

The Administration client is an OA utility that allows you to manage many of the OA components and operations using a graphical user interface running under Internet Explorer 6.0 SP1 or later.

Administration client can be installed on any or all of the Windows-based OA or Avaya IC servers or on a standalone Windows-based workstation.

Basic Reports

The Report client allows you to view the OA Basic Reports and the OA Tabular Reports. The Report client is installed on standalone Windows-based workstations.

Important:

When installing the Report client, consider the following:

- Do not install the Report client on any machine running Windows server software, either Windows 2000 or Windows 2003.
- Do not install the Report client coresident on any Avaya IC servers.
- For performance and different hardware and software requirement reasons, running the Basic Reports on the report server is not supported.

Advanced Reports

Advanced Reports require Cognos Impromptu Administrator and PowerPlay Transformation Server to view non-web-based reports. Transformer is used to generate the cube, and PowerPlay is used to view the cube. If you want to view the web version of the reports, you must also install Cognos Impromptu Web Reports and Cognos PowerPlay Enterprise Server, which also automatically installs Cognos Upfront. You can install these applications from the Cognos CD-ROM that is shipped with the OA software. Refer to the Cognos documentation for more information on which Cognos components must be installed and where they are installed. Advanced Reporting must be installed on the same server as the Cognos Impromptu Administrator.

The Cognos catalog connects with the database from the machine running Cognos, and requires the appropriate database client.

PowerPlay requires access to pre-defined PowerPlay cubes. Each user that wants to run PowerPlay must have access to the cubes. If you do not install the cubes on the same machine as PowerPlay, you need LAN access from the PowerPlay machine through a mapped drive to the location of the PowerPlay cubes.

Data API Utility

Operational Analyst offers a Data API Utility for exporting data from the real-time and historical databases to support work force management software.

Data collection applications

Avaya OA data collection applications must be loaded on Avaya IC or Avaya Call Management System (CMS) servers from which data will be collected for reporting through OA.

Source-CMS subsystem

The Source-CMS subsystem is loaded on the CMS server to collect and send data to the OA historical server.

Source-EC (Event Collector) subsystem

The Source-EC (Event Collector) subsystem is loaded on an Avaya IC server to collect data from the ADU servers and send the data to the OA Real-time subsystem.

Source-EC Bridge (Event Collector Bridge) subsystem

The Source-EC Bridge (Event Collector Bridge) subsystem is loaded on an Avaya IC server to collect data from Avaya Business Advocate.

Third-party applications

Java Runtime Environment (JRE)

JRE is required for Java-based applications, such as OA Administration client. JRE provides the environment that enables these applications to run. JRE is automatically installed during OA installation on servers, but must be manually installed when installing the Report client support files on a Windows system. For more information about which versions of JRE are installed, see [Java Run-time Environment](#) on page 54 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.

Note:

Using this version of JRE could impact customer applications on Windows systems if the applications require a different version.

TimesTen Real-time database

This software provides the memory-resident database used by the OA Real-time subsystem to store real-time operational information about the contact center. TimesTen is automatically installed when you install the Real-time subsystem.

Path definitions

It is important to understand the path definitions for the different operating systems:

- [Windows path definitions](#) on page 18
- [Solaris path definitions](#) on page 19
- [AIX path definitions](#) on page 20



Important:

If you choose to install OA in locations other than the defaults recommended by Avaya, this will affect all examples of install locations noted in this document.

Windows path definitions

The following variable is used in this document to represent the installation path for most OA software on Windows:

`%PABASE%`

For example, the location for a file in that path is shown as follows:

`%PABASE%\stumbras\tomcat\work\localhost_8080`

The following is the default installation path OA uses on a Windows server:

`c:\Program Files\Avaya\BI`

Note:

When installing OA, the `BI` portion of the path is not displayed when the default path is shown in the **Destination** dialog box. This is added as part of the installation.

The following variable is used in this document to represent the installation path for EC Server and EC Bridge software on Windows:

`%AVAYA_IC70_HOME%\bin`

The following is the default installation path IC uses on a Windows server:

`c:\Program Files\Avaya\IC70`

Solaris path definitions

The following variable is used in this document to represent the installation path for most OA software on Solaris:

\$PABASE

For example, the location for a directory in that path is shown as follows:

\$PABASE/data/log

Depending on how the OS was installed and how the filesystems were created, the following is the default installation path OA uses on a Solaris server:

/export/home/biadmin/BI

Note:

When installing OA, the **BI** portion of the path is not displayed when the default path is shown in the **Destination** dialog box. This is added as part of the installation.

The following variables are used in this document to represent the installation path for the Sun Web Server software on Solaris:

\$SUN_WEB_HOME

The following variables are used in this document to represent the installation path for EC Server software and libraries on Solaris:

\$AVAYA_IC70_HOME/bin

\$AVAYA_IC70_HOME/lib

Depending on how the OS was installed and how the filesystems were created, the following is the default installation path IC uses on a Solaris server:

/opt/Avaya/IC70

AIX path definitions

The following variable is used in this document to represent the installation path for most OA software on AIX:

\$PABASE

For example, the location for a directory in that path is shown as follows:

\$PABASE/data/log

Depending on how the OS was installed and how the filesystems were created, the following is the default installation path OA uses on an AIX server:

/home/biadmin/BI

Note:

When installing OA, the **BI** portion of the path is not displayed when the default path is shown in the **Destination** dialog box. This is added as part of the installation.

The following variables are used in this document to represent the installation path for the WebSphere software on AIX:

\$WEBSHERE_HOME

The following variables are used in this document to represent the installation path for EC Server software and libraries on AIX:

\$AVAYA_IC70_HOME/bin

\$AVAYA_IC70_HOME/lib

Depending on how the OS was installed and how the filesystems were created, the following is the default installation path IC uses on an AIX server:

/usr/Avaya/IC70

Security for Unix platforms

Avaya recommends that users avoid running Avaya software as the root user for security reasons.

Note:

This does not apply to the installation software itself, which must be run as the root user.

Preinstallation checklist

Before you install OA, verify that these prerequisites have been done:

Procedure	✓
<p>For a configuration that includes Avaya IC, verify that the Avaya IC components have been installed, configured, and are started before you install, configure, and start the OA components. For more information about Avaya IC planning and installation, see:</p> <ul style="list-style-type: none"> ● <i>Avaya Interaction Center Release 7.0 Installation Planning and Prerequisites</i> ● <i>Avaya Interaction Center Release 7.0 Installation and Configuration</i> 	
<p>Verify that the customer has obtained the required hardware for their configuration. See Server machine hardware sizing on page 34 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i> for more information.</p>	
<p>Verify that the operating system and any needed service packs or option packs have been installed. See Server software requirements on page 38 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i> for more information.</p>	
<p>Verify that the supporting software on each server has been installed. See Server software requirements on page 38 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i> for more information.</p>	
<p>Plan where the components will reside. This information will be required during installation.</p> <ul style="list-style-type: none"> ● Plan to install OA on a disk drive separate from the physical drive on which your operating system or database software resides. This is recommended to improve performance. ● Please note that while one or more OA components can be installed on a given server, a specific component cannot be split among multiple servers. <p>See Database and server machine considerations on page 24 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i> for more information.</p>	
<p>Verify that the minimum amount of recommended free disk space and memory is available. Avaya support personnel have sizing tools to determine engineering specifications for individual OA systems, and you should determine your free disk space, memory, and configuration specifications in collaboration with Avaya personnel. See Server machine hardware sizing on page 34 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i> for more information.</p>	

Procedure	✓
<p>Verify that the database has been installed. For more information, refer to:</p> <ul style="list-style-type: none"> ● <i>Avaya Interaction Center Release 7.0 Installation Planning and Prerequisites</i> ● Installing the historical database software on page 57 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i> <p>⚠ Important:</p> <p>The database operations used with Avaya OA require the services of either a qualified database administrator or a systems integrator who possesses an in-depth knowledge of database fundamentals on the installed operating system. It should not be done by personnel that are not familiar with the database software.</p>	
<p>Verify that a user ID exists on the database that has read permission on the database. If one does not exist, create one.</p>	
<p>Verify the connection between the database client and the database server. Refer to the database documentation for details.</p>	
<p>If you are collecting data from Avaya IC, verify that Avaya IC has been installed and configured. Refer to <i>Avaya Interaction Center Release 7.0 Installation and Configuration</i> for more information.</p>	
<p>Verify that each PC that is using the Report client or Administration client meets the minimum standards. See Client PC minimum hardware requirements on page 33 and Client software requirements on page 37 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i> for details.</p>	
<p>Do not define a User Classpath other than what is created under normal software package installations.</p>	
<p>On Windows servers, set the Maximum Log Size of the Application Event Log to at least 2 MB, and consider setting the logs to automatically roll over. See Error messages on page 99 in <i>Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting</i> for more information.</p>	
<p>If your configuration is using a coresident Web server on Windows, collect the security settings of your existing Web server that you recorded from Installing the IIS Web Server on Windows on page 110 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>. If these settings have not been collected, collect them <i>before</i> you install the OA Report subsystem.</p>	
<p>On Windows servers, review your Internet Information Services (IIS) logging strategy to be sure you allocate enough free disk space to prevent message loss and/or OA performance impact. Refer to Windows Internet Information Services (IIS) message log on page 102 in <i>Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting</i> for details.</p>	

Preparing for installation

Procedure	✓
<p>On Windows servers, open Control Panel > Services to determine if Terminal Services is being used on your server. If Terminal Services is being used, you must run a special command before and after you do any OA installs, additions, repairs, or upgrades. These commands are documented in the install, add, repair, and upgrade sections of this book.</p>	
<p>Avaya recommends that you not install OA on the root file system on Solaris and AIX servers. Verify that <code>/export/home</code> (Solaris) and <code>/home</code> (AIX) are not on the root file system disk. If they are on the root file system disk, install the software in a different location.</p>	
<p>Verify that there is a minimum of 512 MB of free temporary space on the <code>c:</code> drive for Windows, in <code>/var/tmp</code> for Solaris, and <code>/tmp</code> for AIX. If this space is not available, the installer may not run successfully.</p>	
<p>Verify that there is at least 2.2 GB of free space and 512 MB of RAM on the server where the Real-time subsystem is being installed.</p>	
<p>Verify that time synchronization software is installed and operating correctly on all servers. See Appendix A: Time synchronization on page 127 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i> for more information.</p>	
<p><i>Critical step.</i> Verify that the servers are networked and communicating properly using dedicated IP addresses (DHCP may result in a different IP address each time a server is rebooted, resulting in networking failures). This includes validating or creating appropriate domain administrative accounts for Avaya IC and OA. See Appendix B: Networking on page 141 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>.</p>	
<p>Verify that the OA license keys have been obtained by sending e-mail to <code>icoakeyrequest@avaya.com</code> with the SAP order number.</p>	
<p>Verify that the OS parameters, such as user IDs and locale settings, have been set as described in Creating users and setting OS parameters on page 95 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>.</p>	
<p>For Windows, determine whether Active Directory Service (ADS) is being used for authorization. This will affect how you set up the system during installation.</p>	
<p>If installing OA components on an Avaya IC server, stop the following before installing OA:</p> <ul style="list-style-type: none"> ● Avaya IC ICM Service ● Avaya IC ORB Service ● IC Manager application <p>Restart all of these after installing OA.</p>	
<p>If installing the OA Source-EC or Source-EC Bridge subsystems on an Avaya IC server, verify that there is at least 100 MB of free disk space for the installation files.</p>	

Procedure	✓
<p>Before you install OA, turn off all virus scan software.</p> <p> SECURITY ALERT: Temporarily turning off your virus scan software opens a potential risk for a virus attack. However, this risk should be low since the server is probably not being used at the same time when OA is being installed. After you complete the installation, remember to turn on the virus scan software.</p>	
<p>Before you install OA:</p> <ul style="list-style-type: none"> ● Back up your database. ● Close all other applications. ● Verify that the database services are started and automatic. This allows the database to be configured during installation. If this is not done, the installation will terminate and remove installed packages. 	
<p>When possible, use a 19-inch or larger monitor with a resolution of 1024x768 when installing OA. If you use a smaller screen resolution, you may have trouble seeing all of the data fields in the installation dialog boxes, and you may have to resize the installation dialog boxes to see all of the data fields.</p>	

Subsystem and client software installation considerations

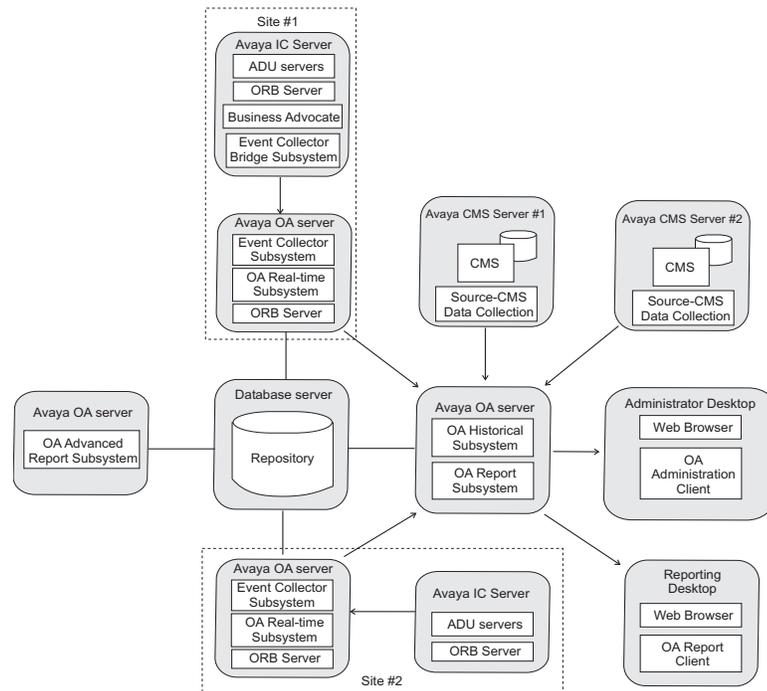
Consider the following when installing OA subsystems and client software:

- The Historical subsystem must be installed on only one machine in the configuration. It can be installed on either a Windows, Solaris, or AIX machine.
- The Real-time subsystem, basic Report subsystem, and Administration client can be installed on any number of machines in any combination, as needed.
- You should not install the historical database on the same machine as the real-time TimesTen database.
- The basic Report subsystem can only be installed on machines that also have Web server software installed.
- The Advanced Reporting subsystem can be installed only on a Windows machine.
- The Source-CMS data collection subsystem must be installed on a CMS server. It can only be installed on a Solaris machine.
- The Source-EC (Event Collector) data collection subsystem must be installed on the secondary Avaya IC server. It can be installed on either a Windows, Solaris, or AIX machine.
- The Source-EC Bridge (Event Collector Bridge) data collection subsystem must be installed on an Avaya IC machine that also has Avaya Business Advocate installed. The Source-EC Bridge can only be installed on a Windows machine.
- The Report client software must not be installed on an Avaya OA or Avaya IC server machine. Running reports on a server machine can adversely affect the performance of the server software.
- If the Advanced Reporting subsystem and basic Report subsystem are installed on the same machine, the databases allowed with the basic Report subsystem determine which database can be chosen. For Windows, Basic Reports support Oracle and Microsoft SQL. If the Advanced Reporting subsystem is also installed, it can only choose Oracle or Microsoft SQL.

Avaya OA installation examples

This section shows examples of the OA-related software you must install on server and client machines. Software specific to Avaya IC is installed during Avaya IC installation.

For the following configuration:

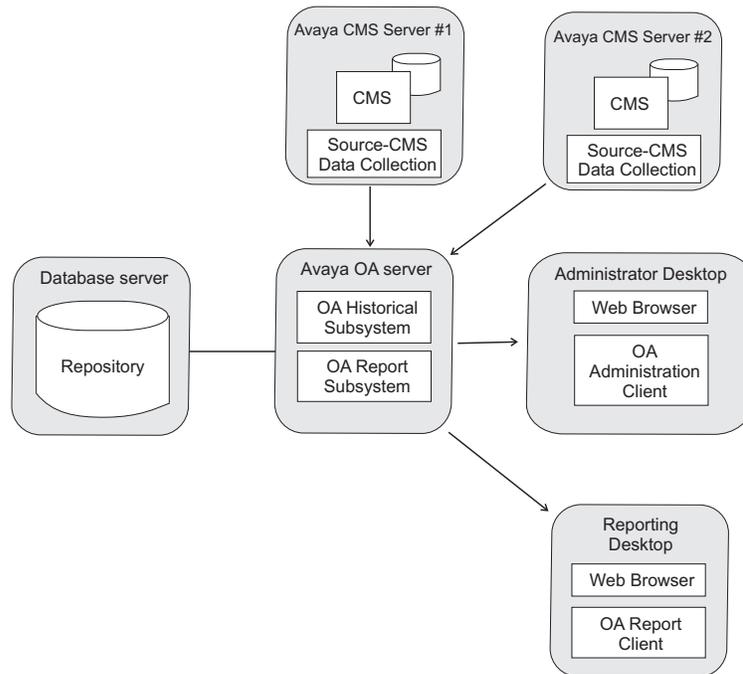


Install the following OA-related software:

- At IC Site #1:
 - Install the Source-EC subsystem and the Real-time subsystem on the Avaya OA server.
 - Install the Source-EC Bridge subsystem on the Avaya IC server that has Business Advocate.
- On the database server, the database software should already be installed by the customer.
- On the main Avaya OA server, install the Historical subsystem, Report subsystem, and Advanced Reporting subsystem.
- At IC Site #2, install the Source-EC subsystem and the Real-time subsystem on the Avaya OA server.
- On the PC used by the system administrator, install the Administration client software.
- On the PCs used by supervisors viewing reports, install the Report client software.

Preparing for installation

For the following configuration:



Install the following OA-related software:

- At Avaya CMS server #1, install the Source-CMS subsystem.
- At Avaya CMS server #2, install the Source-CMS subsystem.
- On the database server, the database software should already be installed by the customer.
- On the Avaya OA server, install the Historical subsystem and Report subsystem.
- On the PC used by the system administrator, install the Administration client software.
- On the PCs used by supervisors viewing reports, install the Report client software.



Installing Avaya OA components

This section describes how to install the various subsystems, client software, data collection, and the Data API Utility of OA. For example, you may install some subsystems on one server, client software on other machines, and data collection on Avaya IC and Avaya CMS servers.

This section includes the following topics:

- [Security for Unix platforms](#) on page 30
- [Installation checklist](#) on page 31
- [Before you begin the installation](#) on page 31
- [Installing Avaya OA components on a Windows platform](#) on page 32
- [Installing Avaya OA components on a Solaris platform](#) on page 50
- [Installing Avaya OA components on an AIX platform](#) on page 70
- [Installing Avaya OA components on a CMS server](#) on page 92
- [Installing and testing the Report client](#) on page 102
- [Completing the installation](#) on page 107

Security for Unix platforms

Avaya recommends that users avoid running Avaya software as the root user for security reasons.

Note:

This does not apply to the installation software itself, which must be run as the root user.

Installation checklist

To install OA, do the procedures shown in the following order:

Procedure	✓
Make sure you have done all the prerequisites detailed in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i> and in Preparing for installation on page 13.	
Read the information in Before you begin the installation on page 31	
Install the OA components using the procedures in the following sections: <ul style="list-style-type: none"> ● Installing Avaya OA components on a Windows platform on page 32 ● Installing Avaya OA components on a Solaris platform on page 50 ● Installing Avaya OA components on an AIX platform on page 70 	
Install the Source-CMS subsystem on your CMS servers using the procedure in Installing Avaya OA components on a CMS server on page 92.	
Install the Report client files using the procedures in Installing and testing the Report client on page 102.	
Finish up the installation using the procedures in Completing the installation on page 107.	

Before you begin the installation

Consider the following while you are doing the installation:

- Avaya recommends that you write down all user IDs and database names used during installation as you will need them during configuration and when you make future changes. After installation, most of this information can be found using the `oa1ist` command.
- After installing the Administration client, you may want to customize the Administration client installation. See [Customizing the Administration client](#) on page 118.
- The dialog boxes that are displayed during installation depend on what components are being installed.

Installing Avaya OA components on a Windows platform

This section describes how to install the following OA components on a Windows platform:

- Historical subsystem
- Real-time subsystem
- Source-EC subsystem
- Source-EC Bridge subsystem
- Report subsystem (basic)
- Data API Utility
- Advanced Reporting subsystem
- Administration client

Note:

You can run the install from files copied to the server using FTP. For Windows, you must copy the `winSetup.exe` and `setup.jar` files to a temporary folder on a disk drive that is local to the server, not a networked drive.

To start the OA installation process:

1. Make sure you have completed the prerequisites detailed in [Preparing for installation](#) on page 13.
2. Log in as a user with administration privileges.
3. If Windows Terminal Services is installed in Application mode, open a command prompt window and enter:

```
change user /install
```

 **CAUTION:**

If Windows Terminal Services was installed in Administration mode, you cannot properly install any OA subsystem on that machine. See [Operating systems](#) on page 48 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.

4. Place the OA CD-ROM in the drive.

- Using Windows Explorer, navigate to the CD-ROM drive and double-click the `WinSetup.exe` file.

! Important:

Install Avaya OA from a CD-ROM drive that is local to the server where you are installing OA. Installing from a networked CD-ROM drive is not supported.

- After several seconds, the **Initializing wizard** window is displayed, followed by the **Welcome** dialog box.

! Important:

You can stop the installation at any time by clicking **Cancel** before you start the actual installation of files (see Step 51). If you click **Cancel**, you will be asked to confirm your intention to cancel. If you cancel, the installation is terminated and the system is restored to its previous state.

- Click **Next**.

The **License Key** dialog box is displayed.

- Enter the license key provided for the components purchased.

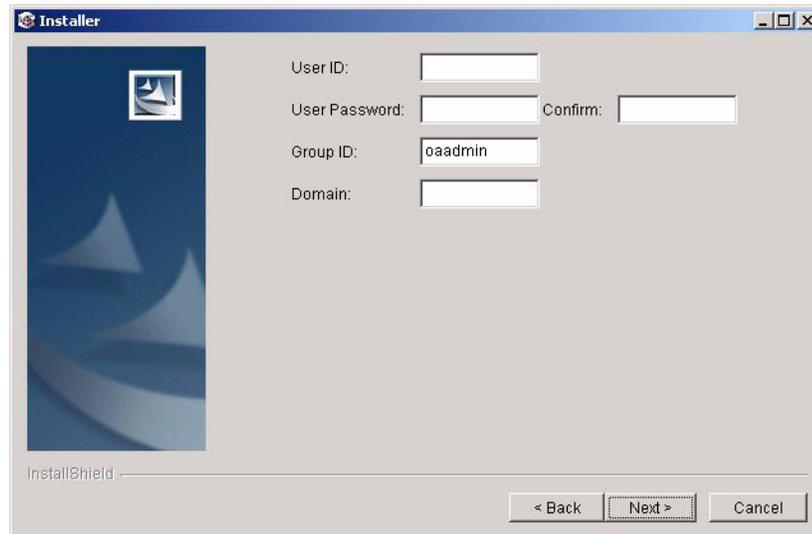
- Click **Next**.

The **License Agreement** dialog box is displayed.

- Select **I accept the terms in the license agreement**.

- Click **Next**.

The **User Information** dialog box is displayed.



The screenshot shows a Windows-style dialog box titled "Installer". On the left side, there is a vertical blue bar with a white icon of a sailboat and the text "InstallShield" at the bottom. The main area of the dialog box is light gray and contains several input fields: "User ID:" with an empty text box, "User Password:" with an empty text box, "Confirm:" with an empty text box, "Group ID:" with a text box containing "oadmin", and "Domain:" with an empty text box. At the bottom right, there are three buttons: "< Back", "Next >", and "Cancel".

Installing Avaya OA components

12. Enter the **User ID**, **User Password**, **Group ID**, and **Domain**. Use a login ID (for example, `oauser` or `biadmin`) and password as discussed in [Creating user IDs and group IDs on Windows servers](#) on page 96 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*. This assigns an owner for all OA files and folders. If the user ID is on a domain, enter the domain name in the **Domain** field. If the user ID is local to this server, enter the server name in the **Domain** field.

Note:

For the **Domain** field, you typically would not enter the fully-qualified domain name. However, some customer networks may require use of a fully-qualified domain name. Consult with the customer network administrator when administering this option.

13. Click **Next**.

The **Destination** dialog box is displayed.

14. Accept the default installation directory or change the directory.

 **Important:**

The Advanced Reporting subsystem must be installed in `c:\Program Files\Avaya`. If the customer wants to have this software installed at a location other than the `c:` drive, a custom procedure must be done by your Avaya planning and installation support representative or by your Avaya Business Partner. This procedure is also documented in [Appendix B: Changing the Cognos installation](#) on page 341.

15. To change the location where you want the components installed:

- a. Click **Browse**.
- b. Select the directory.

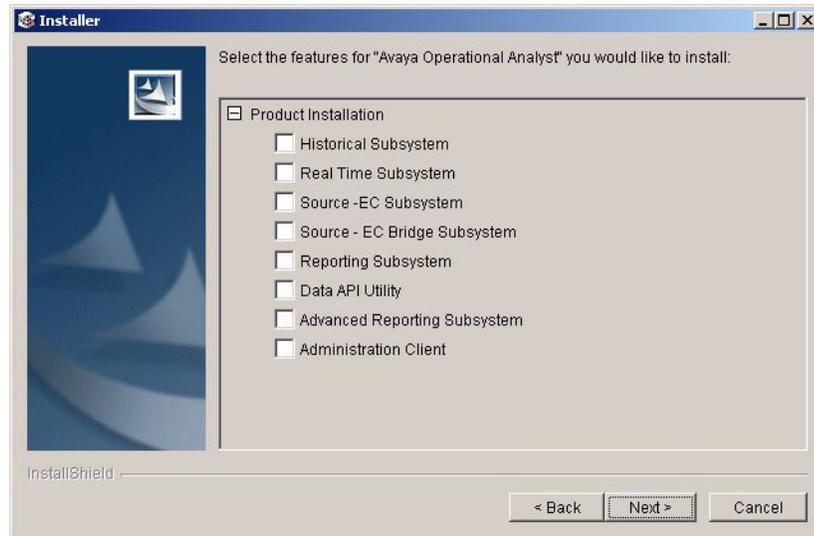
The selected directory must be a local disk and have sufficient free disk space to accommodate the installed components.

16. Click **Next**.

Note:

There may be a long delay before the next dialog box is displayed. The destination is validated to ensure that it is on a local fixed disk for performance reasons.

The **Feature Selection** dialog box is displayed. The components on this dialog box may vary depending on the system on which you are installing OA.



17. Select the components you want to install by clicking those components. You can install components individually or in any combination.

! Important:

After selecting or clearing a check box, there may be a delay before the dialog box refreshes and you see the check mark or the check mark is cleared. This may take a few seconds. Do not select or clear another check box until the dialog box refreshes and you can see that the check box has been selected or cleared.

Installing Avaya OA components

18. Click **Next**.

The **ADS Configuration** dialog box is displayed:

ADS Version:

ADS Port:

OA Administration Group Distinguished Name (DN):

OA Report Group Distinguished Name (DN):

OA Report Writer Group Distinguished Name (DN):

The distinguished names for the administration, report, and report writer groups need to be fully qualified. For example, an administration group called oaadmin in a Windows domain called oalab in a company called PhonesInc would be similar to:

CN=oaadmin,CN=Users,DC=oalab,DC=PhonesInc,DC=com

If the oaadmin group is part of the Organizational Unit (OU) called Denver, it would be similar to:

CN=oaadmin,OU=Denver,DC=oalab,DC=PhonesInc,DC=com

< Back Next > Cancel

19. Administer the dialog as shown in the following table:

Field	Description
ADS Version	Enter the LDAP version being used on the authentication server. OA supports versions 2 and 3, with the default set to 3.
ADS Port	Enter the port number used for ADS. OA defaults to 389, which is the default when ADS is installed.
OA Administration Group Distinguished Name (DN)	Enter the DN for the administration group. For typical example of ADS setup, if you use the default group named oaadmin, a domain named oalab, and the company name is Telco, you would enter: CN=oaadmin,CN=Users,DC=oalab,DC=telco,DC=com If you are not using ADS, use the following format for the DN: localhost\oaadmin

Field	Description
OA Report Group Distinguished Name (DN)	Enter the DN for the report group. For typical example of ADS setup, if you use the default group named oarpt, a domain named oalab, and the company name is Telco, you would enter: CN=oarpt,CN=Users,DC=oalab,DC=telco,DC=com If you are not using ADS, use the following format for the DN: localhost\oarpt
OA Report Writer Group Distinguished Name (DN)	Enter the DN for the report writer group. For typical example of ADS setup, if you use the default group named oawriter, a domain named oalab, and the company name is Telco, you would enter: CN=oawriter,CN=Users,DC=oalab,DC=telco,DC=com If you are not using ADS, use the following format for the DN: localhost\oawriter

20. Click **Next**.

21. The **Historical Server Configuration** dialog box is displayed.



Note:

The fields that appear on the **Historical Server Configuration** dialog box vary depending on your component selections made previously. For example, if you are installing the Advanced Reporting subsystem but not the Report subsystem, any one of three databases (Oracle, Microsoft SQL, and DB2) can be used. If you are installing the Report subsystem, only two of the three databases (Oracle and Microsoft SQL) can be used.

22. Administer the dialog as shown in the following table:

Field	Description
Historical Subsystem Server Name	<p>Do one of the following:</p> <ul style="list-style-type: none"> ● If you are installing the Historical subsystem, the name of this server is displayed and cannot be changed. ● If you are not installing the Historical subsystem, enter the fully-qualified domain name of the machine where the Historical subsystem is installed.
Historical Database Server Name	<p>Do one of the following:</p> <ul style="list-style-type: none"> ● If the historical database is located on the same machine where the Historical subsystem is being installed, enter the machine name. ● If the historical database is located on a different machine than where the Historical subsystem is being installed, enter the fully-qualified domain name for the machine where the historical database is installed. <p>The filegroups or tablespaces must be manually created on the historical database server before this installation may continue. See Filegroup and tablespace sizing on page 59 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>.</p>
Please choose a Historical Database	<p>Select the appropriate database. If the system can identify the database type based on the Historical Database Server Name, it will be the only type listed.</p>
Create Historical Tables for these Collection Sources	<p>Select the collection sources for the historical tables. You can collect data from Avaya IC, CMS, or both depending on what is allowed with your product license. If you are using a back-end database, you must create filegroups or tablespaces for Avaya IC, CMS or both prior to selecting collection sources. See Filegroup and tablespace sizing on page 59 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>.</p>
Alarm Services	<p>If you want to send alarm data to the Avaya IC server, click the IC box under Alarm Services and enter the fully-qualified domain name of the server where the Source-EC (Event Collector) subsystem is installed in the Server Name field.</p>

23. Click **Next**.

24. If you are installing the Historical or Report subsystems, the **Database Configuration** dialog box is displayed. If you are not installing the Historical or Report subsystems, continue with Step 42.

! Important:

If you are installing the Historical subsystem on a server that is separate from the historical database, you must first install the database client software on the server where the Historical subsystem is being installed.

25. Use the following information to complete the dialog box. Use the values from your database installation, which is described in [Installing the historical database software](#) on page 57 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*. Some of the fields may include default values.

Field	Oracle	Microsoft SQL
DB Administrator Password	Password for the sys user ID	Password for the sa user ID
OA DB User ID	User ID for the OA database (OA creates this user ID during a new installation)	User ID for the OA database (OA creates this User ID during a new installation)
OA DB User Password	User password for the OA database	User password for the OA database
OA Database Name	New database name that will be created during install (for example, oadb)	New database name that will be created during install (for example, oadb)

Installing Avaya OA components

Field	Oracle	Microsoft SQL
IC DB User ID ¹	User ID for the Avaya IC Repository database (this must be an existing Avaya IC user ID, for example, repository)	User ID for the Avaya IC Repository database (this must be an existing Avaya IC user ID, for example, repository)
IC DB User Password ¹	User password for the Avaya IC Repository user ID	User password for the Avaya IC Repository user ID
IC Repository Database ¹	Avaya IC Repository database name (for example, repository)	Avaya IC Repository database name (for example, repository)
DB Instance Name	Avaya IC and OA database instance name	Avaya IC and OA database instance name (MSSQLSERVER if you used the default database instance)
TCP/IP Port Number	1521 (if using the default configuration, otherwise the port number specified during database installation)	1433 (if using the default configuration, otherwise the port number specified during database installation)
Oracle TNS Server Name	A valid TNS server name. This name is assigned by the database administrator during Oracle installation. The default name is dbservername.oadb . You must check the tnsnames.ora file and use the exact entry found there. If an entry is not found, ask the DBA to create a tnsnames.ora entry and then use the exact entry found there.	N/A
SQL Server DataBase Name	N/A	New Microsoft SQL database created during installation

1. This field does not display if Avaya IC is not used as a collection source. During the creation of the Repository Database using Oracle as your database software, you will be asked to provide a password for the Repository database. Use this name as your IC DB User ID along with the password you enter.

26. Click **Next**.

One of the following occurs:

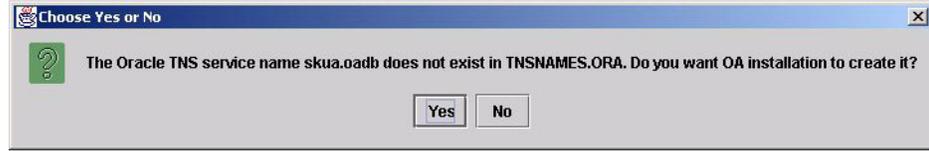
- For Oracle, continue with Step 27.
- For Microsoft SQL, continue with Step 30.

27. A warning dialog about the Oracle archive log may be displayed.

28. Click **OK** to acknowledge the warning, if displayed.

29. For Oracle, the **tnsnames.ora** file is scanned to see if the TNS server name is contained within that file. If it is, the install continues with Step 34. If it is not, the

following warning message is displayed asking if you want the installation program to modify the `TNSnames.ora` file to include the TNS server name.

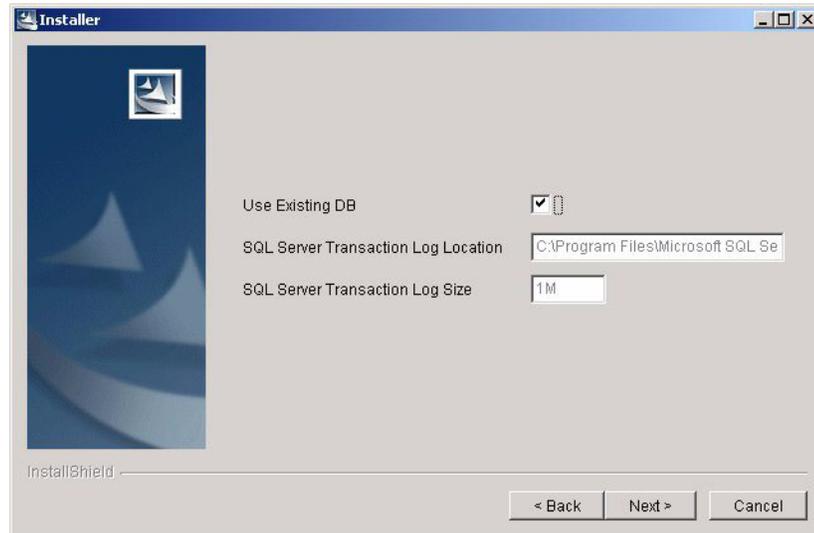


- If you select **No**, you are returned to the **Database Configuration** dialog box. You can go no further until you resolve the TNS server name issue.
- If you select **Yes**, the installation program attempts to edit the file. One of the following occurs:
 - If the permissions on the `TNSnames.ora` file allow writing, the file is modified to include the administered TNS server name and the install continues.
 - If the permissions on the `TNSnames.ora` file are read-only, the file cannot be modified and a message is displayed stating that the permissions on the file must be changed manually. Select **OK** to return to the **Database Configuration** dialog box. You must change permissions on the file if you want to continue with the install.

Note:

There may be a long delay before the next dialog box is displayed.

30. If a Microsoft SQL database is being used and if the database is coresident with Historical subsystem, the **SQL Database Options** dialog box is displayed. Otherwise, continue with Step 34.



31. Select **Use Existing DB** if you want to use an existing database.

Installing Avaya OA components

32. Enter the location and size of the Microsoft SQL Server Transaction Log. You can use the default location and size if you want.
33. Click **Next**.
34. If you are installing the Historical subsystem, the **OA Common TableSpaces** dialog box is displayed.

! Important:

If the database is on a back-end database server, none of the table space dialog boxes are displayed. Continue with Step 42.



35. Enter the correct location and size for each common filegroup or tablespace. For more information on how to set these values, see [Filegroup and tablespace sizing](#) on page 59 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.

Note:

If the filegroups and tablespaces do not already exist, the **Use Existing** checkboxes will not display and the **Location** and **Size** input fields will include editable default values. If the filegroups and tablespaces do already exist, the **Use Existing** checkboxes will be selected. You can clear the checkboxes and enter a different location and size.

36. Click **Next**.

If data will be collected from CMS, the **OA CMS Specific** dialog box is displayed.



37. Enter the correct location and size for each filegroup or tablespace. For more information on how to set these values, see [Filegroup and tablespace sizing](#) on page 59 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.

Note:

If the filegroups and tablespaces do not already exist, the **Use Existing** checkboxes will not display and the **Location** and **Size** input fields will include editable default values. If the filegroups and tablespaces do already exist, the **Use Existing** checkboxes will be selected. You can clear the checkboxes and enter a different location and size.

Installing Avaya OA components

38. Click **Next**.

If data will be collected from Avaya IC, the **OA IC Specific** dialog box is displayed.



39. Enter the correct location and size for each filegroup or tablespace. For more information on how to set these values, see [Filegroup and tablespace sizing](#) on page 59 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.

Note:

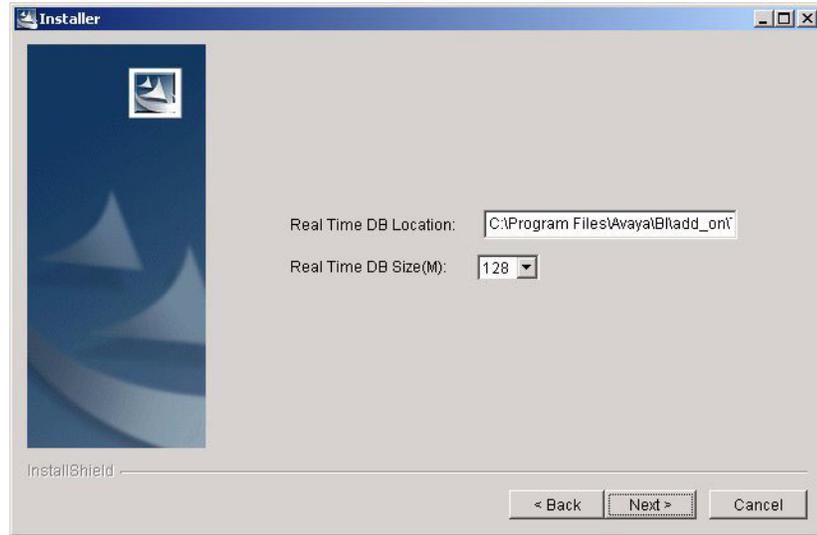
If the filegroups and tablespaces do not already exist, the **Use Existing** checkboxes will not display and the **Location** and **Size** input fields will include editable default values. If the filegroups and tablespaces do already exist, the **Use Existing** checkboxes will be selected. You can clear the checkboxes and enter a different location and size.

40. Click **Next**.

A warning dialog about storing the storage of historical data on one disk may be displayed.

41. Click **OK** to acknowledge the warning, if displayed.

42. If you are installing the Real-time subsystem, the **Real-time Configuration** dialog box is displayed. If you are not installing the Real-time subsystem, continue with Step 46.



43. In the **Real Time DB Location** field, Avaya recommends that you enter a path name that is on a different disk drive from where the OA software is being installed, and that has at least 2.2 GB of free disk space.
44. In the **Real Time DB Size(M)** field, the only option is **128**.
45. Click **Next**.

⚠ Important:

If you do not have at least 2.2 GB of free disk space to install TimesTen, a warning message is displayed. You cannot continue until you free up at least 2.2 GB of disk space.

46. If you are installing the Administration client, the **Administration client locale settings** dialog box is displayed. If you are not installing the Administration client, continue with Step 49.
47. Select a locale setting from the drop-down list.
48. Click **Next**.
49. The **Installation Preview** dialog box is displayed listing the components you have selected.
50. Scroll through the preview dialog box to verify the selected components and configuration data.

 **CAUTION:**

Do *not* close the **Progress** dialog box after you have clicked **Next** in the following step. If you close the **Progress** dialog box after the installation has started, the installation will be disrupted and you must contact Avaya support to do a manual cleanup of the installation.

51. Click **Next** to start the installation.

The **Progress** dialog box is displayed showing the progress of the installation, which will take several minutes. Near the end of the installation, the dialog box will go blank for some time.

When the installation is finished, the **Install Complete** dialog box is displayed.

52. Click **Next**.

The **Restart System** dialog box is displayed.

53. Select the option to restart your system now and click **Next**.

 **Important:**

You must always restart a Windows server at this time for OA to operate properly. If you are not requested to restart the server, you must manually restart the server.

54. Remove the OA CD-ROM and store it in a safe location.
55. Log in using an OA user ID and password (see [Creating user IDs and group IDs on Windows servers](#) on page 96 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).
56. Open a command prompt window.
57. If Terminal Services is enabled, enter:

```
change user /execute
```

58. In the command prompt window, enter the following command to show what processes are running:

```
pa list
```

A listing similar to the following is displayed.

```
.      system boot  May 20 13:10
.      run-level 4  May 20 13:10    4      0      @
java   .           May 20 13:10    .      2664   id=admb
java   .           May 20 13:10    .      2672   id=adm0
java   .           May 20 13:10    .      2680   id=ams
java   .           May 20 13:10    .      2688   id=aut
java   .           May 20 13:10    .      2696   id=schd
.
.
.
```

Note that:

- There should be several Java entries, and these lines should not have an exit code at the end of the line.
- If there are any exit codes displayed on the Java entries, that process is not running. Escalate the problem to Avaya Technical Support.
- The `id=aut` and `id=schd` will only display when the Historical subsystem is installed.
- The recorder entries are displayed only if you are collecting data from CMS or Avaya IC. Forwarder entries may be displayed on a server that has the Real-time subsystem installed.

59. If you get the message `mom is not active`, enter:

```
pa start all
```

60. Repeat Step 58 to verify that OA has started.

Installing Avaya OA components

61. Enter:

```
oalist
```

A message similar to the following is displayed listing what components are installed on this server:

```
Subsystems installed
  Real Time
  Reports
  Data API Utility
  Source-EC

Server Names
  Historical: bigbird
  Alarm Server Type: IC
  Alarm Server: grover

Database information
  Type: DB2
  Instance Name: icoadb
  OA DB Name: icoadb
  DB2 Version: 8.x

User information
  OA User ID: biadmin
  Group ID: oaadmin

Reports information
  WebSphere Root: /usr/IBM/WebSphere/AppServer
  HTTP Root: /usr/IBMIHS
  WebSphere Application Server: server1
  WebSphere Admin Console User: biadmin

OA Software information
  Version Installed: 7.0.0.025
```

62. Select **Start > Programs > Administrative Tools > Services**.

63. Validate that the following services are started and are set to start automatically. If they are not administered to start automatically, administer them as such.
- If the Historical subsystem is installed, check for the following:
 - Avaya Business Intelligence Service
 - ORBacus Naming Service
 - If the Real-time subsystem is installed, check for the following:
 - Avaya Business Intelligence Service
 - ORBacus Naming Service
 - TimesTen Data Manager 5.0
 - If the Report subsystem is installed, check for the following:
 - Avaya Business Intelligence Service
 - ORBacus Naming Service
 - Stumbras-Tomcat
 - If the Source-EC (Event Collector) subsystem is installed, check for the following:
 - ORBacus Naming Service
64. If you are not successful starting OA, see [Starting and stopping OA-related processes](#) on page 41 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting* for more troubleshooting information.

Installing Avaya OA components on a Solaris platform

This section describes how to install the following OA components on a Solaris platform:

- Historical subsystem
- Real-time subsystem
- Source-EC subsystem
- Report subsystem (basic)
- Data API Utility

Note:

For information about installing the Source-CMS subsystem, see [Installing Avaya OA components on a CMS server](#) on page 92.

Note:

The dialog boxes shown in this section are based on using the CDE interface. If the customer is using the OpenWin interface, the installation dialog boxes will appear different. Avaya recommends that you use the CDE interface for installation.

Note:

You can run the install from files copied to the server using FTP. For Solaris, you must copy the `solsetup` and `setup.jar` files to a temporary folder on a disk drive that is local to the server, not a networked drive. You must also reset the permissions on `solsetup` using the `chmod +x solsetup` command.

To start the OA installation process on Solaris platforms:

1. Make sure you have completed the prerequisites detailed in [Preparing for installation](#) on page 13.
2. Log in as `root`.
3. Place the OA CD-ROM in the drive and wait about 15 seconds.

 **Important:**

Install Avaya OA from a CD-ROM drive that is local to the server where you are installing OA. Installing from a networked CD drive is not supported.

A file manager window may be displayed showing the contents of the CD-ROM. Minimize this window.

Note:

If the File Manager window does not open, enter the following commands to start the volume manager:

```
/etc/init.d/volmgt stop
```

```
/etc/init.d/volmgt start
```

4. From a terminal window, enter the following commands:

```
cd /cdrom/cdrom0
```

```
./SolSetup
```

After several seconds, the **Initializing wizard** window is displayed, followed by the **Welcome** dialog box.

 **Important:**

You can stop the installation at any time by clicking **Cancel** before you start the actual installation of files (see Step 41). If you click **Cancel**, you will be asked to confirm your intention to cancel. If you cancel, the installation is terminated and the system is restored to its previous state.

5. Click **Next**.

The **License Key** dialog box is displayed.

6. Enter the provided license key for the components purchased.

7. Click **Next**.

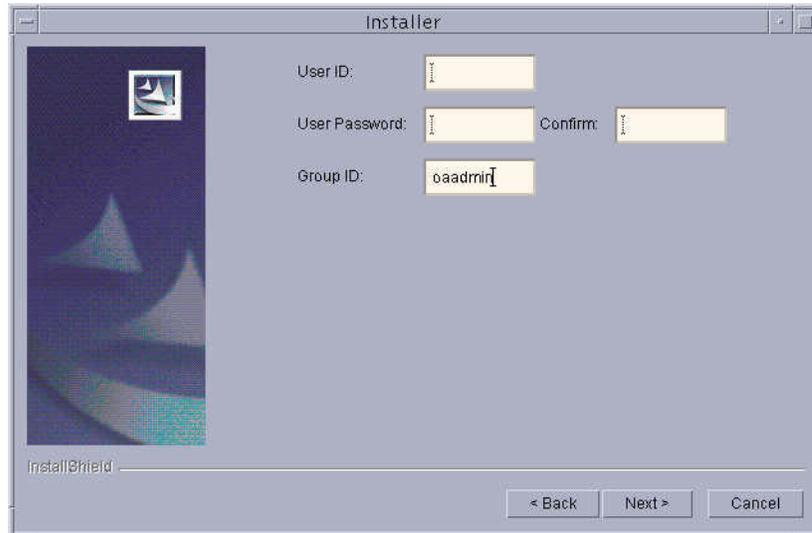
The **License Agreement** dialog box is displayed.

8. Select **I accept the terms in the license agreement**.

Installing Avaya OA components

9. Click **Next**.

The **User Information** dialog box is displayed.



10. Enter the **User ID**, **User Password**, and **Group ID**. Use a login ID (for example, `oouser` or `biadmin`) and password as discussed in [Creating user IDs and group IDs on Solaris servers](#) on page 99 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*. This assigns an owner for all OA files and folders.

! Important:

The group ID must be the primary group ID for the user ID.

11. Click **Next**.

The **Destination** dialog box is displayed. The **Destination** dialog box allows you to specify the destination for installation of the OA software. This defaults to the directory defined for the user ID.

! Important:

Avaya recommends that you not install OA on the root file system on Solaris servers. Verify that `/export/home` is not on the root file system disk. If it is on the root file system disk, install the software in a different location.

12. Accept the default directory or change the directory, if needed.

Note:

If you are using an NIS user ID not local to the server, the destination field displays a `"/` in the field. You must change this and provide the valid path.

13. To change the location where you want the components installed

- a. Click **Browse**.
- b. Select the directory.

The selected directory must have sufficient free disk space to accommodate the installed components. It should be on a local disk, not a remote file system. You cannot install OA software in any system directories such as the following:

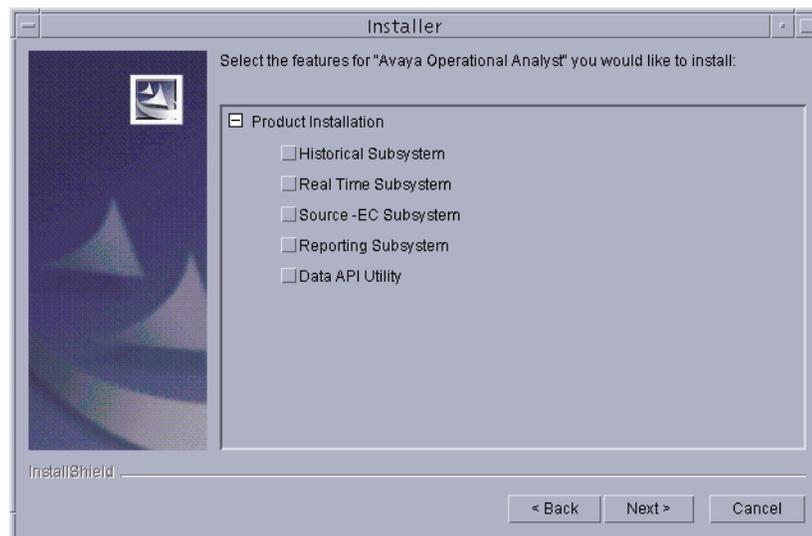
- / (the root directory)
- /etc
- /var
- /tmp
- /usr/lib
- /opt/BI

14. Click **Next**.

Note:

There may be a long delay before the next dialog box is displayed.

The **Feature Selection** dialog box is displayed.



Installing Avaya OA components

15. Select the components you want to install by clicking those components. You can install components individually or in any combination.

! Important:

After selecting or clearing a check box, there may be a delay before the dialog box refreshes and you see the check mark or the check mark is cleared. This may take a few seconds. Do not select or clear another check box until the dialog box refreshes and you can see that the check box has been selected or cleared.

16. Click **Next**.

One of the following occurs:

- If you are not installing the Historical subsystem or Report subsystem, continue with Step 19.
- If you are installing the Historical subsystem or the Report subsystem, the **Reports Configuration** dialog box is displayed.



The screenshot shows a window titled "Installer" with a dark blue background on the left side. On the right side, there are five text input fields with labels:

- Reports Group ID:
- Report Writer Group ID:
- Sun Web Server Install Location:
- Stunbras Port Number:
- Fully Qualified Reports Server Name:

At the bottom of the window, there are three buttons: "< Back", "Next >", and "Cancel". The "Next >" button is highlighted.

Note:

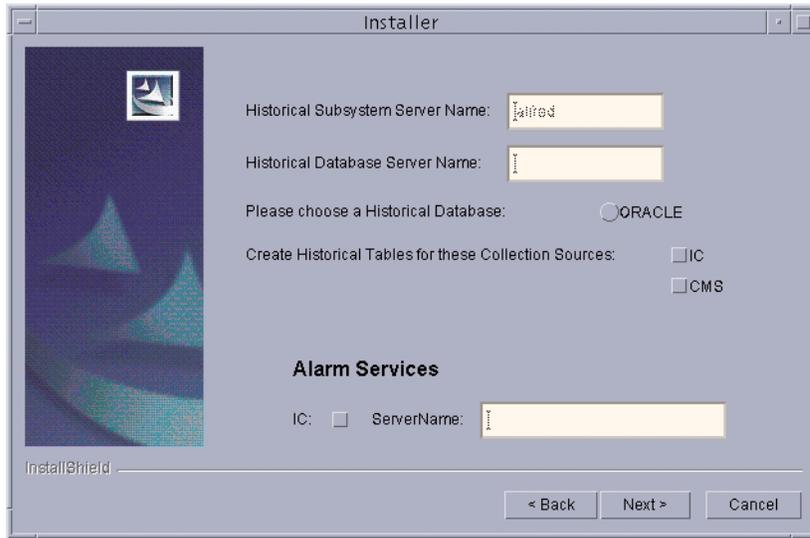
The **Reports Group ID** option and **Report Writer Group ID** option are displayed only when installing the Historical subsystem. The other options are displayed only when installing the Report subsystem.

17. Enter the following information:

Field	Description
Reports Group ID	<p>oarpt This is the recommended ID and must match the group ID administered in Creating user IDs and group IDs on Solaris servers on page 99 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>.</p>
Report Writer Group ID	<p>oawriter This is the recommended ID and must match the group ID administered in Creating user IDs and group IDs on Solaris servers on page 99 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>.</p>
Sun Web Server Install Location	<p>/usr/iplanet/servers (Sun Java System Web Server Version 6.0) /opt/SUNWwbsvr (Sun Java System Web Server Version 6.1) This is the default installation location and must match the installation location selected in Installing and configuring the Sun Web server on a Solaris machine on page 112 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>.</p>
Stumbras Port Number	<p>Enter any port from 1024 through 65535; 11000 is recommended.</p>
Fully Qualified Reports Server Name	<p>Enter the fully-qualified domain name of the Web server as described in Installing and configuring the Sun Web server on a Solaris machine on page 112 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i></p>

18. Click **Next**.

19. The **Historical Server Configuration** dialog box is displayed.



Note:

The fields that appear on this dialog box vary, depending on your component selections made previously.

20. Administer the dialog as shown in the following table:

Field	Description
Historical Subsystem Server Name	<p>Do one of the following:</p> <ul style="list-style-type: none"> ● If you are installing the Historical subsystem, the name of this server is displayed and cannot be changed. ● If you are not installing the Historical subsystem, enter the fully-qualified domain name of the machine where the Historical subsystem is installed.
Historical Database Server Name	<p>Do one of the following:</p> <ul style="list-style-type: none"> ● If the historical database is located on the same machine where the Historical subsystem is being installed, enter the machine name. ● If the historical database is located on a different machine than where the Historical subsystem is being installed, enter the fully-qualified domain name for the machine where the historical database is installed. <p>The filegroups or tablespaces must be manually created on the historical database server before this installation may continue. See Filegroup and tablespace sizing on page 59 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>.</p>

Field	Description
Please choose a Historical Database	Select the appropriate database. If the system can identify the database type based on the Historical Database Server Name , it will be the only type listed.
Create Historical Tables for these Collection Sources	Select the collection sources for the historical tables. You can collect data from Avaya IC, CMS, or both depending on what is allowed with your product license. If you are using a back-end database, you must create filegroups or tablespaces for Avaya IC, CMS or both prior to selecting collection sources. See Filegroup and tablespace sizing on page 59 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i> .
Alarm Services	If you want to send alarm data to the Avaya IC server, click the IC box under Alarm Services , and enter the fully-qualified domain name of the server where the Source-EC (Event Collector) subsystem is installed in the Server Name field. For an OA and CMS configuration without Avaya IC, leave these options blank.

21. Click **Next**.
22. If you are installing the Historical or Report subsystems, the **Database Configuration** dialog box is displayed.

23. Use the following information to complete the dialog box.

 **Important:**

If you are installing the Historical subsystem on a server that is separate from the historical database, you must first install the database client software on the server where the Historical subsystem is being installed.

Field	Value
DB Administrator Password	Password for the <code>sys</code> user ID
OA DB User ID	User ID for the OA database (OA creates this user ID during a new installation)
OA DB User Password	User password for the OA database
OA Database Name	New database name that will be created during install (for example, <code>oadb</code>)
IC DB User ID ¹	User ID for the Avaya IC Repository database (this must be an existing Avaya IC user ID, for example, <code>repository</code>)
IC DB User Password ¹	User password for the Avaya IC Repository user ID
IC Repository Database ¹	Avaya IC Repository database name (for example, <code>repository</code>)
DB Instance Name	Avaya IC and OA database instance name
TCP/IP Port Number	1521 (if using the default configuration, otherwise the port number specified during database installation; see Installing the historical database software on page 57 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>)
Oracle TNS Server Name	A valid TNS server name. This name is assigned by the database administrator during Oracle installation. The default name is <code>dbservername.oadb</code> . You must check the <code>tnsnames.ora</code> file and use the exact entry found there. If an entry is not found, ask the DBA to create a <code>tnsnames.ora</code> entry and then use the exact entry found there.

1. This field does not display if Avaya IC is not used as a collection source. During the creation of the Repository Database using Oracle as your database software, you will be asked to provide a password for the Repository database. Use this name as your IC DB User ID along with the password you enter.

24. Click **Next**.

25. A warning dialog about the Oracle archive log may be displayed.

26. Click **OK** to acknowledge the warning, if displayed.

The `TNSnames.ora` file is scanned to see if the TNS server name is contained within that file. If it is, the install continues with Step 27. If it is not, the following warning message is displayed asking if you want the installation program to modify the `TNSnames.ora` file to include the TNS server name.



- If you select **No**, you are returned to the **Database Configuration** dialog box. You can go no further until you resolve the TNS server name issue.
- If you select **Yes**, the installation program attempts to edit the file. One of the following occurs:
 - If the permissions on the `TNSnames.ora` file allow writing, the file is modified to include the administered TNS server name and the install continues.
 - If the permissions on the `TNSnames.ora` file are read-only, the file cannot be modified and a message is displayed stating that the permissions on the file must be changed manually. Select **OK** to return to the **Database Configuration** dialog box. You must change permissions on the file if you want to continue with the install.

Note:

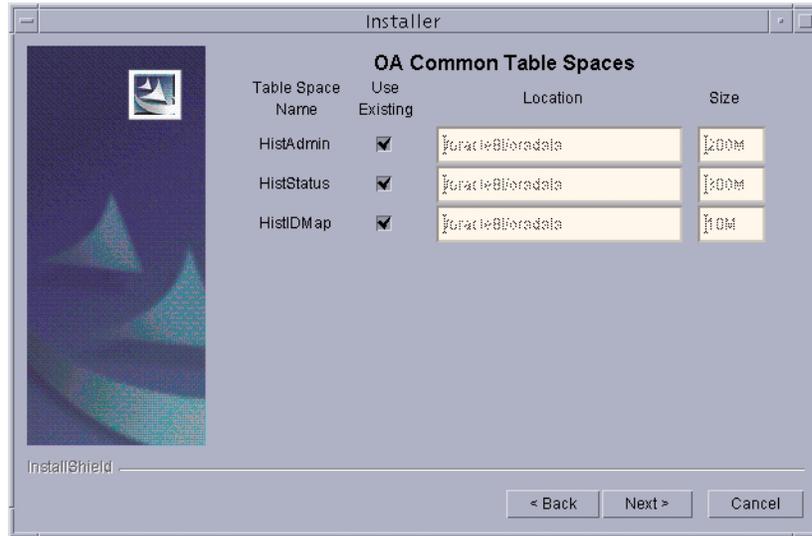
There may be a long delay before the next dialog box is displayed.

27. One of the following occurs:

- If you are not installing the Historical subsystem, continue with Step 35.
- If the database is on a back-end database server, none of the dialog boxes in this section are displayed. Continue with Step 35.

Installing Avaya OA components

- The **OA Common Table Spaces** dialog box is displayed.



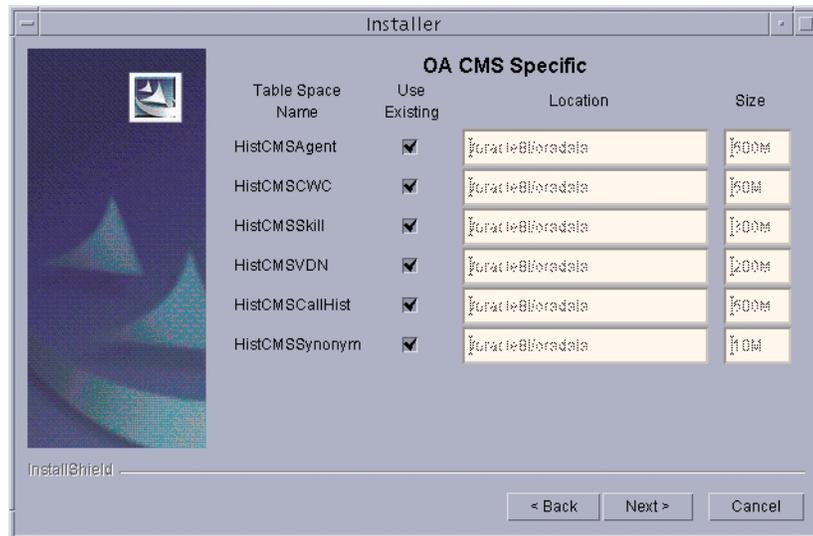
28. Enter the correct location and size for each tablespace. For more information on how to set these values see [Filegroup and tablespace sizing](#) on page 59 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.

Note:

If the tablespaces do not already exist, the **Use Existing** checkboxes will not display and the **Location** and **Size** input fields will include editable default values. If the tablespaces do already exist, the **Use Existing** checkboxes will be selected. You can clear the checkboxes and enter a different location and size.

29. Click **Next**.

If data will be collected from CMS, the **OA CMS Specific** dialog box is displayed.



30. Enter the correct location and size for each tablespace. For more information on how to set these values see [Filegroup and tablespace sizing](#) on page 59 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.

Note:

If the tablespaces do not already exist, the **Use Existing** checkboxes will not display and the **Location** and **Size** input fields will include editable default values. If the tablespaces do already exist, the **Use Existing** checkboxes will be selected. You can clear the checkboxes and enter a different location and size.

Installing Avaya OA components

31. Click **Next**.

If data will be collected from Avaya IC, the **OA IC Specific** dialog box is displayed.

Table Space Name	Use Existing	Location	Size
HistICAgent	<input checked="" type="checkbox"/>	/orac1e8/bradale	100M
HistICAgentState	<input checked="" type="checkbox"/>	/orac1e8/bradale	50M
HistICSvcClass	<input checked="" type="checkbox"/>	/orac1e8/bradale	100M
HistICSvcState	<input checked="" type="checkbox"/>	/orac1e8/bradale	100M
HistICDisplay	<input checked="" type="checkbox"/>	/orac1e8/bradale	125M
HistICAgentComp	<input checked="" type="checkbox"/>	/orac1e8/bradale	50M
HistICAgentJob	<input checked="" type="checkbox"/>	/orac1e8/bradale	50M
HistICJob	<input checked="" type="checkbox"/>	/orac1e8/bradale	125M
HistICSysComp	<input checked="" type="checkbox"/>	/orac1e8/bradale	125M

32. Enter the correct location and size for each tablespace. For more information on how to set these values see [Filegroup and tablespace sizing](#) on page 59 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.

Note:

If the tablespaces do not already exist, the **Use Existing** checkboxes will not display and the **Location** and **Size** input fields will include editable default values. If the tablespaces do already exist, the **Use Existing** checkboxes will be selected. You can clear the checkboxes and enter a different location and size.

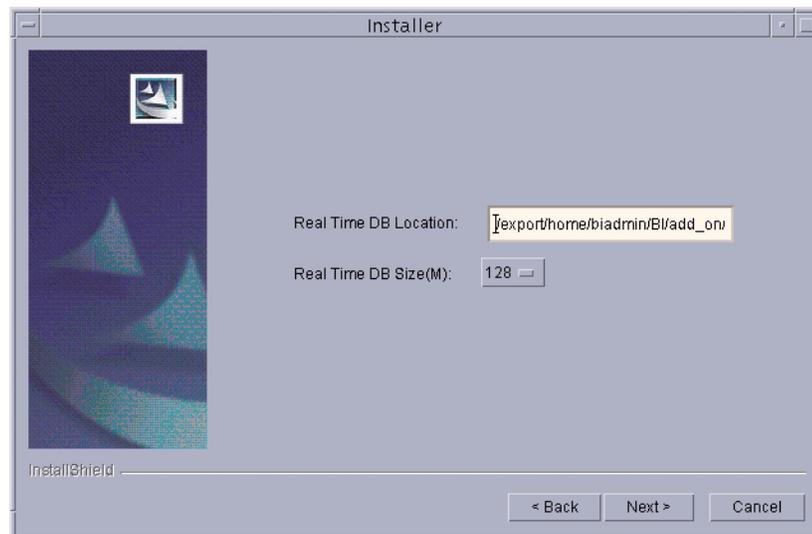
33. Click **Next**.

A warning dialog about storing historical data on one disk may be displayed.

34. Click **OK** to acknowledge the warning, if displayed.

35. One of the following occurs:

- If you are not installing the Real-time subsystem, continue with Step 39.
- If you are installing the Real-time subsystem, the **Real-time Configuration** dialog box is displayed.



36. In the **Real Time DB Location** field, Avaya recommends that you enter a path name that is on a different disk drive from where the OA software is being installed, and that has at least 2.2 GB of free disk space.

37. In the **Real Time DB Size(M)** field, the only option is **128**.

38. Click **Next**.

 **Important:**

If you do not have at least 2.2 GB of free disk space to install TimesTen, a warning message is displayed. You cannot continue until you free up at least 2.2 GB of disk space.

39. The **Installation Preview** dialog box is displayed listing the components you have selected.

Installing Avaya OA components

40. Scroll through the preview dialog box to verify the selected components and configuration data.

 **CAUTION:**

Do *not* close the **Progress** dialog box after you have clicked **Next** in the following step. If you close the **Progress** dialog box after the installation has started, the installation will be disrupted and you must contact Avaya support to do a manual cleanup of the installation.

41. Click **Next** to start the installation.

The **Progress** dialog box is displayed showing the progress of the installation, which will take several minutes. Near the end of the installation, the dialog box will go blank for some time.

When the installation is finished, the **Install Complete** dialog box is displayed.

42. Click **Next**.

The **Install Successful** dialog box is displayed.

43. Click **Next**.

44. Close all but one terminal window and enter:

```
cd /  
eject cdrom
```

45. Remove the OA CD-ROM and store it in a safe location.

46. Log out of the desktop environment.

47. Log in using an OA user ID and password (see [Creating user IDs and group IDs on Solaris servers](#) on page 99 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).

 **CAUTION:**

Do not use any OA commands while logged in as **root**. Using the **root** login ID on these commands will change ownership of files and will make them unusable by the OA user ID.

48. Enter:

```
. /opt/BI/.profile
```

49. Enter the following command to show what processes are running:

```
pa list
```

A listing similar to the following is displayed.

.	system boot	Dec 20 07:54			
.	run-level 4	Dec 31 10:23	4	0	@
java	.	Dec 20 07:54	.	292	id=admb
java	.	Dec 20 07:54	.	52	id=adm0
java	.	Jan 02 16:16	.	995	id=ams
java	.	Dec 20 07:54	.	295	id=aut
java	.	Dec 20 07:54	.	296	id=schd
.					
.					
.					

Note that:

- There should be several Java entries, and these lines should not have an exit code at the end of the line.
- If there are any exit codes displayed on the Java entries, that process is not running. Escalate the problem to Avaya Technical Support.
- The `id=aut` and `id=schd` will only display when the Historical subsystem is installed.
- The recorder entries are displayed only if you are collecting data from CMS or Avaya IC. Forwarder entries may be displayed on a server that has the Real-time subsystem installed.

50. If you get the message `mom is not active`, enter:

```
pa start all
```

51. Repeat Step 49 to verify that OA has started.

52. If you are not successful starting OA, see [Starting and stopping OA-related processes](#) on page 41 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting* for more troubleshooting information.

Installing Avaya OA components

53. Enter:

```
oalist
```

A message similar to the following is displayed:

```
Subsystems installed
  Real Time
  Reports
  Data API Utility
  Source-EC

Server Names
  Historical: bigbird
  Alarm Server Type: IC
  Alarm Server: grover

Database information
  Type: DB2
  Instance Name: icoadb
  OA DB Name: icoadb
  DB2 Version: 8.x

User information
  OA User ID: biadmin
  Group ID: oaadmin

Reports information
  WebSphere Root: /usr/IBM/WebSphere/AppServer
  HTTP Root: /usr/IBMIHS
  WebSphere Application Server: server1
  WebSphere Admin Console User: biadmin

OA Software information
  Version Installed: 7.0.0.025
```

54. If the Historical subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886 1 0 Dec 27 ? 0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229 182 0 10:28:00 pts/11 0:00 grep initsrv
```

b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin  239    182  0 10:32:21 pts/11    0:00 grep nameserv
```

55. If the Real-time subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?           0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin  229    182  0 10:28:00 pts/11    0:00 grep initsrv
```

b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin  239    182  0 10:32:21 pts/11    0:00 grep nameserv
```

c. Enter the following command to see if the TimesTen Data Manager 5.0 is running:

```
ps -ef | grep timesten
```

A message similar to the following should be displayed.

```
root 233      1  0   Dec 23 ?           0:01 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestend
root 234      233  0   Dec 23 ?           0:00 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -id 0
root 235      233  0   Dec 23 ?           0:00 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -id 1
root 236      233  0   Dec 23 ?           0:00 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -id 2
root 237      233  0   Dec 23 ?           0:00 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -id 3
biadmin  244    182  0 10:34:22 pts/11    0:00 grep timesten
```

Installing Avaya OA components

56. If the Report subsystem is installed, enter the following commands to start Stumbras:

```
cd $SUN_WEB_HOME/https-stumbras
./start
```

The following message is displayed.

```
The OA environment will be set.
.
.
.
Startup: server started successfully
```

57. If the Report subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?           0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229    182  0 10:28:00 pts/11   0:00 grep initsrv
```

b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin 239    182  0 10:32:21 pts/11   0:00 grep nameserv
```

c. Enter the following command to see if Stumbras-Tomcat is running:

```
ps -ef | grep https-stumbras
```

A message similar to the following should be displayed.

- For Sun Java System Web Server 6.0:

```
biadmin 6141      1  0   Dec 31 ?           0:00 ./uxwdog -d /usr/iplanet/servers/
https-stumbras/config
biadmin 6143    6142  0   Dec 31 ?           1:01 ns-httpd -d /usr/iplanet/servers/
https-stumbras/config
biadmin 6142    6141  0   Dec 31 ?           0:03 ns-httpd -d /usr/iplanet/servers/
https-stumbras/config
biadmin 254      182  0 10:38:51 pts/11    0:00 grep https-stumbras
```

- For Sun Java System Web Server 6.1:

```
biadmin 28604 28603  0 16:38:23 ?           1:58 webservd -r /opt/SUNWwbsvr -d //o
pt/SUNWwbsvr/https-stumbras/config -n https-st
biadmin 28602      1  0 16:38:22 ?           0:00 ./webservd-wdog -r /opt/SUNWwbsvr
-d //opt/SUNWwbsvr/https-stumbras/config -n h
biadmin 28603 28602  0 16:38:22 ?           0:01 webservd -r /opt/SUNWwbsvr -d //o
pt/SUNWwbsvr/https-stumbras/config -n https-st
biadmin 29266 29259  0 18:55:22 pts/22    0:00 grep https-stumbras
```

58. If the Source-EC subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin 239      182  0 10:32:21 pts/11    0:00 grep nameserv
```

Installing Avaya OA components on an AIX platform

This section describes how to install the following OA components on an AIX platform:

- Historical subsystem
- Real-time subsystem
- Source-EC subsystem
- Report subsystem (basic)
- Data API Utility

Note:

Depending on the size and resolution of your display terminal, you may have to resize some installation dialog boxes to view all option fields.

Note:

You can run the install from files copied to the server using FTP. For AIX, you must copy the `AixSetup`, `AixSetup.cp2`, and `setup.jar` files to a temporary folder on a disk drive that is local to the server, not a networked drive.

To start the OA installation process on AIX platforms:

1. Make sure you have completed the prerequisites detailed in [Preparing for installation](#) on page 13.
2. Log in as `root`.
3. To set the monitor display, enter:

```
export DISPLAY=hostname:0.0
```

where `hostname` is the name of the server.
4. Place the OA CD-ROM in the drive and wait about 15 seconds.

 **Important:**

Install Avaya OA from a CD-ROM drive that is local to the machine where you are installing OA. Installing from a networked CD drive is not supported.

5. If you are installing the Historical subsystem on the same server as the DB2 client software, or you are installing the Report subsystem, enter the following command to set the environment:

```
. /home/INSTANCE_ID/.profile
```

where `INSTANCE_ID` matches the ID used when the DB2 database instance was installed. The default instance ID is `db2inst1`.

6. If you are installing the Historical subsystem, enter the following commands to set the DB2 environment:

```
export EXTSHM=ON
db2set DB2ENVLIST=EXTSHM
db2stop
db2start
```

7. If you are installing the Report subsystem, enter the following commands to start the WebSphere software:

```
cd $WEBSHERE_HOME/bin
./startServer.sh server1 -username userID
```

where, if a Global Security user ID has been administered:

- *userID* is the user ID administered for Global Security on WebSphere.

8. Enter the following commands to start the installation:

```
export LANG=en_US
mkdir /cdrom (if this directory does not already exist)
mount -v cdrfs -r /dev/cd0 /cdrom
cd /cdrom
./AixSetup
```

After several seconds, the **Initializing wizard** window is displayed, followed by the **Welcome** dialog box.

 **Important:**

You can stop the installation at any time by clicking **Cancel** before you start the actual installation of files (see Step 44). If you click **Cancel**, you will be asked to confirm your intention to cancel. If you cancel, the installation is terminated and the system is restored to its previous state.

9. Click **Next**.

The **License Key** dialog box is displayed.

10. Enter the provided license key for the components purchased.

11. Click **Next**.

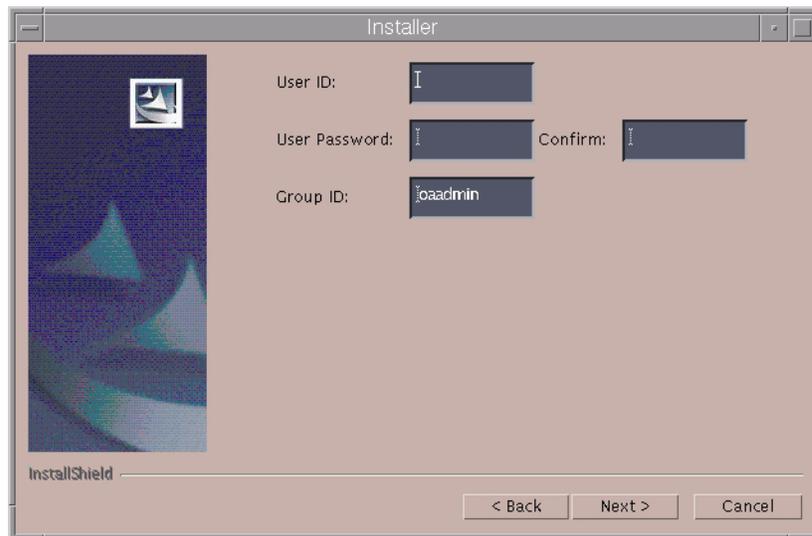
The **License Agreement** dialog box is displayed.

12. Select **I accept the terms in the license agreement**.

Installing Avaya OA components

13. Click **Next**.

The **User Information** dialog box is displayed.



14. Enter the **User ID**, **User Password**, and **Group ID**. Use a login ID (for example, `oouser` or `biadmin`) and password as discussed in [Creating user IDs and group IDs on AIX servers](#) on page 105 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*. This assigns an owner for all OA files and folders.

! Important:

The group ID must be the primary group ID for the user ID.

15. Click **Next**.

The **Destination** dialog box is displayed. The dialog box defaults to the directory defined for the user ID entered above.

! Important:

Avaya recommends that you not install OA on the root file system on AIX servers. Verify that `/home` (AIX) is not on the root file system disk. If it is on the root file system disk, install the software in a different location.

16. Accept the default directory or change the directory, if needed.

Note:

If you are using an NIS user ID not local to the server, the destination field displays a `/` in the field. You must change this and provide the valid path.

17. To change the location where you want the components installed

- a. Click **Browse**.
- b. Select the directory.

The selected directory must have sufficient free disk space to accommodate the installed components. It should be on a local disk, not a remote file system. You cannot install OA software in any system directories such as the following:

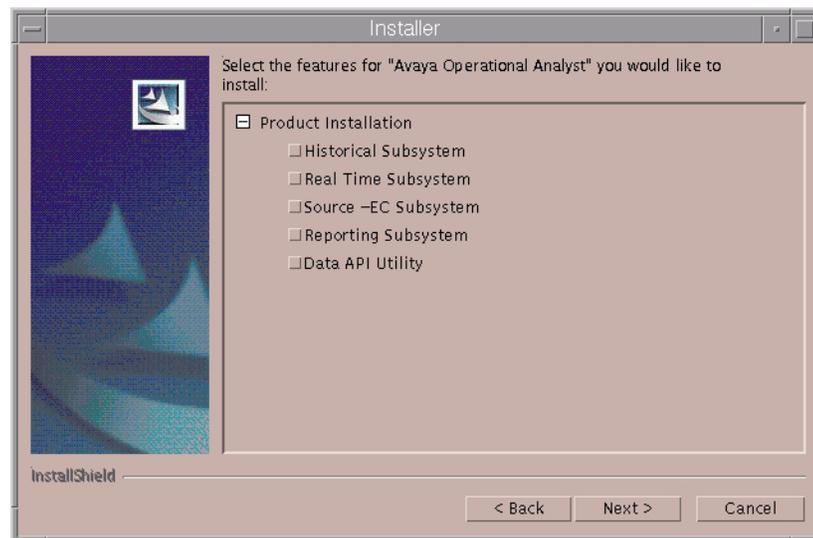
- / (the root directory)
- /etc
- /var
- /tmp
- /usr/lib
- /opt/BI

18. Click **Next**.

Note:

There may be a long delay before the next dialog box is displayed.

The **Feature Selection** dialog box is displayed.



Installing Avaya OA components

19. Select the components you want to install by clicking those components. You can install components individually or in any combination.

Important:

After selecting or clearing a check box, there may be a delay before the dialog box refreshes and you see the check mark or the check mark is cleared. This may take a few seconds. Do not select or clear another check box until the dialog box refreshes and you can see that the check box has been selected or cleared.

20. Click **Next**.

If you are installing the Historical subsystem or the Report subsystem, the **Reports Configuration** dialog box is displayed. If you are not installing the Historical subsystem or Report subsystem, continue with Step 24.



The screenshot shows the 'Reports Configuration' dialog box within the 'Installer' window. The dialog box has a title bar with 'Installer' and standard window controls. On the left, there is a vertical panel with a blue background and a white icon of a sailboat. The main area contains several configuration fields:

- Reports Group ID:
- Report Writer Group ID:
- WebSphere Install Location:
- IBM HTTP Server Install Location:
- WebSphere Application Server Name:
- OA Profile Name:
- OA Node Name:
- OA Cell Name:
- WebSphere Admin Console Login ID:
- WebSphere Admin Console Password: Confirm:
- DB2 Version:

At the bottom right, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'InstallShield' logo is visible in the bottom left corner of the dialog box.

Note:

The **Reports Group ID** option and **Report Writer Group ID** option are displayed only when installing the Historical subsystem. The other options are displayed only when installing the Report subsystem. The **DB2 Version** option is displayed only when installing the Reporting subsystem on a server separate from the Historical subsystem.

21. Enter the following information:

Field	Description
Reports Group ID	<p>oarpt</p> <p>This is the recommended ID and must match the group ID administered in Creating user IDs and group IDs on AIX servers on page 105 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>.</p>
Report Writer Group ID	<p>oawriter</p> <p>This is the recommended ID and must match the group ID administered in Creating user IDs and group IDs on AIX servers on page 105 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>.</p>
WebSphere Install Location	<p>/usr/IBM/WebSphere/AppServer</p> <p>This is the default installation location and must match the installation location selected in Installing and configuring WebSphere Application Server on an AIX machine on page 114 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>.</p>
IBM HTTP Server Install Location	<p>/usr/IBMIHS</p> <p>This is the default installation location. If the IC Web Channel and the OA Report subsystem will be installed on the same server machine, there must be two instances of the HTTP Server software installed on that machine. You must determine where the HTTP Server software was installed for Avaya IC, which is typically in the default location <code>/usr/IBMIHS/bin</code>. Once that location has been determined, you must select a different location where the HTTP Server software will be installed for OA, for example, <code>/usr/OA_IBMHttpServer/bin</code>. See Installing and configuring WebSphere Application Server on an AIX machine on page 114 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i> for more information.</p>
WebSphere Application Server Name	<p>server1</p> <p>This is the default server name for WebSphere and must match the name used during installation in Installing and configuring WebSphere Application Server on an AIX machine on page 114 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>.</p>
OA Profile Name	<p>default</p> <p>This is set during WAS installation. See Installing and configuring WebSphere Application Server on an AIX machine on page 114 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i> for more information.</p>

Installing Avaya OA components

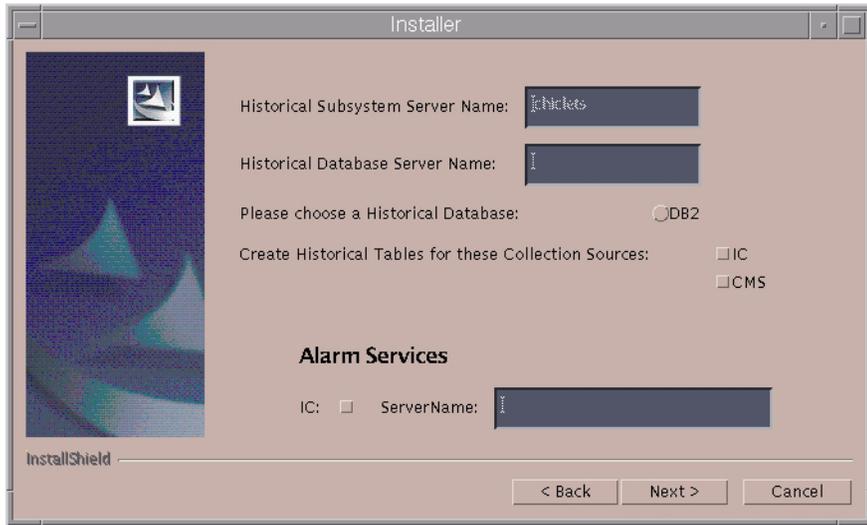
Field	Description
OA Node Name	<i>hostnameNode01</i> This is set during WAS installation. See Installing and configuring WebSphere Application Server on an AIX machine on page 114 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i> for more information.
OA Cell Name	<i>hostnameNode01Cell</i> This is set during WAS installation. See Installing and configuring WebSphere Application Server on an AIX machine on page 114 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i> for more information.
WebSphere Admin Console Login ID	If you configured WebSphere for Global Security (see Creating a secure login by enabling Global Security (optional) on page 124 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>), enter the login ID in this field. Otherwise, leave this field blank.
WebSphere Admin Console Password	Enter and confirm the Administrative Console password, if assigned. Otherwise, leave this field blank.
DB2 Version	Although the only option in this field is 8, OA 7.0 supports DB2 V8.1 and V8.2.

22. Click **Next**.

A warning message is displayed if you did not enter WebSphere Admin Console login ID and password. Confirm that, if the login ID was assigned for Global Security during WebSphere installation, you have entered the login ID and password. See [Creating a secure login by enabling Global Security \(optional\)](#) on page 124 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites* for more information. If a login ID for global security was not assigned, these fields can be empty.

23. Select **OK** to confirm the warning message, if displayed.

24. The **Historical Server Configuration** dialog box is displayed.



Note:

The fields that appear on this dialog box vary, depending on the component selections made previously.

25. Administer the dialog as shown in the following table:

Field	Description
Historical Subsystem Server Name	Do one of the following: <ul style="list-style-type: none"> ● If you are installing the Historical subsystem, the name of this server is displayed and cannot be changed. ● If you are not installing the Historical subsystem, enter the fully-qualified domain name of the machine where the Historical subsystem is installed.
Historical Database Server Name	Do one of the following: <ul style="list-style-type: none"> ● If the historical database is located on the same machine where the Historical subsystem is being installed, enter the machine name. ● If the historical database is located on a different machine than where the Historical subsystem is being installed, enter the fully-qualified domain name for the machine where the historical database is installed. The filegroups or tablespaces must be manually created on the historical database server before this installation may continue. See Filegroup and tablespace sizing on page 59 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i> .
Please choose a Historical Database	Select the appropriate database: DB2 is the only possible selection.

Installing Avaya OA components

Field	Description
Create Historical Tables for these Collection Sources	Select the collection sources for the historical tables. You can collect data from Avaya IC, CMS, or both depending on what is allowed with your product license. If you are using a back-end database, you must create filegroups or tablespaces for Avaya IC, CMS or both prior to selecting collection sources. See Filegroup and tablespace sizing on page 59 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i> .
Alarm Services	If you want to send alarm data to the Avaya IC server, click the IC box under Alarm Services , and enter the fully-qualified domain name of the server where the Source-EC (Event Collector) subsystem is installed in the Server Name field.

26. Click **Next**.

27. If you are installing the Historical or Report subsystems, the **Database Configuration** dialog box is displayed.

The screenshot shows the 'Database Configuration' dialog box in the Avaya Operational Analyst installer. The dialog box has a title bar that says 'Installer'. On the left side, there is a vertical banner with a blue background and a white arrow pointing right. The main area contains the following fields:

- OA DB User ID: [Empty text box]
- OA DB User Password: [Empty text box] Confirm: [Empty text box]
- OA Database Name: [Empty text box]
- IC DB User ID: [Empty text box]
- IC DB User Password: [Empty text box] Confirm: [Empty text box]
- IC Repository DataBase: [Empty text box]
- DB Instance Name: [db2inst1]
- TCP/IP Port Number: [50001]
- OA Database Schema Name: [oaschema]

At the bottom of the dialog box, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'InstallShield' logo is visible in the bottom left corner.

Important:

If you are installing the Historical subsystem on a server that is separate from the historical database, you must first install the database client software on the server where the Historical subsystem is being installed.

28. Use the following information to complete the dialog box. Use the values from your database installation, which is described in [Installing the historical database](#)

[software](#) on page 57 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*. Some of the fields may include default values.

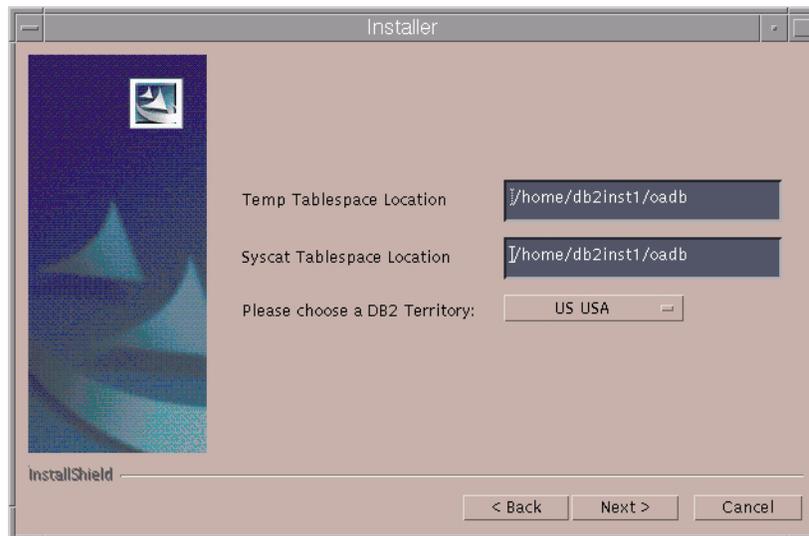
Field	Value
OA DB User ID	User ID for the OA database (OA creates this user ID during a new installation)
OA DB User Password	User password for the OA database
OA Database Name	The database name given when DB2 was installed and an instance was created.
IC DB User ID ¹	User ID for the Avaya IC Repository database (this must be an existing Avaya IC user ID, for example, <code>db2inst1</code>)
IC DB User Password ¹	User password for the Avaya IC Repository user ID
IC Repository Database ¹	Avaya IC Repository database/schema name (for example, <code>repository</code>)
DB Instance Name	Avaya IC and OA database instance name (for example, <code>db2inst1</code> , which is the default).
TCP/IP Port Number	Port number assigned to the database instance creation during the DB2 installation. If you are not sure of the number, check <code>/etc/services</code> and look for the DB2 instance name. The port number is included.
OA Database Schema Name	OA database schema name (for example, <code>oaschema</code>). Avaya recommends that you do not change this default name.

1. This field does not display if Avaya IC is not used as a collection source.

Installing Avaya OA components

29. Click **Next**.

The **DB2 Options** dialog box is displayed.



30. Use the following information to complete the dialog box.

Field	Value
Use Existing DB	Determines whether you are using an existing DB2 database.
Temp Tablespace Location	The file location for the temporary tables.
Syscat Tablespace location	The file location for the system catalog.
Please choose a DB2 Territory	Select the proper territory for your locale.

31. Click **Next**.

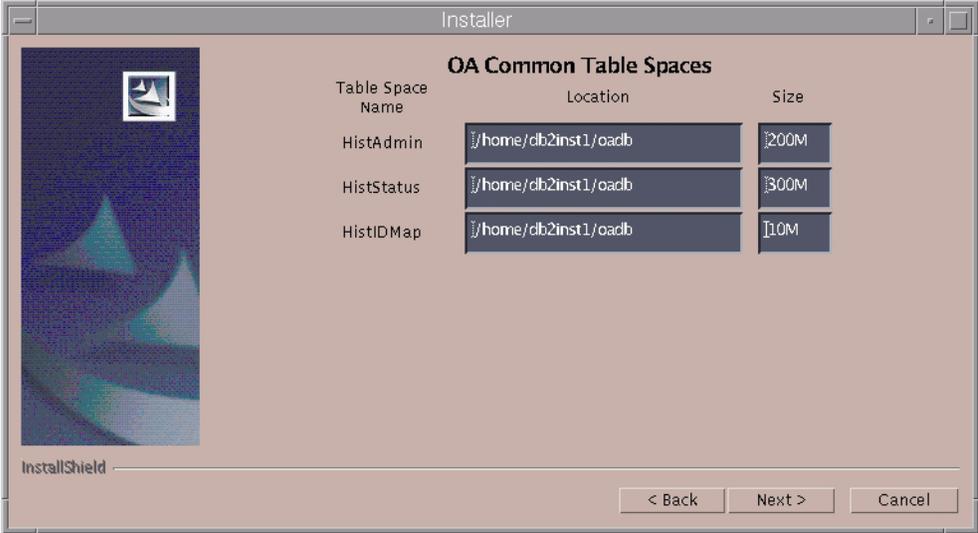
Note:

There may be a long delay before the next dialog box is displayed.

32. The **OA Common Table Spaces** dialog box is displayed.

! Important:

If the database is on a back-end database server, none of the table space dialog boxes are displayed. Continue with Step 40.



Installing Avaya OA components

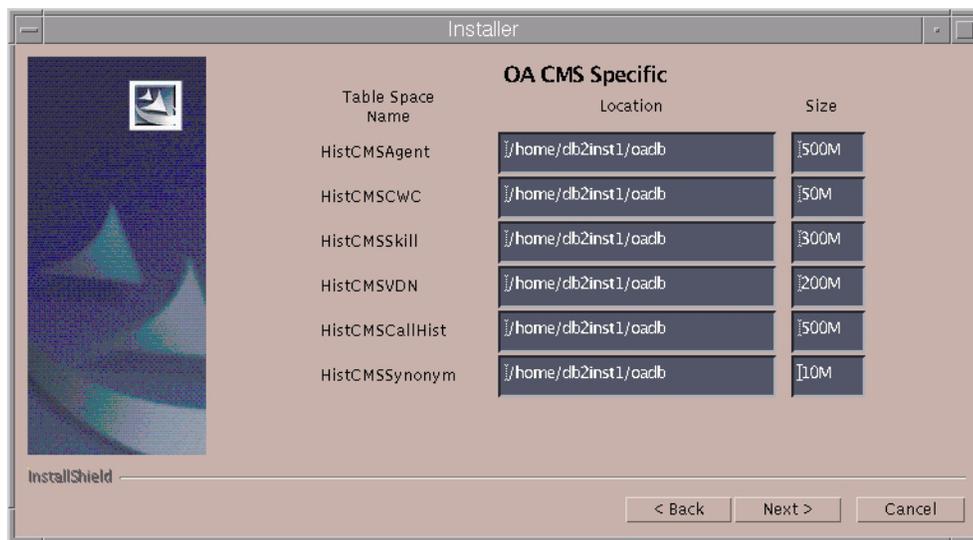
33. Enter the correct location and size for each tablespace. For more information on how to set these values see [Filegroup and tablespace sizing](#) on page 59 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.

Note:

If the tablespaces do not already exist, the **Use Existing** checkboxes will not display and the **Location** and **Size** input fields will include editable default values. If the tablespaces do already exist, the **Use Existing** checkboxes will be selected. You can clear the checkboxes and enter a different location and size.

34. Click **Next**.

If data will be collected from CMS, the **OA CMS Specific** dialog box is displayed.



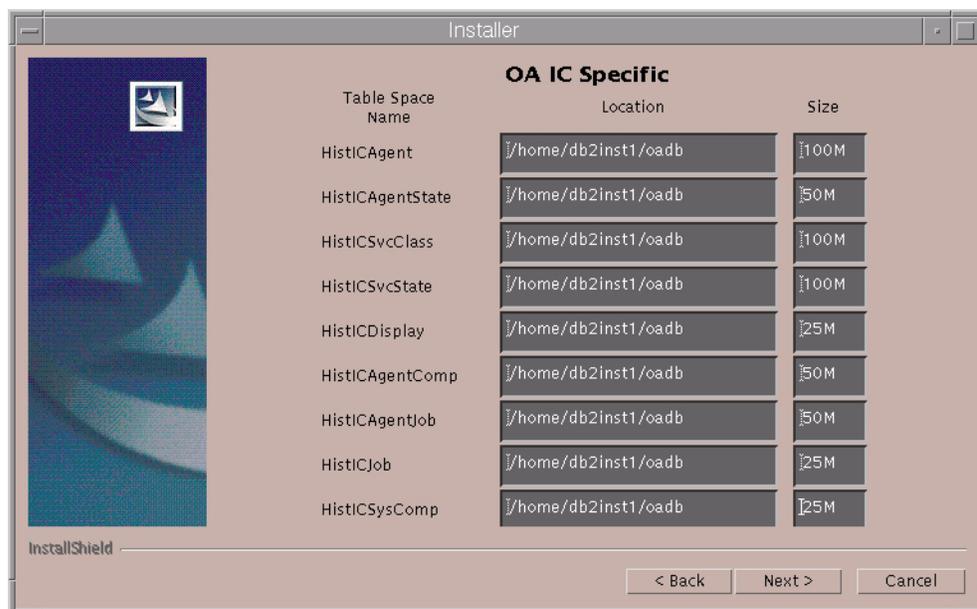
35. Enter the correct location and size for each tablespace. For more information on how to set these values see [Filegroup and tablespace sizing](#) on page 59 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.

Note:

If the tablespaces do not already exist, the **Use Existing** checkboxes will not display and the **Location** and **Size** input fields will include editable default values. If the tablespaces do already exist, the **Use Existing** checkboxes will be selected. You can clear the checkboxes and enter a different location and size.

36. Click **Next**.

If data will be collected from Avaya IC, the **OA IC Specific** dialog box is displayed.



37. Enter the correct location and size for each tablespace. For more information on how to set these values see [Filegroup and tablespace sizing](#) on page 59 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.

Note:

If the tablespaces do not already exist, the **Use Existing** checkboxes will not display and the **Location** and **Size** input fields will include editable default values. If the tablespaces do already exist, the **Use Existing** checkboxes will be selected. You can clear the checkboxes and enter a different location and size.

38. Click **Next**.

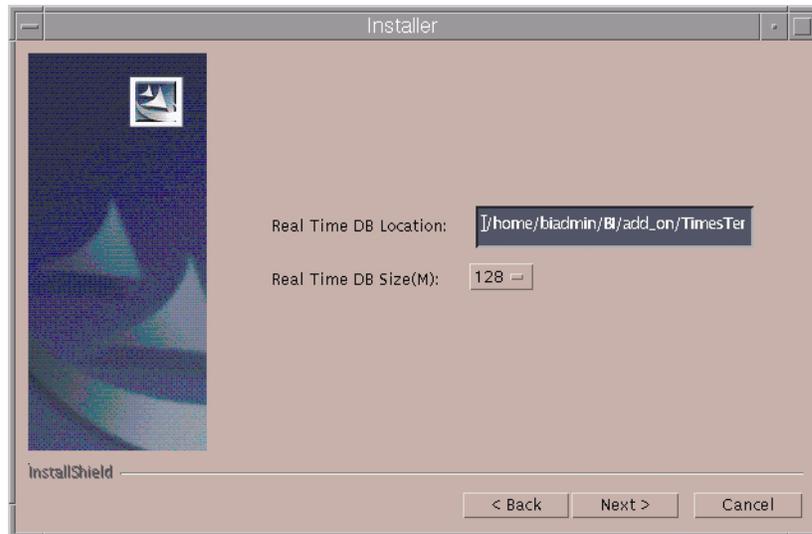
A warning dialog about storing the historical database on one disk may be displayed.

39. Click **OK** to acknowledge the warning, if displayed.

Installing Avaya OA components

40. One of the following occurs:

- If you are not installing the Real-time subsystem, continue with Step 44.
- If you are installing the Real-time subsystem, the **Real-time Configuration** dialog box is displayed.



41. In the **Real Time DB Location** field, Avaya recommends that you enter a path name that is on a different disk drive from where the OA software is being installed, and that has at least 2.2 GB of free disk space.
42. In the **Real Time DB Size(M)** field, the only option is **128**.
43. Click **Next**.

 **Important:**

If you do not have at least 2.2 GB of free disk space to install TimesTen, a warning message is displayed. You cannot continue until you free up at least 2.2 GB of disk space.

44. The **Installation Preview** dialog box is displayed listing the components you have selected.
45. Scroll through the preview dialog box to verify the selected components and configuration data.

 **CAUTION:**

Do *not* close the **Progress** dialog box after you have clicked **Next** in the following step. If you close the **Progress** dialog box after the installation has started, the installation will be disrupted and you must contact Avaya support to do a manual cleanup of the installation.

46. Click **Next** to start the installation.

The **Progress** dialog box is displayed showing the progress of the installation, which will take several minutes. Near the end of the installation, the dialog box will go blank for some time.

When the installation is finished, the **Install Complete** dialog box is displayed.

47. Click **Next**.

The **Install Complete** dialog box closes.

48. Close all but one terminal window and enter:

```
cd /  
umount /cdrom
```

49. Press the eject button on the CD-ROM drive, remove the OA CD-ROM, and store it in a safe location.

50. Log out of the desktop environment.

51. Log in using an OA user ID and password (see [Creating user IDs and group IDs on AIX servers](#) on page 105 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).

 **CAUTION:**

Do not use any OA commands while logged in as `root`. Using the `root` login ID on these commands will change ownership of files and will make them unusable by the OA user ID.

52. Enter:

```
. /opt/BI/.profile
```

Installing Avaya OA components

53. Enter the following command to show what processes are running:

```
pa list
```

A listing similar to the following is displayed.

.	system boot	Dec 20 07:54			
.	run-level 4	Dec 31 10:23	4	0	@
java	.	Dec 20 07:54	.	292	id=admb
java	.	Dec 20 07:54	.	52	id=adm0
java	.	Jan 02 16:16	.	995	id=ams
java	.	Dec 20 07:54	.	295	id=aut
java	.	Dec 20 07:54	.	296	id=schd
.					
.					
.					

Note that:

- There should be several Java entries, and these lines should not have an exit code at the end of the line.
- If there are any exit codes displayed on the Java entries, that process is not running. Escalate the problem to Avaya Technical Support.
- The `id=aut` and `id=schd` will only display when the Historical subsystem is installed.
- The recorder entries are displayed only if you are collecting data from CMS or Avaya IC. Forwarder entries may be displayed on a server that has the Real-time subsystem installed.

54. If OA is not running (mom is not active), enter:

```
pa start all
```

55. Repeat Step 53 to verify that OA has started.

56. If you are not successful starting OA, see [Starting and stopping OA-related processes](#) on page 41 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting* for more troubleshooting information.

57. Enter:

oalist

A message similar to the following is displayed:

```
Subsystems installed
  Real Time
  Reports
  Data API Utility
  Source-EC

Server Names
  Historical: bigbird
  Alarm Server Type: IC
  Alarm Server: grover

Database information
  Type: DB2
  Instance Name: icoadb
  OA DB Name: icoadb
  DB2 Version: 8.x

User information
  OA User ID: biadmin
  Group ID: oaadmin

Reports information
  WebSphere Root: /usr/IBM/WebSphere/AppServer
  HTTP Root: /usr/IBMIHS
  WebSphere Application Server: server1
  WebSphere Admin Console User: biadmin

OA Software information
  Version Installed: 7.0.0.025
```

58. If the Historical subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the Avaya Business Intelligence Service is running:

ps -ef | grep initsrv

A message similar to the following should be displayed.

```
root 2886 1 0 Dec 27 ? 0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229 182 0 10:28:00 pts/11 0:00 grep initsrv
```

Installing Avaya OA components

- b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?          38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin  239    182  0 10:32:21 pts/11   0:00 grep nameserv
```

59. If the Real-time subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

- a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?          0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229    182  0 10:28:00 pts/11   0:00 grep initsrv
```

- b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?          38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin  239    182  0 10:32:21 pts/11   0:00 grep nameserv
```

- c. Enter the following command to see if the TimesTen Data Manager 5.0 is running:

```
ps -ef | grep timesten
```

A message similar to the following should be displayed.

```
biadmin 20858 48090  0 13:01:34 pts/0   0:00 grep timesten
root 31910 36980  0  Apr 16   -  0:17 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -verbose -id 2 -facility user
root 32664 36980  0  Apr 16   -  0:17 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -verbose -id 1 -facility user
root 36302 36980  0  Apr 16   -  3:35 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -verbose -id 3 -facility user
root 36980  6302  0  Apr 16   -  0:42 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestend -fg
root 40150 36980  0  Apr 16   -  0:18 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -verbose -id 0 -facility user
```

60. If the Source-EC subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OApport 10000
-OAnumeric
biadmin  239    182  0 10:32:21 pts/11    0:00 grep nameserv
```

61. If the Report subsystem is installed and administered, enter the following commands to stop and restart the WebSphere software:

```
stopWebSphere -w $WEBSPHHERE_HOME -s servername -u userID
-p userpassword
```

```
startWebSphere -w $WEBSPHHERE_HOME -s servername -h HTTP_ROOT
-u userID -p userpassword
```

where *\$WEBSPHHERE_HOME* is the installation path WebSphere (default is /usr/IBM/WebSphere/AppServer), *servername* is the WebSphere Application Server Name under which OA Reports is deployed (default is server1), *HTTP_ROOT* is the installation path for the HTTP Server (default is /usr/IBMIHS), *userID* is the user ID administered for Global Security on WebSphere, and *userpassword* is the password for that user ID.

Note:

If the default values are used for *\$WEBSPHHERE_HOME*, *servername*, or *HTTP_ROOT* then do not use these options. If a Global Security user ID has not been administered, do not use the user and password options.

The following message is displayed.

```
.
.
.
ADMU3000I: Server server1 open for e-business; process id is XXXXX
```

62. If the Report subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

Installing Avaya OA components

- a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?           0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229    182  0 10:28:00 pts/11    0:00 grep initsrv
```

- b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep namesrv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/namesrv -OApport 10000
-OAnumeric
biadmin 239    182  0 10:32:21 pts/11    0:00 grep namesrv
```

- c. Enter the following command to see if WebSphere is running:

```
ps -ef | grep WebSphere
```

A message similar to the following should be displayed.

```
root 24424 25566      2 15:49:03 pts/3    0:00 grep WebSphere
biadmin 28514      1  0   Jun 03      -   4:39 /usr/IBM/WebSphere/AppServer/java/
bin/java -Xbootclasspath/p:/usr/IBM/WebSphere/AppServer/java/jre/lib/ext/
ibmorib.jar:/usr/IBM/WebSphere/AppServer/java/jre/lib/ext/ibmext.jar
-Dwas.status.socket=53964 -classpath /usr/IBM/WebSphere/AppServer/profiles/
default/properties:/usr/IBM/WebSphere/AppServer/properties:/usr/IBM/WebSphere/
AppServer/lib/bootstrap.jar:/usr/IBM/WebSphere/AppServer/lib/j2ee.jar:/usr/IBM/
WebSphere/AppServer/lib/lmproxy.jar:/usr/IBM/WebSphere/AppServer/lib/
urlprotocols.jar:/usr/opt/db2_08_01/java/db2jcc.jar:/usr/opt/db2_08_01/java/
db2jcc_license_cu.jar:/usr/opt/db2_08_01/java/db2jcc_license_cisuz.jar -Xms50m
-Xmx512m -Dws.ext.dirs=/usr/IBM/WebSphere/AppServer/java/lib:/usr/IBM/WebSphere/
AppServer/profiles/default/classes:/usr/IBM/WebSphere/AppServer/classes:/usr/
IBM/WebSphere/AppServer/lib:/usr/IBM/WebSphere/AppServer/installedChannels:/usr/
IBM/WebSphere/AppServer/lib/ext:/usr/IBM/WebSphere/AppServer/web/help:/usr/IBM/
WebSphere/AppServer/deploytool/itp/plugins/com.ibm.etools.ejbdeploy/runtime
-Dcom.ibm.itp.location=/usr/IBM/WebSphere/AppServer/bin
-Djava.util.logging.configureByServer=true -Dibm.websphere.preload.classes=true
-Duser.install.root=/usr/IBM/WebSphere/AppServer/profiles/default
-Dwas.install.root=/usr/IBM/WebSphere/AppServer
-Djava.util.logging.manager=com.ibm.ws.bootstrap.WsLogManager
-Ddb2j.system.home=/usr/IBM/WebSphere/AppServer/cloudscape -Dserver.root=/usr/
IBM/WebSphere/AppServer/profiles/default -Djava.awt.headless=true
-Djava.security.auth.login.config=/usr/IBM/WebSphere/AppServer/profiles/default/
properties/wsjaas.conf -Djava.security.policy=/usr/IBM/WebSphere/AppServer/
profiles/default/properties/server.policy com.ibm.ws.bootstrap.WSlauncher
com.ibm.ws.runtime.WsServer /usr/IBM/WebSphere/AppServer/profiles/default/config
groverNode01Cell groverNode01 server1
```

63. To verify that OA reports are running using the WebSphere Administrative Console:
- a. In a browser window, enter:

```
http://report_server_FQDN:port_number/admin
```

where *report_server_FQDN* is the fully-qualified domain name of the server where the Report subsystem is installed and *port_number* is the port number assigned to the WebSphere Administrative Console (for example, 9060).
 - b. Log in to the WebSphere Administrative Console using the Global Security user ID and password (if assigned). Otherwise, enter any user ID.
 - c. Select **Applications > Enterprise Applications**.
 - d. Verify that there is a green arrow next to **OAReports**. If there is a red X, select the check box to the left of **OAReports** and select **Start**. This should change the status to a green arrow. If not, escalate the problem using the normal channels.

Note:

If the WebSphere server instance for OA reports is not the default *server1*, the WebSphere Administrative Console must be deployed to the non-default server instance. Otherwise, the WebSphere Administrative Console cannot control OA reports.

Installing Avaya OA components on a CMS server

This section describes how to install the following OA components on a CMS server:

- Source-CMS subsystem
- Data API Utility

If you want to collect CMS historical data, you must install the Source-CMS subsystem on each of the CMS servers from which you are collecting data.

Note:

The dialog boxes shown in this section are based on using the CDE interface. If the customer is using the OpenWin interface, the installation dialog boxes will appear different. Avaya recommends that you use the CDE interface for installation.

Note:

You can run the install from files copied to the server using binary copy mode of FTP. For Solaris, you must copy the `solsetup` and `setup.jar` files to a temporary directory on a disk drive that is local to the server, not a networked drive. See [Remote installation of CMS data collection software](#) on page 355 for instructions.

This section includes the following topics:

- [Installing the OA components](#) on page 92
- [Stopping and starting IDS on the CMS server \(R3V9 only\)](#) on page 97
- [Configuring time zone offsets](#) on page 98

Installing the OA components

To install the OA components on a CMS server:

1. Log in as `root` to the CDE on the local CMS machine.
2. Place the OA CD-ROM in the drive and wait about 15 seconds.

 **Important:**

Install Avaya OA from a CD-ROM drive that is local to the server where you are installing OA. Installing from a networked CD-ROM drive is not supported.

A file manager window is displayed showing the contents of the CD-ROM.

Note:

If the File Manager window does not open, enter the following commands to start the volume manager:

```
/etc/init.d/volmgt stop
```

```
/etc/init.d/volmgt start
```

3. From a terminal window, enter the following commands:

```
cd /cdrom/cdrom0
```

```
./SolSetup
```

After several seconds, the **Initializing wizard** window is displayed, followed by the **Welcome** dialog box.

 **Important:**

You can stop the installation at any time by clicking **Cancel** before you start the actual installation of files (see Step 22). If you click **Cancel**, you will be asked to confirm your intention to cancel. If you cancel, the installation is terminated and the system is restored to its previous state.

4. Click **Next**.

The **License Key** dialog box is displayed.

5. Enter the provided license key for the components purchased.

6. Click **Next**.

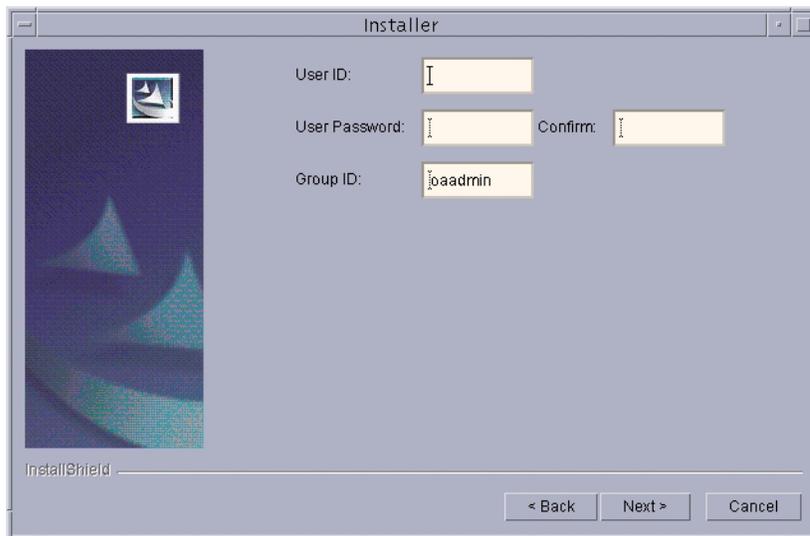
The **License Agreement** dialog box is displayed.

7. Select **I accept the terms in the license agreement**.

Installing Avaya OA components

8. Click **Next**.

The **User Information** dialog box is displayed.



9. Enter the **User ID**, **User Password**, and **Group ID**.

Use a login ID and password (typically `biadmin`) as discussed in [Creating user IDs and group IDs on Solaris servers](#) on page 99 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*. This assigns an owner for all OA files and folders.

10. Click **Next**.

The **Destination** dialog box is displayed.

The **Destination** dialog box allows you to specify the destination for installation of the OA software. This defaults to the directory defined for the user ID. On a CMS server, you may want to install the Source-CMS subsystem on the `/cms` file system instead of the root (`/`) file system, which is the default location. Consult the CMS administrator when selecting a destination.

11. To change the location where you want the components installed

- a. Click **Browse**.
- b. Select the directory.

The selected directory must have sufficient free disk space to accommodate the installed components. It should be on a local disk, not a remote file system. You cannot install OA software in any system directories such as the following:

- `/` (the root directory)
- `/etc`
- `/var`

- /tmp
- /usr/lib
- /opt/BI

12. Click **Next**.

Note:

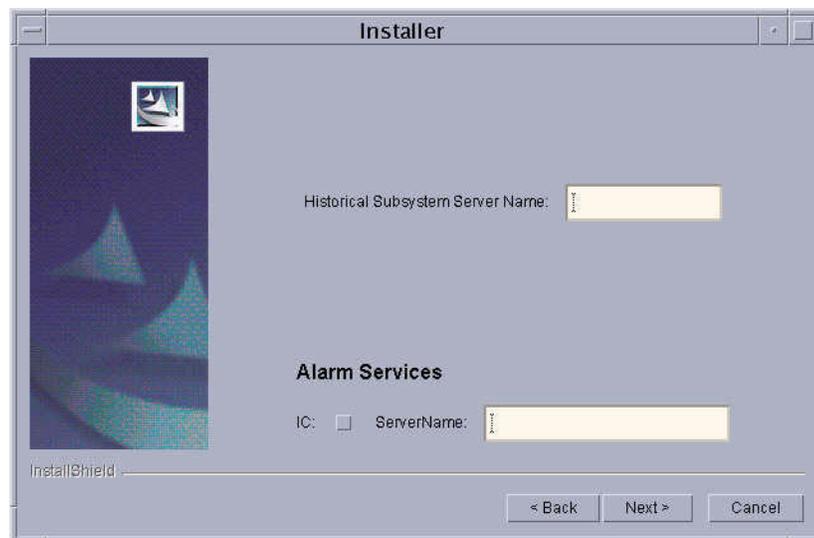
There may be a long delay before the next dialog box is displayed.

The **Feature Selection** dialog box is displayed.

13. Select **Source-CMS Subsystem** and, if needed, **Data API Utility**.

14. Click **Next**.

The **Historical Server Configuration** dialog box is displayed.



15. Enter the **Historical Subsystem Server Name** using the fully-qualified domain name of the server where the Historical subsystem is located.

16. If you want to send alarm data to the Avaya IC server, click the **IC** box under **Alarm Services**, and enter the fully-qualified domain name of the server where the Source-EC (Event Collector) subsystem is installed in the **Server Name** field. For an OA and CMS configuration without Avaya IC, leave these options blank.

Installing Avaya OA components

17. Click **Next**.

The **CMS Database Configuration** dialog box is displayed.

The image shows a screenshot of a software installer window titled "Installer". On the left side, there is a vertical banner with a blue and white abstract graphic and the text "InstallShield" at the bottom. The main area of the window is light gray and contains three input fields. The first is labeled "CMS User ID:" and has a yellow text box. The second is labeled "CMS User Password:" and has a yellow text box. To the right of the password box is a "Confirm:" label and another yellow text box. At the bottom right of the window, there are three buttons: "< Back", "Next >", and "Cancel".

18. Enter the `informix` user ID and password as administered on the CMS server.

Tip:

If a password has not been assigned, use the `passwd informix` command to assign a password before you continue.

19. Click **Next**.

20. The **Installation Preview** dialog box is displayed listing the components you have selected.

21. Scroll through the preview dialog box to verify the components you selected.

CAUTION:

Do *not* close the **Progress** dialog box after you have clicked **Next** in the following step. If you close the **Progress** dialog box after the installation has started, the installation will be disrupted and you must contact Avaya support to do a manual cleanup of the installation.

22. Click **Next** to start the installation.

The **Progress** dialog box is displayed showing the progress of the installation, which will take several minutes. Near the end of the installation, the dialog box will go blank for some time.

When the installation is finished, the **Install Complete** dialog box is displayed.

23. Click **Next**.

The **Install Complete** dialog box closes.

24. Close all but one terminal window and enter:

```
cd /
eject cdrom
```

25. Remove the OA CD-ROM and store it in a safe location.

26. Use the following command and response to verify that the required service is running. If the service is not running, escalate the problem using the normal channels.

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?          38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin  239     182  0 10:32:21 pts/11    0:00 grep nameserv
```

Stopping and starting IDS on the CMS server (R3V9 only)

For CMS servers with R3V9 software, you must stop and start the Informix Dynamic Server (IDS) software after you have installed the data collection software. This is not required if the CMS server is R3V11 or later.

To stop and start the IDS software:

1. Log in as **root**.

2. Enter:

```
. /opt/BI/.profile
pa stop all
```

3. Enter:

```
cmssvc
```

The system displays the CMSSVC menu.

4. Enter **4** to select **run_cms**.

5. Enter **3** to turn off both CMS and IDS.

6. Enter:

```
cmssvc
```

7. Enter **3** to select **run_ids**.

8. Enter **1** to turn on IDS.

9. Enter:

```
cmssvc
```

Installing Avaya OA components

10. Enter **4** to select `run_cms`.
11. Enter **1** to turn on CMS.
12. Enter:

```
pa start all
```

Configuring time zone offsets

Avaya OA uses data collected from a CMS server to create reports about contact center performance. To correlate data from multiple ACDs (switches), the time zone configuration on the CMS server must be configured properly to use Greenwich Mean Time (GMT) offsets and recognize Daylight Savings Time (DST) rules. In addition, the forwarder files on the CMS server may need to be configured for non-standard DST rules. Adjusting the ACD time zone offset does not affect the time as stored in OA. It will always be the time zone of the switch as adjusted for GMT.

This section includes the following topics:

- [Basic CMS time zone settings](#) on page 98
- [Forwarder file time zone settings](#) on page 99

Basic CMS time zone settings

Standard provisioning for a CMS server configures time zones based on geographic region, which automatically compensates for DST rules and converts the internal time of the CMS to GMT. You should verify that the time zone is set correctly on the CMS server.

To verify that the CMS server time zone is set properly:

1. Log in to the CMS server as `root`.
2. Enter:

```
vi /etc/default/init
```

A file similar to the following is displayed.

```
# @(#)init.dfl 1.5 99/05/26
#
# This file is /etc/default/init. /etc/TIMEZONE is a symlink to this file.
# This file looks like a shell script, but it is not. To maintain
# compatibility with old versions of /etc/TIMEZONE, some shell constructs
# (i.e., export commands) are allowed in this file, but are ignored.
#
# Lines of this file should be of the form VAR=value, where VAR is one of
# TZ, LANG, CMASK, or any of the LC_* environment variables.
#
TZ=US/Mountain
```

3. Verify that the time zone has been set using a geographic region, similar to what is shown in the above example. If the time zone has not been set using a geographic region, change the line with geographic regions as shown in the `/usr/share/lib/zoneinfo` directories (for example, `/usr/share/lib/zoneinfo/US`, where you would use the `Mountain` time zone file).

4. Press **Esc**.

5. Enter:

```
:wq!
```

This writes and quits the file editor.

6. Enter:

```
/usr/sbin/shutdown -y -i6 -g0
```

This reboots the CMS server.

The CMS must then be administered to change the switch time zone offset for all ACDs reporting to the CMS server. To administer this option, see the section *Changing switch time zone* in the chapter "Configuring CMS system settings" in the CMS Administration document for your CMS release.

 **Important:**

The administration of switch time zone offsets do not automatically adjust for DST. When DST changes occur, the CMS administrator must readminister the offset value.

Forwarder file time zone settings

By default, the CMS server is configured to use the standard North American DST rules that apply to the United States and Canada. *If all ACDs are located where standard North American DST rules are observed, no changes are required to the configuration.*

However, for any ACDs that are located where standard North American DST rules are *not* observed, you must configure those ACDs on the CMS server.

For example, a customer has a CMS server in Chicago (which does observe standard North American DST rules) and ACD number 3 is located in Phoenix (which does *not* observe standard North American DST rules). The CMS has been administered with an offset of -1 hours for the Phoenix ACD. Since Arizona does not observe DST, the ACD is -1 hour behind Chicago during Standard Time and -2 hours behind Chicago during DST.

CMS administrators must remember to manually change the offset for this ACD when going from DST to Standard Time and from Standard Time to DST (the administered offset of -1 hour is valid as long as it was administered for Standard Time, and not -2 hours because the CMS server was administered when DST was in effect).

For call data that is forwarded from CMS to OA, the CMS server must be configured to automatically reset the time zone offsets for any ACDs in locations that do not observe standard North American DST rules. You must edit the following property files, which are

Installing Avaya OA components

located at `$PABASE/data/admin/forwarder` on the CMS server, and add two time zone run-time property settings:

- `cmsagent.properties`
- `cmscallhistory.properties`
- `cmscwc.properties`
- `cmsskill.properties`
- `cmssynonyms.properties`
- `cmsvdn.properties`

First, you must add the following line to the end of each of these files to define the local offset from GMT:

```
acdNtz=XX
```

where *N* is the number of the ACD and *XX* is the offset values, which range from -12 (New Zealand) west to 11 (Bering).

Important:

The time zone offset from GMT used with forwarder files is a nonstandard numbering format. Do not confuse these settings with standard GMT offsets.

Based on the example above for the Phoenix ACD, you would add the following line at the end of each property file on the CMS server:

```
acd3tz=7
```

where 7 is the number of hours difference between GMT and Phoenix time.

In addition, you must set a second run-time property that further defines the DST rules for an ACD. This second run-time property uses the following formats:

```
acdNdst=NoAm  
acdNdst=NoDST  
acdNdst=WeEu  
acdNdst=OfficialEU  
acdNdst=mon, week, day, min, mon, week, day, min
```

where *N* is the number of the ACD and the values are defined as:

- `NoAm` - the North American DST rules (default)
- `NoDST` - DST is never observed (`no` is also valid)
- `WeEu` - much of Western Europe, except the United Kingdom
- `OfficialEU` - official European Union DST rules

- *mon, week, day, min, mon, week, day, min* - an explicit beginning and ending time for DST, where:
 - the first four values represent the beginning of the alternate DST observance and the last four values represent the end of the alternate DST observance
 - *mon* = 0 to 11 (0 = January, 1 = February, and so on)
 - *week* = 0 to 4 (0 = first week, 1 = second week, and so on) or -1 (no specific week)
 - *day* = 0 to 6 (0 = Sunday, 1 = Monday, and so on) or 0 to 31 (if *week* = -1)
 - *min* = 0 to 1439 minutes after midnight (usually 2AM, which = 120)

The example `acdNdst=3,4,0,120,9,4,0,120` represents DST from 2AM on the last Sunday in April through 2AM on the last Sunday in October.

Based on the example above for the Phoenix ACD, you would add the following line at the end of each property file on the CMS server:

```
acd3dst=NoDST
```

Installing and testing the Report client

All workstations at which reports will be viewed must have JRE and the Report client support files installed. After the files are installed, you can run a test report to verify that the reports are working.

 **Important:**

The Report client can only be installed on a Windows client workstation. You cannot install the Report client on a Windows 2000 or Windows 2003 server machine.

This section includes the following topics:

- [Installing the Report client support files](#) on page 102
- [Running a test report](#) on page 105

Installing the Report client support files

To install JRE and the Report client:

1. Log in to a Windows client workstation with a user ID that has administrator privileges.
2. Open Internet Explorer.
3. Do one of the following:

- If the Report subsystem is installed on a Windows platform, enter:

```
http://report_server_FQDN/reports1
```

where *report_server_FQDN* is the fully-qualified domain name of the Report server.

- If the Report subsystem is installed on a Solaris platform, enter:

```
http://report_server_FQDN:port_number/reports1
```

where *report_server_FQDN* is the fully-qualified domain name of the Report server and *port_number* is the number assigned when the Report subsystem was installed (typically, 11000).

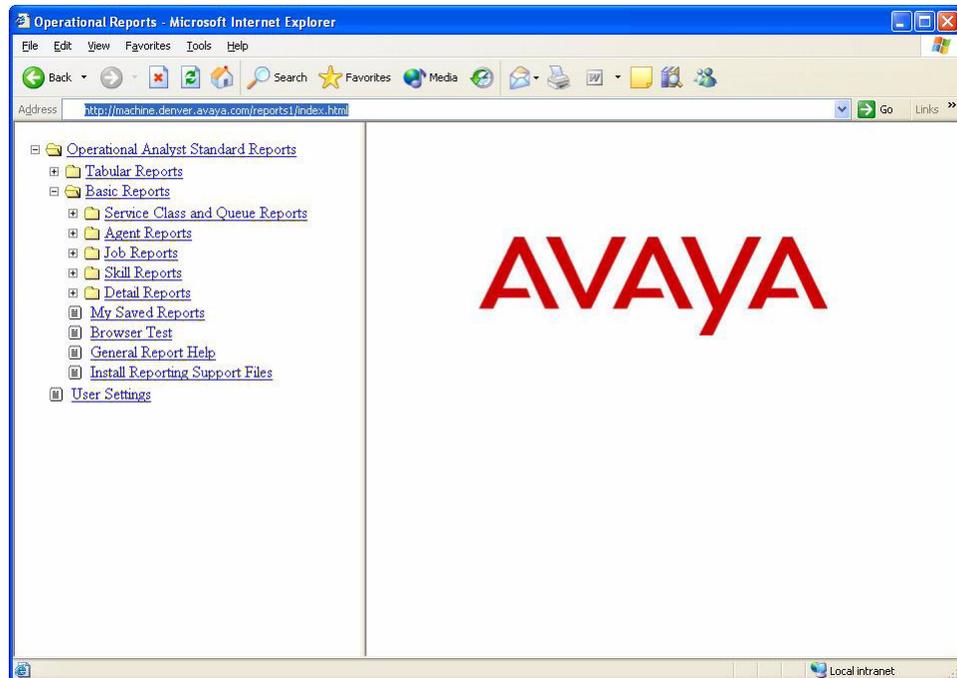
- If the Report subsystem is installed on an AIX platform, enter:

`http://report_server_FQDN:port_number/reports1`

where *report_server_FQDN* is the fully-qualified domain name of the Report server and *port_number* is the number assigned when the HTTP Server was installed (typically 80 for the default HTTP Server port; the alternative port number is typically 81). See [Changing the HTTP Server properties \(optional\)](#) on page 123 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.

A login screen is displayed.

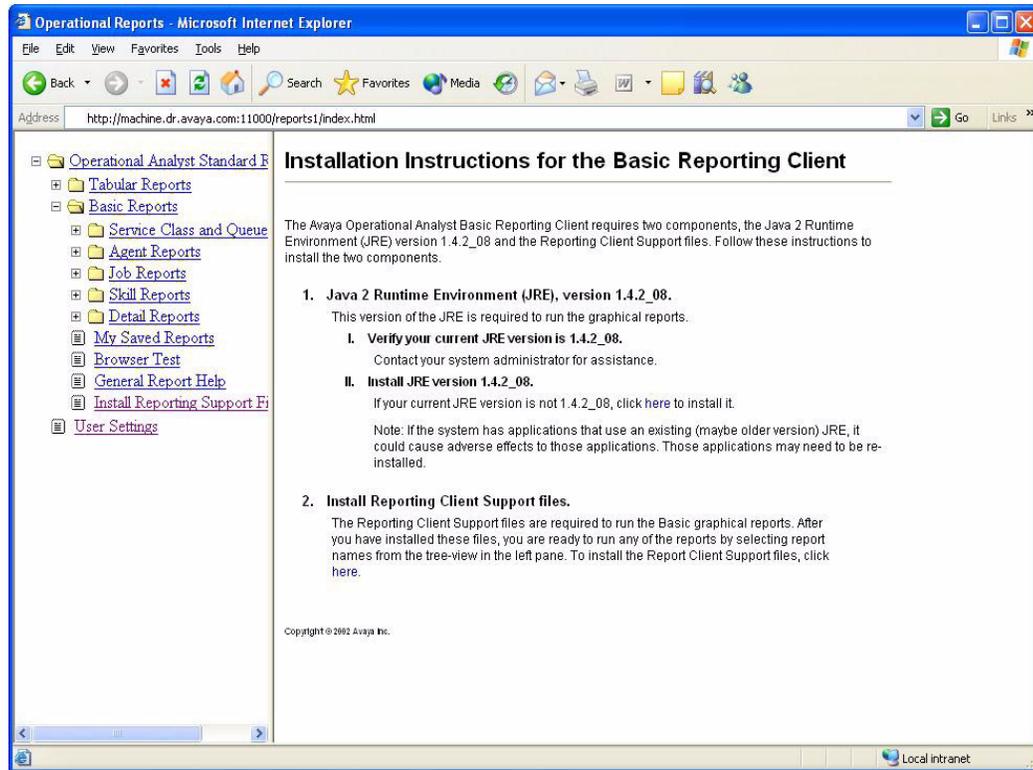
4. Log in with the appropriate user ID and password of a user who belongs to the OA Report group (see [Creating user IDs and group IDs on Windows servers](#) on page 96 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).
5. Click **Basic Reports** to expand the report tree, as shown below.



Installing Avaya OA components

6. Click **Install Reporting Support Files**.

Installation instructions are displayed in the right pane as shown below.



7. Follow the instructions displayed to:

- a. Check your **Control Panel** settings to see which version of JRE is currently installed on your computer.

CAUTION:

If JRE version 1.4.2_08 is already installed (for example, you have already installed the Administration client on this computer), **DO NOT REINSTALL JRE**. If you reinstall JRE and the Administration client is installed on this computer, the Administration client policy information is deleted.

CAUTION:

Installing the JRE could adversely affect any applications currently using a different version of JRE. You may have to reinstall those applications that use a different version of JRE.

- b. Install JRE version 1.4.2_08 (if not already installed) using the link in the instructions that are displayed.

- c. Install the Report Client support files using the link in the instructions that are displayed.

When the installation is finished, the message **Please close your browser when installation is complete** is displayed.

8. Click **Close** to close the browser window and end the installation.
9. Continue with [Running a test report](#) on page 105.

Note:

If you have any problems installing the Report client files, see [Troubleshooting an installation](#) on page 309 for help.

Running a test report

If you have problems running a test report, see [Troubleshooting Basic Reports and the report server](#) on page 175 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting*.

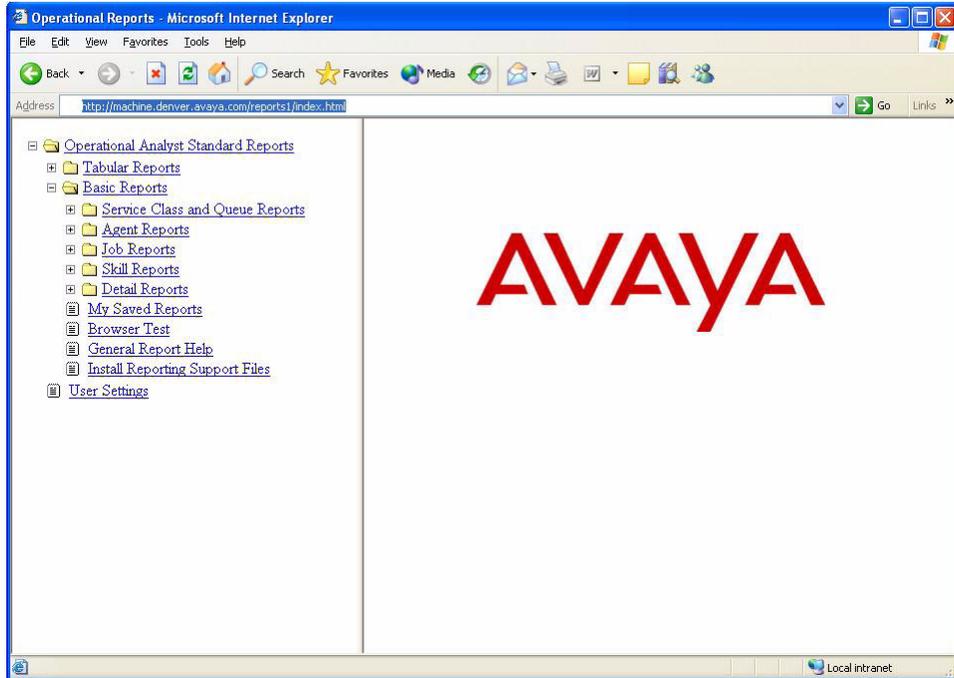
To run a test report:

1. Log in to the client workstation with a user ID that has reporting privileges.
2. Open Internet Explorer.
3. Do one of the following:
 - If the Report subsystem is installed on a Windows platform, enter:
`http://report_server_FQDN/reports1`
 where *report_server_FQDN* is the fully-qualified domain name of the server where the Report subsystem is installed.
 - If the Report subsystem is installed on a Solaris platform, enter:
`http://report_server_FQDN:port_number/reports1`
 where *report_server_FQDN* is the fully-qualified domain name of the Report server and *port_number* is the number assigned when the Report subsystem was installed (typically, 11000).
 - If the Report subsystem is installed on an AIX platform, enter:
`http://report_server_FQDN:port_number/reports1`
 where *report_server_FQDN* is the fully-qualified domain name of the Report server and *port_number* is the number assigned when the HTTP Server was installed (typically 80 for the default HTTP Server port; the alternative port number is typically 81). See [Changing the HTTP Server properties \(optional\)](#) on page 123 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.

A login screen is displayed.

Installing Avaya OA components

4. Log in with the appropriate user ID and password of a user who belongs to the OA Report group (see [Creating user IDs and group IDs on Windows servers](#) on page 96 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).
5. Click **Basic Reports** to expand the report tree, as shown below.



6. Expand the report folders in the left pane and run a test report.

Completing the installation

This section includes the following topics:

- [Setting up remote access](#) on page 107
- [Configuring the NumDSWorkerThreads parameter on the Report servers](#) on page 107
- [Configuring the SMPOptLevel parameter on the TimesTen server](#) on page 109
- [Configuring Cognos for multibyte language support](#) on page 110
- [Configuring IIS on Windows for coresident Avaya IC and Avaya OA](#) on page 111
- [Adding external jobs](#) on page 116

Setting up remote access

For server machines that require remote troubleshooting by Avaya, at least one Avaya machine in the customer network must be equipped for remote access. The details of what this includes depends on the agreement with the customer. Contact Avaya for more information.

Configuring the NumDSWorkerThreads parameter on the Report servers

The NumDSWorkerThreads parameter must be configured for every server where the Report subsystem is installed. This parameter affects the performance of the system.

To set the NumDSWorkerThreads parameter:

1. Open a command prompt window.
2. Open the following file in a text editor:
 - `%PABASE%\Stumbras\webapp\WEB-INF\config\RTPAService\RTPAService.properties` (Windows)
 - `$SUN_WEB_HOME/https-stumbras/webapp/WEB-INF/config/RTPAService/RTPAService.properties` (Solaris Sun Java Web Server 6.0)
 - `$SUN_WEB_HOME/https-stumbras/webapps/WEB-INF/config/RTPAService/RTPAService.properties` (Solaris Sun Java Web Server 6.1)
 - `$WEBSPPHERE_HOME/profiles/default/installedApps/hostnameNode01Cell/OAReports.ear/stumbras.war/WEB-INF/config/RTPAService/RTPAService.properties` (AIX)

Installing Avaya OA components

3. Search for the NumDSWorkerThreads parameter. See the following file for an example:

```
#-----  
#- RTPAService.properties  
#-  
#- This is a configuration file that contains properties that are independent  
#- of the OA Admin Mgr provided properties.  
#-  
#- The content of RTPAService.properties will not require any localization.  
#-----  
  
# Number of DataSet event processing worker threads. Should be set to the  
# number of CPUs on the reporting server host platform.  
#  
NumDSWorkerThreads = 1
```

4. Change the value to equal the number of CPUs on the server. For example, if the Report server has 4 CPUs, enter 4.
5. Save and close the file.
6. Restart Stumbras on each Report server.

- For Windows:

- i. Select **Start > Programs > Administrative Tools > Services**.

The **Services** dialog box is displayed.

- ii. Highlight the Stumbras service and restart it.

- For Solaris:

- i. Open a command prompt window.

- ii. Enter the following commands:

```
cd $SUN_WEB_HOME/https-stumbras  
./stop  
./start
```

- For AIX:

- i. Open a command prompt window.

- ii. Enter the following commands:

```
stopWebSphere -w $WEBSHERE_HOME -s servername -u userID  
-p userpassword  
  
startWebSphere -w $WEBSHERE_HOME -s servername -h HTTP_ROOT  
-u userID -p userpassword
```

where *\$WEBSHERE_HOME* is the installation path WebSphere (default is /usr/IBM/WebSphere/AppServer), *servername* is the WebSphere Application Server Name under which OA Reports is deployed (default is server1), *HTTP_ROOT* is the

installation path for the HTTP Server (default is /usr/IBMIHS), *userID* is the user ID administered for Global Security on WebSphere, and *userpassword* is the password for that user ID.

Note:

If the default values are used for *\$WEBSHERE_HOME*, *servername*, or *HTTP_ROOT* then do not use these options. If a Global Security user ID has not been administered, do not use the user and password options.

Configuring the SMPOptLevel parameter on the TimesTen server

The SMPOptLevel (SMP Optimization Level) parameter for TimesTen should be set on the server where the Real-time subsystem is installed. The procedure for setting this parameter differs for Windows and Solaris and AIX.

Windows setup - To set the SMPOptLevel parameter:

1. Select **Start > Settings > Control Panel**.
The **Control Panel** dialog box is displayed.
2. Select **Administrative Tools**.
The **Administrative Tools** dialog box is displayed.
3. Select **Data Services (ODBC)**.
The **ODBC Data Source Administrator** dialog box is displayed.
4. Under the **System DSN** tab, select **dss128**.
5. Click **Configure**.
6. Select the **First Connection** tab.
7. Under the **SMP Optimization Level**, enter 0 if the server has one CPU, or enter 1 if the server has two or more CPUs.
8. Click **OK** three times so save the setting.

Solaris and AIX setup - To set the SMPOptLevel parameter:

1. Open a command prompt window.
2. Enter:

```
vi /var/TimesTen/sys.odbc.ini
```
3. Search for the SMPOptLevel parameter.
4. Change the value to 0 if the server has one CPU, or change it to 1 if the server has two or more CPUs.

5. Press **Esc**.

6. Enter:

`:wq!`

This writes and quits the file.

Configuring Cognos for multibyte language support

If you install the Advanced Reporting subsystem and the customer has installed Cognos Impromptu Administrator Version 6.2 multibyte English to support Japanese and other multibyte languages, you must rename two program folders.

Note:

If you are not using Cognos Impromptu Administrator Version 6.2, you may skip this procedure.

The following extra folders are created:

- `cubes_intl`
- `Impromptu_intl`

These folders must be renamed so that correct programs are used by the Advanced Reporting subsystem.

To rename the folders:

1. Open Windows Explorer.
2. Navigate to `c:\Program Files\Avaya\BI\reports\cognos`.
3. Rename the folder `cubes` to `cubes_ver7`.
4. Rename the folder `cubes_intl` to `cubes`.
5. Rename the folder `Impromptu` to `Impromptu_ver7`.
6. Rename the folder `Impromptu_intl` to `Impromptu`.

Note:

The detail Impromptu reports under the `Impromptu\oadb` folder, `ContactsBy*Site.imr` and `ContactsBy*Media.imr` are not available with this configuration.

Configuring IIS on Windows for coresident Avaya IC and Avaya OA

For Windows, Web server software is normally installed by the customer as part of the prerequisite software installation described in [Server software requirements](#) on page 38 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*. However, there are conditions when the normal installation of the Windows Web server must be altered.

A coresident Web server configuration is necessary when:

- The OA Report subsystem is located on the same server machine that contains the Avaya IC Web Server components, and the Avaya IC and OA systems share the same commercial Web Server. Refer to [Report server considerations](#) on page 29 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites* for information about which Avaya IC Web Server components may be coresident with the OA Report subsystem.

Important:

Install a coresident Web server *only* if the Avaya IC Web Server components that reside inside your firewall are physically located on the same machine where the OA Report subsystem is located. If the Avaya IC Web Server components *are* physically located on the same machine, you *must* do the procedures in this section to install a Web server. If the Avaya IC Web Server components *are not* physically located on the same machine, continue with installing OA.

For the OA Report server to be coresident with the Avaya IC Web Server component or other applications, it must meet the maximum runtime requirements specified in [Report server considerations](#) on page 29 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.

- Other applications with another type of Web container are using the default Web site on IIS. In this case, the default port number is already occupied by these applications. You must assign another port number to the OA Report subsystem by manually configuring a new Web site on the same Web server.
- Other applications using the default Web site on IIS cannot share the same HTTP security settings as the server where the OA Report subsystem is installed.

If you are already using the default Web site of IIS with other applications, you must follow the steps given below to prevent the deletion of the settings of your existing Web site.

Important:

Failure to create the OA Web site in the order indicated below will cause the OA Web server standard installation to modify the settings of any existing default Web site.

Installing Avaya OA components

The procedure is different for Windows 2000 and Windows 2003. See the following sections:

- [Configuring IIS for Windows 2000 Server](#) on page 112
- [Configuring IIS for Windows Server 2003](#) on page 114

Configuring IIS for Windows 2000 Server

To configure IIS for Windows 2000:

1. Collect your original security settings as described in [Installing the IIS Web Server on Windows](#) on page 110 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.
2. If not already installed, install the OA Report subsystem and any other required subsystems or client software. See [Installing Avaya OA components on a Windows platform](#) on page 32.
3. On the Windows Web server, stop Stumbras-Tomcat service (via Services as described in [Starting and stopping OA-related processes](#) on page 41 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting*).
4. Delete the folder at:
`%PABASE%\stumbras\tomcat\work\localhost_8080`
5. Select **Start > Programs > Administrative Tools > Internet Services Manager**.
6. Expand the tree view **server-name > Default Web Site** and right click on the **server name > New > Web Site**.
7. Click **Next** to continue.
 - a. Enter `stumbras` for description.
 - b. Enter an unused port number. For example: **81** for the TCP port. Leave **IP Address** set to **All Unassigned**. No Host Header is needed.
 - c. Enter `C:\inetpub\wwwroot` for the home directory path and leave the rest of the default settings for the Web Site Home Directory page.
 - d. Select the **Execute** box and accept the rest of the default settings for the Web Site Access Permissions page.
 - e. Click **Next**. Click **Finish**.
8. Right click on the new Web site **Stumbras > New > Virtual Directory**.
9. Click **Next** to continue.
 - a. Enter `jakarta` for the Alias in the **Virtual Directory Alias** page.
 - b. Enter the path of the Stumbras-Tomcat install directory (for example, `%PABASE%\stumbras\tomcat\bin`).

- c. Select the **Execute** box and accept the rest of the default settings for the **Access Permissions** page.
10. Right click on the new Web site **Stumbras > Properties**.
 - a. Click on the **ISAPI Filters** tab.
 - b. Click **Add**.
 - c. In the **Filter Name** box enter: `isapi`
 - d. Enter:


```
%PABASE%\stumbras\tomcat\bin\isapi_redirect.dll
```
 - e. Click **OK**. Click **Apply**.
 - f. Select the **Directory Security** tab.
 - g. Click **Edit** under the Anonymous access and authentication control section.
 - h. Verify that only the **Anonymous access** box is selected in the first section and the **Integrated Windows authentication** box is selected in the **Authenticated access** section.
 - i. Click **OK**.
 - j. Click **Apply**.
11. Expand **Stumbras** in the tree-view.
12. Right click on **jakarta > Properties**.
 - a. Click on the **Directory Security** tab.
 - b. Click **Edit** under the **Anonymous access** and **Authentication control** section.
 - c. Verify that only the **Anonymous access** box is selected in the first section.
 - d. Click **Edit** next to **Account used for anonymous access**.
 - e. In the **Anonymous User Account** window, enter the OA user ID entered during installation into the **Username** box. For example: `oauser`. Make sure the **Allow IIS to control password** is selected. Click **OK**, **Apply**, and **OK**.
13. Select **Start > Programs > Administrative Tools > Services**.
14. Start the Stumbras-Tomcat service.
15. Start the browser report from `http://<servername>:<port number>/reports1` where `<servername>` is the name of the report server and `<port number>` is the port number entered earlier in this procedure.
16. Go back into the Default Web site (**server-name > Default Web Site**) and reset the security settings as noted in [Installing the IIS Web Server on Windows](#) on page 110 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.

Configuring IIS for Windows Server 2003

To configure IIS for Windows 2003:

1. Collect your original security settings as described in [Installing the IIS Web Server on Windows](#) on page 110 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.
2. If not already installed, install the OA Report subsystem and any other required subsystems or client software. See [Installing Avaya OA components on a Windows platform](#) on page 32.
3. On the Windows Web server, stop Stumbras-Tomcat service (via Services as described in [Starting and stopping OA-related processes](#) on page 41 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting*).
4. Delete the folder at:
`%PABASE%\stumbras\tomcat\work\localhost_8080`
5. Select **Start > Programs > Administrative Tools > Internet Information Services Manager**.
6. Expand the tree view **server-name > Web Sites > Default Web Site**.
7. Right click **Default Web Site** and expand to **New > Web Site**.
8. Click **Next** to continue.
 - a. Enter `stumbras` for description.
 - b. Enter an unused port number. For example: **81** for the TCP port. Leave **IP Address** set to **All Unassigned**. No Host Header is needed.
 - c. Enter `C:\inetpub\wwwroot` for the home directory path and leave the rest of the default settings for the Web Site Home Directory page.
 - d. Select the **Execute** box and accept the rest of the default settings for the Web Site Access Permissions page.
 - e. Click **Next**. Click **Finish**.
9. Right click **Default Web Site** and expand to **New > Virtual Directory**.
10. Click **Next** to continue.
 - a. Enter `jakarta` for the Alias in the **Virtual Directory Alias** page.
 - b. Enter the path of the Stumbras-Tomcat install directory (for example, `%PABASE%\stumbras\tomcat\bin`).
 - c. Select the **Execute** box and accept the rest of the default settings for the **Access Permissions** page.
11. Right click on the new Web site **Stumbras > Properties**.
 - a. Click on the **ISAPI Filters** tab.
 - b. Click **Add**.

- c. In the **Filter Name** box enter: `isapi`
 - d. Enter:


```
%PABASE%\stumbras\tomcat\bin\isapi_redirect.dll
```
 - e. Click **OK**. Click **Apply**.
 - f. Select the **Directory Security** tab.
 - g. Click **Edit** under the Anonymous access and authentication control section.
 - h. Verify that only the **Anonymous access** box is selected in the first section and the **Integrated Windows authentication** box is selected in the **Authenticated access** section.
 - i. Click **OK**.
 - j. Click **Apply**.
12. Expand **Stumbras** in the tree-view.
 13. Right click on **jakarta > Properties**.
 - a. Click on the **Directory Security** tab.
 - b. Click **Edit** under the **Anonymous access** and **Authentication control** section.
 - c. Verify that only the **Anonymous access** box is selected in the first section.
 - d. Click **Edit** next to **Account used for anonymous access**.
 - e. In the **Anonymous User Account** window, enter the OA user ID entered during installation into the **Username** box. For example: `oauser`. Make sure the **Allow IIS to control password** is selected. Click **OK**, **Apply**, and **OK**.
 14. Select **Start > Programs > Administrative Tools > Services**.
 15. Start the Stumbras-Tomcat service.
 16. Start the browser report from `http://<servername>:<port number>/reports1` where `<servername>` is the name of the report server and `<port number>` is the port number entered earlier in this procedure.
 17. Go back into the Default Web site (**server-name > Default Web Site**) and reset the security settings as noted in [Installing the IIS Web Server on Windows](#) on page 110 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.

Adding external jobs

External jobs are custom-designed instruction sets that specify when certain processes should be executed. Any *.bat, *.cmd or *.exe executable can be added to the OA Administration client and scheduled to run just once or periodically. Develop the batch script or program and test it through stand-alone use. Include any necessary parameters to verify that it completes without problems. Copy the script or program to %PABASE%\add_on\external\bin (Windows) or \$PABASE/add_on/external/bin (Solaris and AIX).

When you start the Administration Client again you will see the new job in the **Scheduled Jobs, Job Type** drop-down combo-box. You can then select the program and click on **Add** to schedule the job. The console output of the job will be sent to an automatically generated log file in the %PABASE%\add_on\external\bin\output (Windows) or \$PABASE/add_on/external/bin/output (Solaris and AIX) directory and the log file name will have a time-stamp to indicate when it was run.

Note:

If the program calls sub-scripts, these files should not be placed in the %PABASE%\add_on\external\bin (Windows) or \$PABASE/add_on/external/bin (Solaris and AIX) directory since they will also be visible to the administration client.

Refer to the *Administration Client Help* for more information.

■ ■ ■ ■ ■ ■ ■ Configuring Avaya OA subsystems and event collectors

This section describes how to configure the various subsystems, client software, and data collection software of OA. The OA software is configured using the OA Administration client to permit data collection and reporting. Before you can configure the Event Collector server for Avaya IC, you must administer the Real-time subsystem and create a corresponding IC source subsystem in Avaya OA.

If your installation includes CMS (whether or not it includes Avaya IC) you must add CMS and ACD source subsystems.

This section includes the following topics:

- [Administration client options](#) on page 118
- [Starting the Avaya OA Administration client](#) on page 121
- [Adding a Real-time subsystem](#) on page 123
- [Adding an Avaya IC Source subsystem](#) on page 126
- [Adding a CMS subsystem](#) on page 128
- [Adding an ACD Source subsystem](#) on page 130
- [Adding a Report subsystem](#) on page 132
- [Administering the Source-EC \(Event Collector\) server](#) on page 135
- [Administering the Source-EC Bridge \(Event Collector Bridge\)](#) on page 143
- [Completing initial administration](#) on page 147

Refer to the *Administration Client Help* for more information.

Administration client options

Before you configure subsystems and event collectors, you may want to set options on the Administration client.

This section includes the following topics:

- [Customizing the Administration client](#) on page 118
- [Setting the archive time zone definition](#) on page 120

Customizing the Administration client

The Administration client installation process creates two HTML files in the `%PABASE%` directory, `AdminPol.html` and `AdminSig.html`. To launch the Administration client, one of these HTML files is used. To use the Java policy file security model, use `AdminPol.html`. To use the signed jar file security model, use `AdminSig.html`.

Both of the HTML files include a set of applet parameters that can be customized. All of the applet parameters are set to a default value at the time of installation. In most cases, these parameters will never need to be changed.

 **CAUTION:**

Care must be taken when changing any of these values as it can cause the HTML file to become corrupt and you will not be able to launch the Administration client. Before editing either of the files, make a backup version of the original files (for example, `AdminPol.html.orig` and `AdminSig.html.orig`).

Lines in the HTML file that specify the value of an applet parameter have the following format:

```
<PARAM NAME="name" VALUE="value">
```

The applet parameters that can be customized include:

Parameter name	Value
SERVER_NAME	Host name for historical server to which the client will connect. This is set to the historical server specified during installation.

Parameter name	Value
LOCALE	Set to the locale of the language selected during install. zh_CN - Chinese (Simplified) zh_TW - Chinese (Traditional) en_US - English (US) [default value] fr_FR - French (Parisian) de_DE - German (Traditional) hu_HU - Hungarian it_IT - Italian ja_JP - Japanese ko_KR - Korean (South Korea) pt_BR - Portuguese (Brazilian) re_RU - Russian es_CO - Spanish (Colombian) th_TH - Thai
FONT	Arial Unicode MS (default value)
TRACE_LEVEL	Logging trace level: 10, 20 or 30.
CORBA_TRACE	Turns on/off Corba trace ability (yes/no).
DAYLIGHT_APPLIES	Set to yes only when custom daylight savings settings are needed.
DAYLIGHT_START	Set to start date only when custom daylight savings settings are needed.
DAYLIGHT_END	Set to end date only when custom daylight savings settings are needed.
DAYLIGHT_CLOCK_CHANGE	Clock offset, only when custom daylight savings settings are needed.

Changing fonts - By default the Arial Unicode MS font will be used for the `FONT` parameter. This font is capable of displaying the characters in any language. The associated TTF file (**ARIALUNI.TTF**) is installed into the `%windir%\Fonts` directory. When the administration client is uninstalled, this font will not be removed. This is done to prevent removing a file that existed before OA was installed.

The `FONT` parameter can be set to any other valid, installed font. For example, to better display simplified Chinese, someone might want to use the SimSun font. As long as the OS has that font, the `FONT` applet parameter can be changed to use the font. For most installations, the default font will be adequate and no modification of this parameter is needed.

Administering multiple OA sites - The Administration client is installed on Windows machines that are typically separate from the OA servers. It is possible to use one Administration client to administer multiple, independent OA installations. To set this up for multiple OA installations, the HTML files that are used to launch it are set at installation with the name of the historical server to which the client should connect. If there are multiple OA servers that you want to access from a single Administration client install, you need to edit the appropriate HTML file to point the client to the historical server for each OA install. If signed jar files are being used, edit the %PABASE%\AdminSig.html file. If java policy files are being used, edit the %PABASE%\AdminPol.html file. By default java policy files are used. In either case, the following line in the HTML file needs to be altered:

```
<PARAM NAME="SERVER_NAME" VALUE=xxxxx>
```

Replace **xxxxx** with the fully qualified domain name for the historical server of the OA to be administered from this client. The next time the Administration client is launched, it will connect to the new historical server. This file is found on the client machine. See [Appendix B: Networking](#) on page 141 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites* for more information.

Setting the archive time zone definition

Most time zones will have more than one time zone definition. For example, GMT+8 has 14 different definitions, including Australia/Perth and Asia/Singapore. When an upgrade is done to OA 7.0, default time zones are used. By default, the Administration client defaults to Australia/Perth if the corresponding 6.1.3 start of day equates to midnight GMT+8.

To change the archive time zone definition:

1. Open the Administration client (see [Starting the Avaya OA Administration client](#) on page 121 for more information).

2. Select **Container Archives**.

The **Container Archives** screen displays in the right pane.

3. Under **Archive Time Zone**, if the selected time zone definition does not match **Local (Client) time zone**, select the proper time zone definition. For example, if it is set to the default of **Australia/Perth** and you are in Singapore, select **Asia/Singapore**.

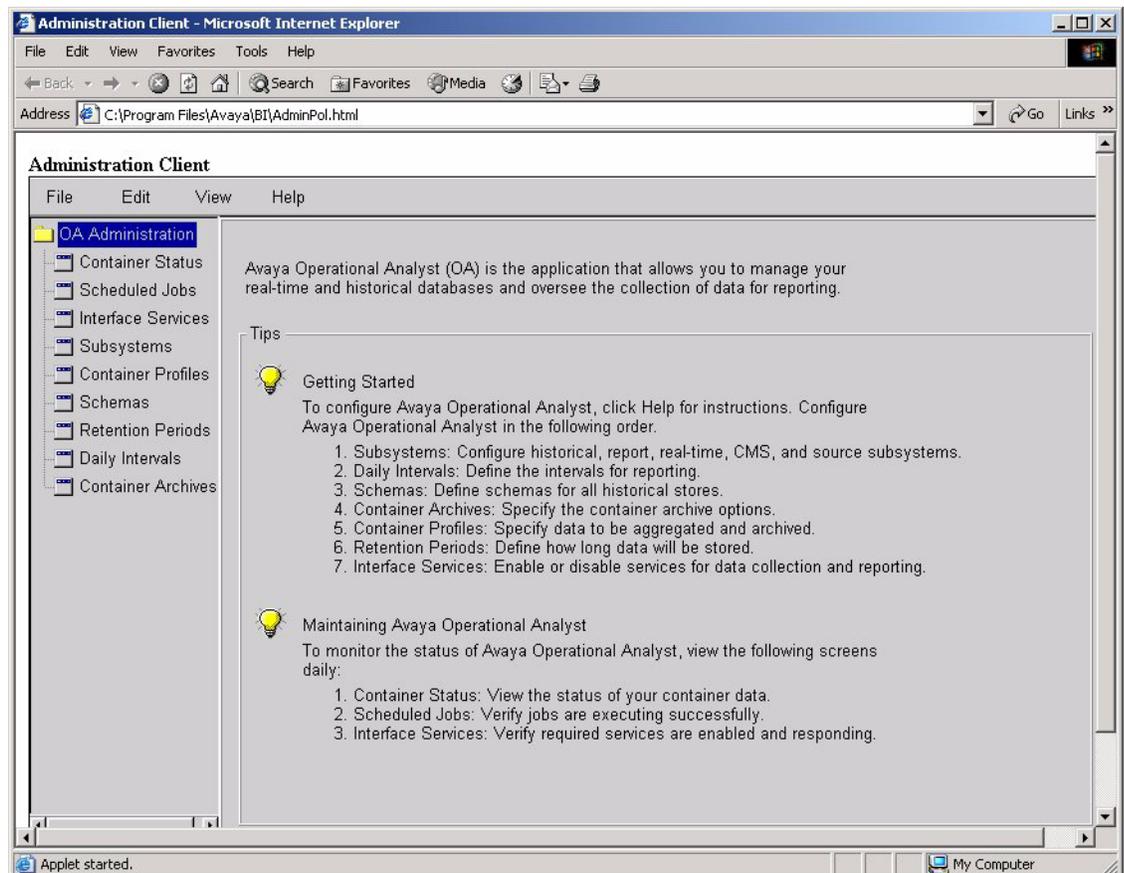
4. Click **Save**.

Starting the Avaya OA Administration client

To start OA Administration client:

1. Go to the directory where you installed the Administration client.
2. Double-click on the `AdminPol.html` file in that directory.
The **Administration Login** dialog box is displayed.
3. Enter the user ID and password.
4. Click **OK**.

The OA **Welcome** dialog box is displayed for a few seconds, followed by the **Administration Client** screen.



Configuring Avaya OA subsystems and event collectors

5. Administer the appropriate subsystems:

- [Adding a Real-time subsystem](#) on page 123
- [Adding an Avaya IC Source subsystem](#) on page 126
- [Adding a CMS subsystem](#) on page 128
- [Adding an ACD Source subsystem](#) on page 130
- [Adding a Report subsystem](#) on page 132
- [Administering the Source-EC \(Event Collector\) server](#) on page 135
- [Administering the Source-EC Bridge \(Event Collector Bridge\)](#) on page 143

Note:

The Historical subsystem is added automatically when OA is installed.

Adding a Real-time subsystem

To add a Real-time subsystem:

1. In the **OA Administration** tree, select **Subsystems**.

The **Subsystems** administration screen is displayed in the right pane.

2. Click **Add**.

The **Add Subsystem** screen is displayed.

3. Select the **Real-time** option under **Type**.

The **Add Subsystem** screen is displayed showing the fields required to add a Real-time subsystem.

The screenshot shows the 'Add Subsystem' dialog box with the following fields and options:

- Subsystem properties:**
 - Type:** Radio buttons for Historical, Report, Real-time (selected), CMS, and Source.
 - Name:** Text field containing 'denver-real-time'.
 - Location:** Radio buttons for Internet domain name (selected) and IP address. The Internet domain name field contains 'galapagos.dr.avaya.com'.
 - Source ID:** Radio buttons for Automatic generation (selected) and Manual generation.
- Data servers:**
 - Number of report data servers:** Text field containing '1'.

Buttons: OK, Cancel

4. Enter the **Name** of the server where the Real-time subsystem is installed.

Configuring Avaya OA subsystems and event collectors

5. Enter the **Location** of the server where the Real-time subsystem is installed. You can enter the **Internet domain name** (the fully-qualified domain name) or the **IP address** of the server.

Depending on what you enter, one of the following occurs:

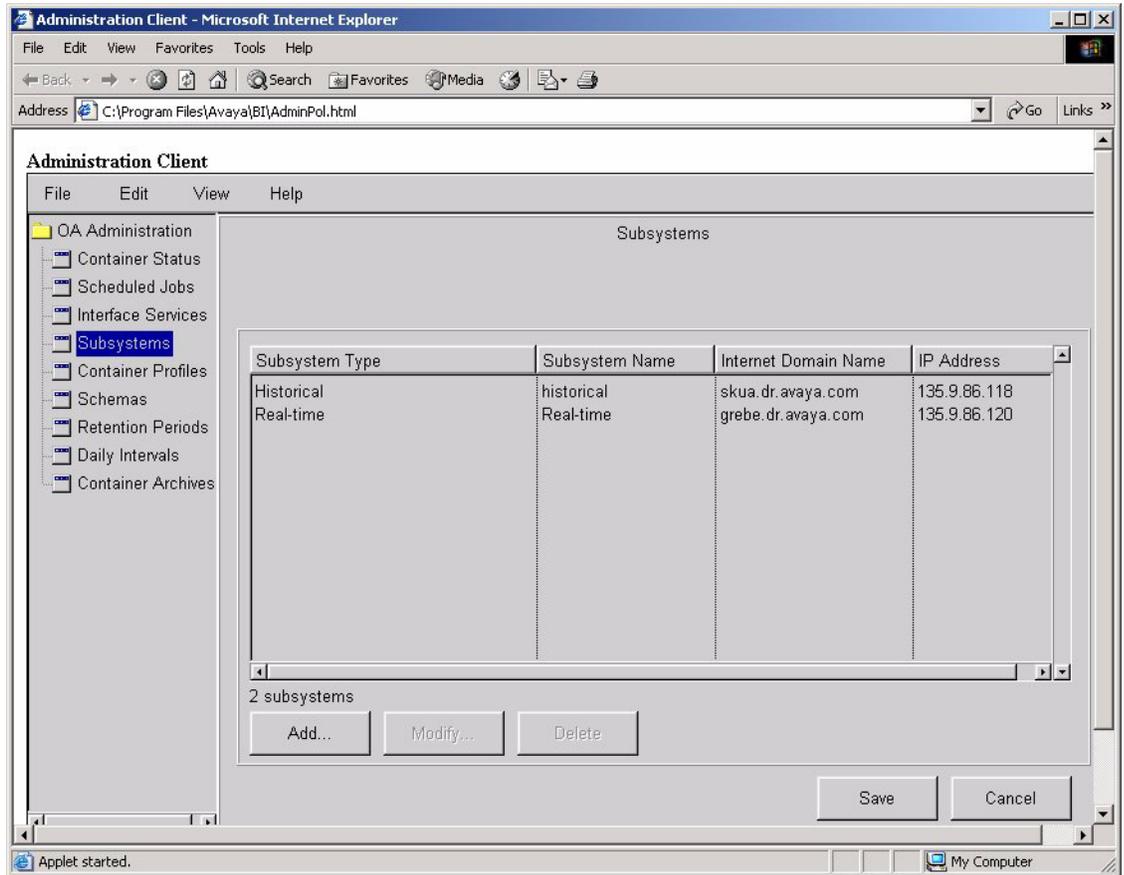
- If you enter a domain name and the IP address is found using DNS or entries in a hosts file, you may proceed to the next step.
- If you enter a domain name and the IP address cannot be determined using DNS or entries in a hosts file, you may not proceed to the next step until you have fixed the DNS administration or have updated the hosts file.
- If you enter an IP address and its associated domain name is found, you may proceed to the next step.
- If you enter an IP address and its associated domain name cannot be determined using DNS or entries in a hosts file, the following message is displayed:

**The Internet domain name associated with the IP address could not be found.
Do you wish to continue using the specified IP address?**

You can proceed to the next step, but you should fix the DNS administration or update the hosts file.

6. Click **OK**.

The new subsystem is added to the table in the **Subsystems** screen, as shown below.



7. Click **Save**.

The request is submitted to the server where the Historical subsystem is installed.

Adding an Avaya IC Source subsystem

You add an Avaya IC Source subsystem for each Event Collector to associate it with a Real-time subsystem.

To add an Avaya IC Source subsystem:

1. In the **OA Administration** tree, select **Subsystems**.

The **Subsystems** administration screen is displayed in the right pane.

2. Click **Add**.

The **Add Subsystem** screen is displayed.

3. Select the **Source** option under **Type**.

4. Select **Avaya Interaction Center** from the **Source Type** drop down list.

The **Add Subsystem** screen is displayed showing the options for an IC Source subsystem.

Add Subsystem

Subsystem properties

Type:

- Historical
- Report
- Real-time
- CMS
- Source

Type:

Avaya Interaction Center

Source ID:

- Automatic generation
- Manual generation

Name:

Real-time data flow (Event collector/Data Manager)

Source subsystem:
The current subsystem

Real-time subsystem:

Historical data flow (Forwarders/Recorders)

Historical Store	Historical Subsystem
<input checked="" type="checkbox"/> Agent service class	historical
<input checked="" type="checkbox"/> Agent completion code	historical
<input checked="" type="checkbox"/> Agent job	historical
<input checked="" type="checkbox"/> Agent state	historical
<input checked="" type="checkbox"/> Job summary	historical
<input checked="" type="checkbox"/> Service class summary	historical
<input checked="" type="checkbox"/> Service class state	historical
<input checked="" type="checkbox"/> System completion code	historical
<input checked="" type="checkbox"/> Display names	historical

Forwarders are on the associated real-time server.

OK Cancel

5. Select **Automatic generation** to allow OA to generate a **Source ID**.

You will need this Source ID to configure the Event Collector server. See [Administering the Source-EC \(Event Collector\) server](#) on page 135 for more information.

6. In **Name**, enter a unique subsystem name.

Note:

Select a name that indicates which Real-time subsystem this Avaya IC source subsystem is associated with. This helps reduce confusion if your installation contains several Real-time subsystems and several Avaya IC source subsystems.

7. Select the name of the **Real-time subsystem** to which to send the data.
8. Select the checkbox next to the appropriate **Historical Store** and select the appropriate Historical subsystem.
9. Click **OK**.

The new subsystem is added to the table in the **Subsystems** screen.

10. Click **Save**.

The request is submitted to the server where the Historical subsystem is installed.

11. Repeat this procedure for each Event Collector and Real-time subsystem pair.

Adding a CMS subsystem

To add a CMS subsystem:

1. In the **OA Administration** tree, select **Subsystems**.

The **Subsystems** administration screen is displayed in the right pane.

2. Click **Add**.

The **Add Subsystem** screen is displayed.

3. Select the **CMS** option under **Type**.

The **Add Subsystem** screen is displayed showing the options for a CMS subsystem.

The screenshot shows the 'Add Subsystem' dialog box. The 'Type' section has 'CMS' selected. The 'Data Source ID' section has 'Automatic generation' selected. The 'Name' and 'Location' fields are empty. The 'Location' section has 'Internet domain name' selected.

4. Enter the **Name** of the CMS server.

5. Enter the **Location** of the CMS server. You can enter the **Internet domain name** (the fully-qualified domain name) or the **IP address** of the server.

Depending on what you enter, one of the following occurs:

- If you enter a domain name and the IP address is found using DNS or entries in a hosts file, you may proceed to the next step.
- If you enter a domain name and the IP address cannot be determined using DNS or entries in a hosts file, you may not proceed to the next step until you have fixed the DNS administration or have updated the hosts file.
- If you enter an IP address and its associated domain name is found, you may proceed to the next step.
- If you enter an IP address and its associated domain name cannot be determined using DNS or entries in a hosts file, the following message is displayed:

**The Internet domain name associated with the IP address could not be found.
Do you wish to continue using the specified IP address?**

You can proceed to the next step, but you should fix the DNS administration or update the hosts file.

6. Click **OK**.

The new subsystem is added to the table in the **Subsystems** screen.

7. Click **Save**.

The request is submitted to the server where the Historical subsystem is installed.

Adding an ACD Source subsystem

To start the flow of ACD data, you must first create a CMS subsystem, then add an ACD Source subsystem to link them together.

1. In the **OA Administration** tree, select **Subsystems**.

The **Subsystems Administration** screen is displayed in the right pane.

2. Click **Add**.

The **Add Subsystem** screen is displayed.

3. Select the **Source** option under **Type**.

4. Select **ACD** from the **Source Type** drop down list.

The **Add Subsystem** screen is displayed showing the options for an ACD subsystem.

Add Subsystem

Subsystem properties

Type:

Historical

Report

Real-time

CMS

Source

Type:

Source ID:

Automatic generation

Manual generation

Name:

CMS subsystem:

ACD number (1-8):

Real-time data flow (Event collector/Data Manager)

Not Applicable

Historical data flow (Forwarders/Recorders)

	Historical Store	Historical Subsystem	Static Data Collection Job Name
<input checked="" type="checkbox"/>	CMS agent summary	HistoricalSS	not applicable
<input checked="" type="checkbox"/>	CMS call work codes	HistoricalSS	not applicable
<input checked="" type="checkbox"/>	CMS skill summary	HistoricalSS	not applicable
<input checked="" type="checkbox"/>	CMS VDN summary	HistoricalSS	not applicable
<input checked="" type="checkbox"/>	CMS call history	HistoricalSS	not applicable
<input checked="" type="checkbox"/>	CMS display names	HistoricalSS	getSeattleAcid1DisplayName

Forwarders are on the associated CMS server.

OK Cancel

5. Leave the Source ID **Automatic generation** option selected.

6. Enter a name for the subsystem.
7. Select the associated CMS subsystem from the **CMS subsystem** drop down list.
8. Enter the **ACD number** (1-8) for this ACD. This must correspond to an ACD number administered on the CMS server.
9. Select the types of data that should be kept in the Historical subsystem.
10. Enter a name for the static data collection job that will be created.
11. Click **OK**.

The new subsystem is added to the table in the **Subsystems** screen. Up to eight ACDs can be added for each CMS. Up to 30 CMS servers can be handled by OA, for a total of up to 240 ACDs.

12. Click **Save**.

The request is submitted to the server where the Historical subsystem is installed.

Adding a Report subsystem

To generate reports about the data you have collected, you must add a Report subsystem:

1. In the **OA Administration** tree, select **Subsystems**.

The **Subsystems** administration screen is displayed in the right pane.

2. Click **Add**.

The **Add Subsystem** screen is displayed.

3. Select the **Report** option under **Type**.

The **Add Subsystem** screen is displayed with the options for the Report subsystem.

The screenshot shows a dialog box titled "Add Subsystem" with a close button (X) in the top right corner. The dialog is divided into two main sections: "Subsystem properties" and "Report services".

Subsystem properties:

- Type:** Radio buttons for Historical, **Report** (selected), Real-time, CMS, and Source.
- Location:** Radio buttons for **Internet domain name** (selected) and IP address.
- Source ID:** Radio buttons for **Automatic generation** (selected) and Manual generation.

Report services:

- Report framework

At the bottom right, there are "OK" and "Cancel" buttons.

4. Enter the **Name** of the server where the Report subsystem is installed.

5. Enter the **Location** of the server where the Report subsystem is installed. You can enter the **Internet domain name** (the fully-qualified domain name) or the **IP address** of the server.

Depending on what you enter, one of the following occurs:

- If you enter a domain name and the IP address is found using DNS or entries in a hosts file, you may proceed to the next step.
- If you enter a domain name and the IP address cannot be determined using DNS or entries in a hosts file, you may not proceed to the next step until you have fixed the DNS administration or have updated the hosts file.
- If you enter an IP address and its associated domain name is found, you may proceed to the next step.
- If you enter an IP address and its associated domain name cannot be determined using DNS or entries in a hosts file, the following message is displayed:

The Internet domain name associated with the IP address could not be found. Do you wish to continue using the specified IP address?

You can proceed to the next step, but you should fix the DNS administration or update the hosts file.

6. Click **OK**.

The new subsystem is added to the table in the **Subsystems** screen.

7. Click **Save**.

The request is submitted to the server where the Historical subsystem is installed.

8. Restart the Report subsystem on the server where the Report subsystem is installed. Do one of the following:

- For Windows:
 - i. Log in using the appropriate user ID and password (see [Creating user IDs and group IDs on Windows servers](#) on page 96 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).
 - ii. Select **Start > Programs > Administrative Tools > Services**.
 - iii. Stop and restart the Stumbras-Tomcat service.
- For Solaris:
 - i. Log in using the appropriate user ID and password (see [Creating user IDs and group IDs on Solaris servers](#) on page 99 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).

Configuring Avaya OA subsystems and event collectors

- ii. Enter the following commands:

```
. /opt/BI/.profile
cd $SUN_WEB_HOME/https-stumbras
./stop
./start
```

The following message is displayed.

```
.
.
.
The server is currently on
```

- For AIX:

- i. Log in using the appropriate user ID and password (see [Creating user IDs and group IDs on AIX servers](#) on page 105 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).

- ii. Enter:

```
. /opt/BI/.profile
```

- iii. Enter the following command to stop the WebSphere software:

```
stopWebSphere -w $WEBSHERE_HOME -s servername -u userID
-p userpassword
```

- iv. Enter the following commands to start the WebSphere software:

```
startWebSphere -w $WEBSHERE_HOME -s servername -h HTTP_ROOT
-u userID -p userpassword
```

where *\$WEBSHERE_HOME* is the installation path WebSphere (default is /usr/WebSphere/AppServer), *servername* is the WebSphere Application Server Name under which OA Reports is deployed (default is server1), *HTTP_ROOT* is the installation path for the HTTP Server (default is /usr/IBMIHS), *userID* is the user ID administered for Global Security on WebSphere, and *userpassword* is the password for that user ID.

Note:

If the default values are used for *\$WEBSHERE_HOME*, *servername*, or *HTTP_ROOT* then do not use these options. If a Global Security user ID has not been administered, do not use the user and password options.

The following message is displayed.

```
.
.
.
ADMU3000I: Server server1 open for e-business; process id is XXXXX
```

Administering the Source-EC (Event Collector) server

After you have created an Avaya IC Source subsystem, you must configure the Source-EC (Event Collector) server. The Event Collector server collects many types of data from ADU servers, including agent data, queue data, service class data, and outbound job statistics. There is a one-to-one relationship between each Event Collector server and the associated OA Real-time subsystem to which it sends data. If you have more than one Real-time subsystem, you will need more than one Event Collector server.

Before you administer an Event Collector server, you must know the following information:

- The Real-time System ID (Source ID) of the OA Real-time subsystem that will receive data from the Event Collector server.
- The host system name (or IP address) of the server where the Real-time subsystem is installed that will receive data from the Event Collector server. See [Adding a Real-time subsystem](#) on page 123.
- Which Avaya IC domains the Event Collector server will monitor for agent ADU data. The list of monitored domains for an Event Collector server must include all the domains at the site that contain agents and all the domains containing ADU servers that monitor agents at the site.
- Which Event Collector server (if more than one) will monitor service class detail data for web channels (for example, chat and e-mail).

This section includes the following topics:

- [Determining Real-time System ID and Data Manager Host](#) on page 136
- [Administering the Event Collector server](#) on page 137

Determining Real-time System ID and Data Manager Host

The **Real-time System ID** and **Data Manager Host** values are required to administer the Event Collector Server. You input these values on the **Event Collector** tab of the Event Collector **Server Editor** window in Steps 18 and 19 of [Administering the Source-EC \(Event Collector\) server](#) on page 135.

Follow these steps to determine the values of Real-time System ID and Data Manager Host from the **Subsystems** window of the OA Administration client:

1. On the Subsystems window, locate the Real-time subsystem that is communicating with this Event Collector instance. Its row displays the host name and IP address information in the appropriate columns of the table.
2. Select the Avaya IC data source associated with the selected Real-time subsystem.

Note:

If you do not know the subsystem name of the Avaya IC data source, you may have to select several data sources until you locate the correct one.

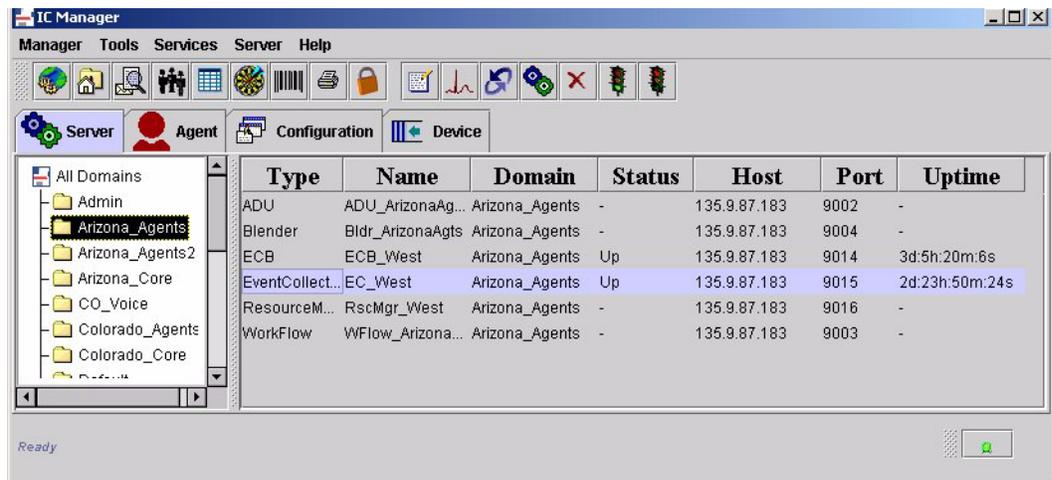
3. Press **Modify**.
4. The **Modify Subsystem** dialog box is displayed.
5. Verify the **Real-time subsystem** field matches the Real-time subsystem you selected in Step 1.
6. The Real-time System ID is the value displayed in the **Source ID** field.

Administering the Event Collector server

To administer the Event Collector Server:

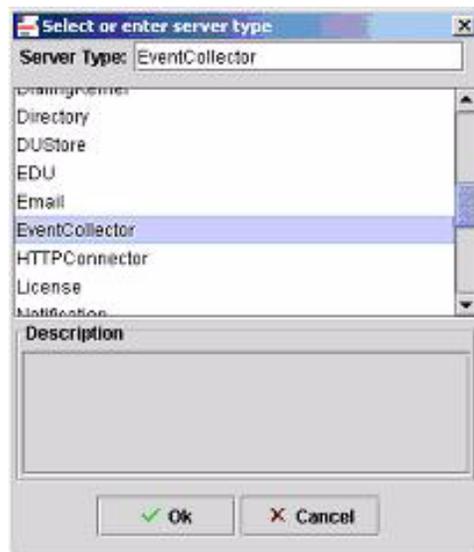
1. In the **IC Manager** administration window, select the **Server** tab.

The **Server** tab displays information on each of the servers.



2. Select **Server > New...**

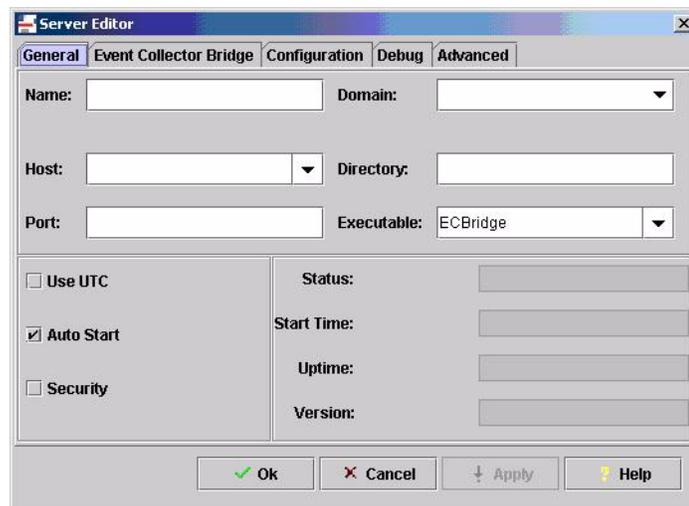
The **Select or enter server type** dialog box is displayed.



Configuring Avaya OA subsystems and event collectors

3. Select **EventCollector** from the **Server Type** list and click **Ok**.

The **Server Editor** dialog box is displayed.



The screenshot shows the 'Server Editor' dialog box with the 'General' tab selected. The 'Event Collector Bridge' tab is also visible. The 'Name' field is empty. The 'Domain' dropdown is set to a default value. The 'Host' dropdown is empty. The 'Directory' field is empty. The 'Port' field is empty. The 'Executable' dropdown is set to 'ECBridge'. There are checkboxes for 'Use UTC' (unchecked), 'Auto Start' (checked), and 'Security' (unchecked). There are input fields for 'Status', 'Start Time', 'Uptime', and 'Version'. At the bottom, there are buttons for 'Ok', 'Cancel', 'Apply', and 'Help'.

4. Enter the name of the Event Collector server in the **Name** field.

Select a meaningful name. If you will define multiple Event Collector servers, use a unique name for each Event Collector server.

5. Select the IP address where the Event Collector server will run from the **Host** drop-down box.

The Event Collector server should run on the same host as the agent ADU servers that it monitors.

6. Accept the default **Port** number.

7. Select the Avaya IC **Domain** within which this instance will run.

See *Avaya Interaction Center Release 7.0 Installation Planning and Prerequisites* for more information on determining the proper domain.

8. Accept the default directory where Avaya IC will execute. This directory will be:

- For Windows, `%AVAYA_IC70_HOME%\etc`
- For Solaris and AIX, `$AVAYA_IC70_HOME/etc`

9. Accept the path and filename in the **Executable** field:

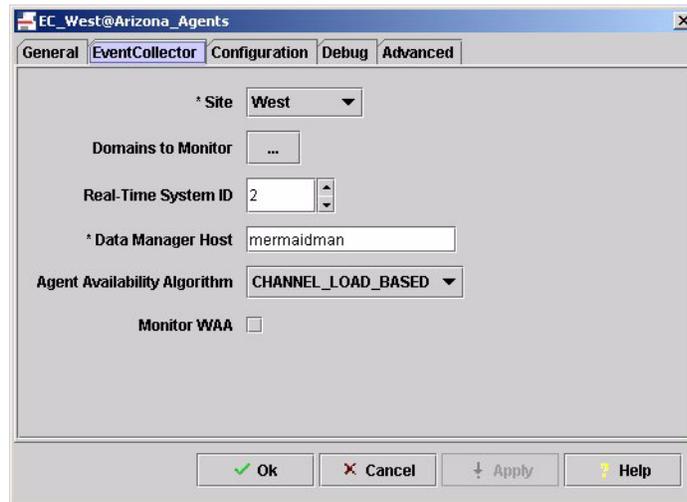
- For Windows, `%AVAYA_IC70_HOME%\bin\ECServer`
- For Solaris and AIX, `$AVAYA_IC70_HOME/bin/ECServer`

10. Select **Auto Start**. Clear **Use UTC** and **Security**.

Important:

After configuring the Event Collector server, verify that all ADU and Directory servers are configured to use GMT.

11. Select the **Event Collector** tab.



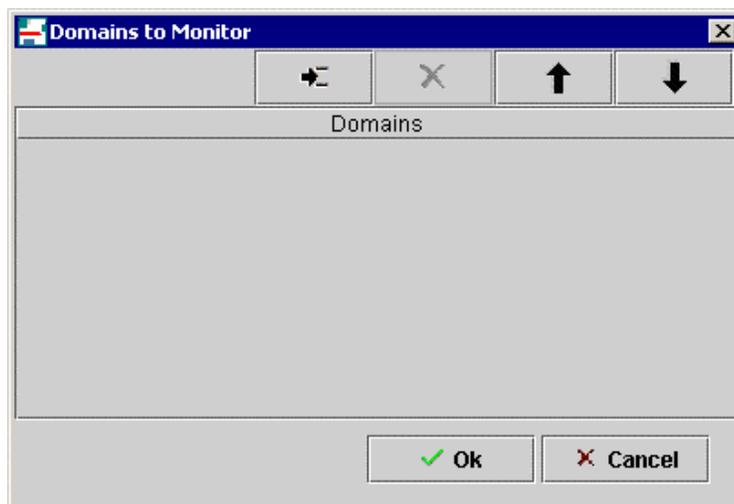
12. Select the site associated with this instance of Event Collector server from the **Site** drop-down list.

Note:

This value must always match the site configured for the Telephony Queue Statistics server (or servers) from which the Event Collector server will collect Telephony Server Queue statistics.

13. Choose the domains that the Event Collector server will monitor by clicking on the ellipses (...) after the **Domains to Monitor** field.

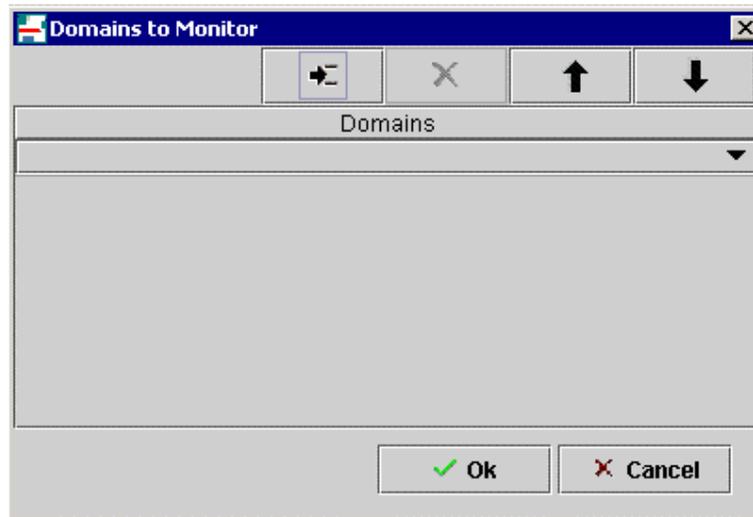
The **Domains to Monitor** dialog box is displayed.



Configuring Avaya OA subsystems and event collectors

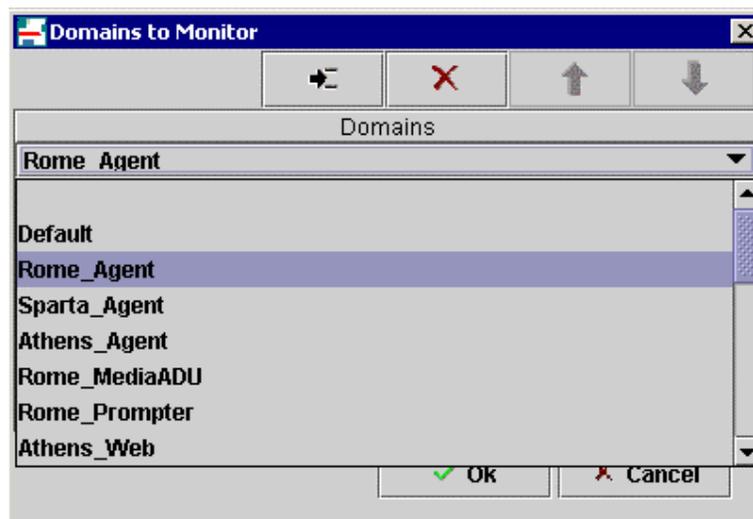
14. To add a domain, select **>=** in the dialog.

The **Domains to Monitor** dialog box is displayed with a drop-down list.



15. Click the **Domains** drop-down list.

A list of domains is displayed.



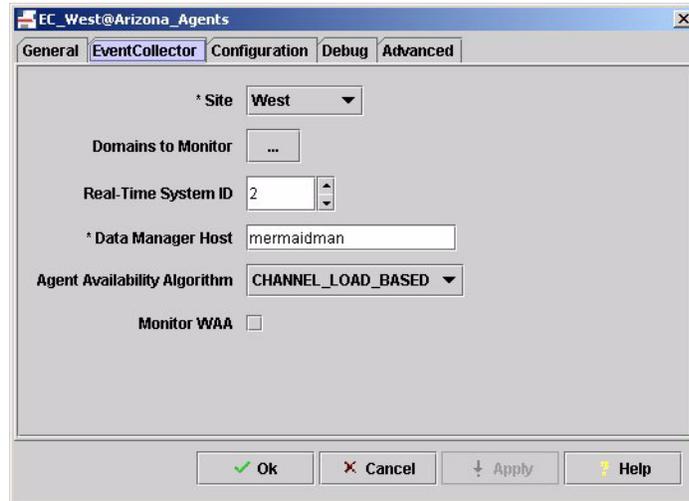
16. Click on the domain you want to add. Repeat the same process for each domain you want to add.

The list of monitored domains for an Event Collector server must include all the domains at the site that contain agents and all the domains containing ADU servers that monitor agents at the site. For example, if the agents at site **taos** are configured to be in domains **taos_user1** and **taos_user2**, and the ADU servers monitoring those agents are in domains **taos_voice1** and **taos_voice2**, then the Event Collector for site

taos must be configured to monitor domains **taos_user1**, **taos_user2**, **taos_voice1**, and **taos_voice2**. The order that the domains are listed does not matter.

- When you are done adding domains, select **Ok**.

The **EventCollector** tab is displayed.



CAUTION:

If the configuration has two Event Collector servers, do not use the same value when administering the Real-time System ID and the Data Manager Host in the next two steps. If the same value is assigned, the connection to the servers will not stay active.

- Enter the **Real-time System ID** associated with the real time system that is to receive data from this Event Collector server instance.

Note:

Real-time System IDs are numeric values that a system administrator assigns and associates with an OA Real-time subsystem during OA subsystem administration. The Real-time System ID must match the Source ID configured for the OA Real-time system. Refer to [Determining Real-time System ID and Data Manager Host](#) on page 136 for information on obtaining the Source ID.

- Enter the **Data Manager Host** for this Event Collector server instance. This is the name or IP address of the server hosting the OA Real-time subsystem that is to receive data from this Event Collector server instance. The OA Real-time subsystem can be co-located on the same machine as the Event Collector server. If this is the case, use the name or IP address of the system hosting both Avaya IC and the OA Real-time subsystem.
- The **Agent Availability Algorithm** should be configured as follows:

Configuring Avaya OA subsystems and event collectors

- Inbound Availability: If **advocateflag=1** for an agent, OA should apply the agent load based algorithm in determining agent availability. Otherwise, OA should use the agent or channel-based availability algorithm as specified by the EC configuration.
- Agent load based: If the summation of **media.contactcount** is less than **load**, set availability to **available**; otherwise, set availability to **unavailable**.
- Channel load based: If the summation of **media.contactcount** is less than the summation of **media.load**, set availability to **available**; otherwise, set availability to **unavailable**.

These configuration options indicate that if the agent is an Advocate agent, the agent load based algorithm is automatically used. If the agent is non-Advocate, the algorithm will be used based on the setting chosen during the EC configuration in IC Manager.

21. The **Monitor WAA** field specifies whether this EC instance will listen to service class details for web channels (for example, chat and e-mail). The default value is **No**. Only one EC server in an installation can monitor the WAA. Avaya recommends that the EC instance at the same site as the WAA should monitor the WAA.
22. Select the **Debug** tab.
23. Click the ellipses (...) next to **Trace levels**.
24. In the **Trace Levels** dialog box, set the fields as shown in the following table:

Field	Recommended entry
idl	Clear this option.
flush	Clear this option.
usr5	Select this option. This causes the Event Collector server to log messages to the trace file. This trace file may assist in troubleshooting problems.

25. Click **Ok**.

For more information about the other options in the **Trace Levels** dialog box, see *Avaya IC Administration Volume 1: Servers and Domains*.

26. Click **Ok** to complete the Event Collector server administration.

For troubleshooting information see [Troubleshooting data collection problems](#) on page 122 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting*.

Administering the Source-EC Bridge (Event Collector Bridge)

If you have installed Business Advocate, you must configure the Source-EC Bridge (Event Collector Bridge). The Event Collector Bridge functions as a gateway between the Event Collector and Avaya Business Advocate. It queries Business Advocate data and collects Business Advocate administration events that are published to Microsoft Message Queuing (MSMQ) by Business Advocate. This data is sent to the Event Collector which in turn forwards the data to the OA Real-time subsystem. This data supports OA real-time and historical reporting requirements.

Before you administer an Event Collector Bridge, you must know the system name of the primary Business Advocate Avaya IC subsystem. If there is only one Business Advocate subsystem installed, that subsystem will be the primary Business Advocate subsystem. If there are multiple Business Advocate subsystems installed, the first subsystem that was installed will be designated as the primary Business Advocate subsystem.

Note:

The system name of the primary Business Advocate system is a system name and *not* an IP address. This is the name of the system as it is known by the MSMQ subsystem.

To administer the Event Collector Bridge:

1. In the **IC Manager** administration window, select the **Server** tab.

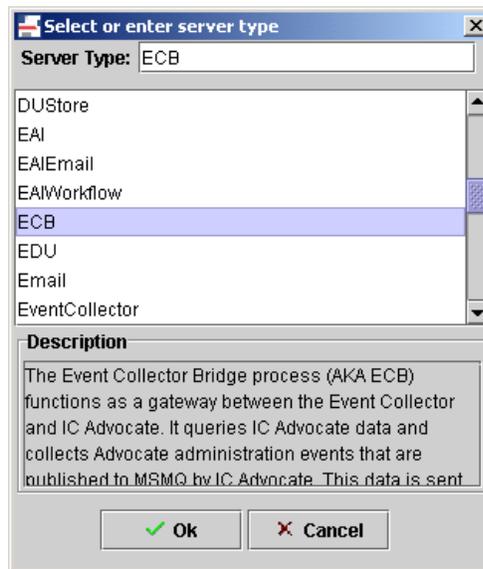
The **Server** tab displays information on each of the servers.

Type	Name	Domain	Status	Host	Port	Uptime
ADU	ADU_ArizonaAg...	Arizona_Agents	-	135.9.87.183	9002	-
Blender	Bldr_ArizonaAgts	Arizona_Agents	-	135.9.87.183	9004	-
ECB	ECB_West	Arizona_Agents	Up	135.9.87.183	9014	3d:5h:20m:6s
EventCollect...	EC_West	Arizona_Agents	Up	135.9.87.183	9015	2d:23h:50m:24s
ResourceM...	RscMgr_West	Arizona_Agents	-	135.9.87.183	9016	-
WorkFlow	WFlow_Arizona...	Arizona_Agents	-	135.9.87.183	9003	-

Configuring Avaya OA subsystems and event collectors

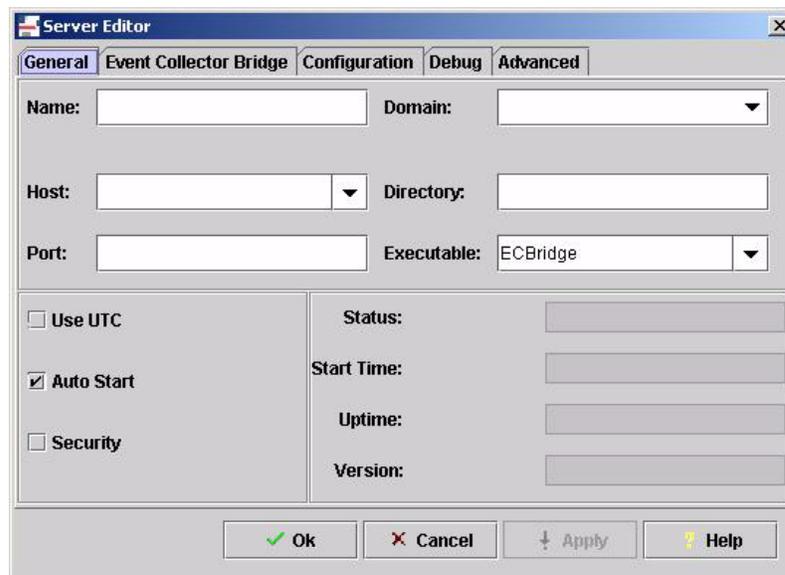
2. Select **Server > New...**

The **Select or enter server type** dialog box is displayed.



3. Select **ECB** from the **Server Type** list and click **Ok**.

The **Server Editor** dialog box is displayed.



4. Enter the name of the Event Collector Bridge in the **Name** field.

Select a meaningful name. If you are defining multiple Event Collector Bridges, use a unique name for each.

5. Select the IP address where the Event Collector Bridge will run from the **Host** drop-down box.

The Event Collector Bridge must run on the same host where Business Advocate is installed.

6. Accept the default **Port** number.

7. Select the Avaya IC **Domain** in which this instance will run.

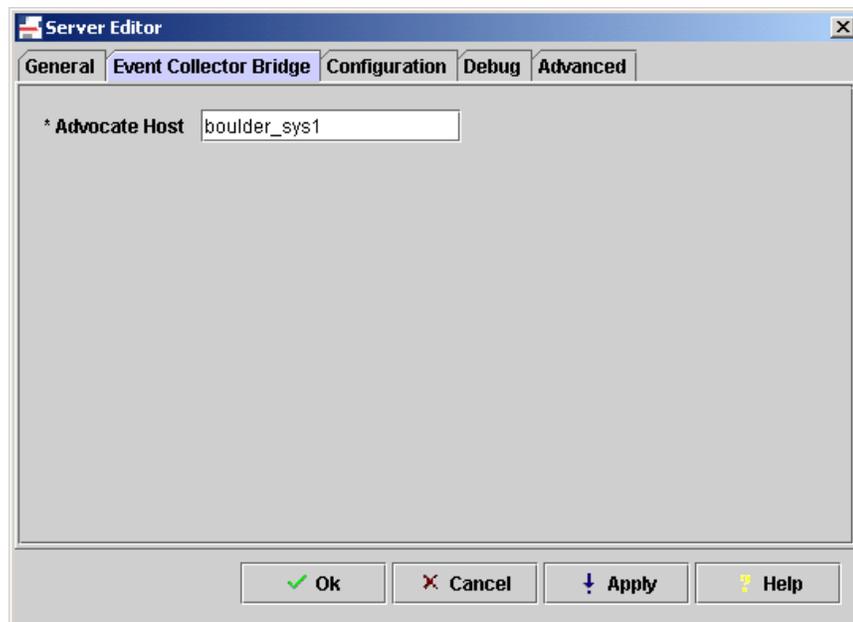
This should be the same domain as the Business Advocate Resource Manager which is installed on the same system as the Event Collector Bridge. See *Avaya Interaction Center Release 7.0 Installation Planning and Prerequisites* for more information.

8. Accept the default directory where Avaya IC will execute. This directory will be `%AVAYA_IC70_HOME%\etc`.

9. Accept the path and filename in the **Executable** field, `%AVAYA_IC70_HOME%\bin\ECServer`.

10. Select **Auto Start**. Clear **Use UTC** and **Security**.

11. Select the **Event Collector Bridge** tab.



12. Specify the name of the primary Business Advocate host system. This is the host name as known to the MSMQ subsystem for the first (or only) installed Business Advocate subsystem.

! Important:

Do not use an IP address for the Business Advocate host name.

13. Select the **Debug** tab.

Configuring Avaya OA subsystems and event collectors

14. Click the ellipses (...) next to **Trace levels**.

15. In the **Trace Levels** dialog box, set the fields as shown in the following table:

Field	Recommended entry
idl	Clear this option.
flush	Clear this option.
usr5	Select this option. This causes the Event Collector server to log messages to the trace file. This trace file may assist in troubleshooting problems.

16. Click **Ok**.

For more information about the other options in the **Trace Levels** dialog box, see *Avaya IC Administration Volume 1: Servers and Domains*.

17. Click **Ok** to complete the Event Collector Bridge administration.

For troubleshooting information see [Troubleshooting data collection problems](#) on page 122 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting*.

Completing initial administration

Tasks that are administered using the OA Administration client are not covered in this document. These tasks include:

- Activating the remaining subsystems and interface services
- Defining daily intervals
- Configuring data collection properties
- Setting data retention time (Max Capacity)
- Designing data containers
- Aggregating and archiving data
- Purging data
- Maintaining data consistency
- Activating appropriate CMS Aux Reason Code columns

These topics are described in the *Administration Client Help* for the OA Administration client. Your Avaya planning and installation support representative or your Avaya Business Partner can provide support with these database administration tasks.

■ ■ ■ ■ ■ ■

Making changes to installed Avaya OA components

You can change your OA installation by doing any of the following:

- Add - add subsystems or client software that were not previously installed, or that were once installed but were previously removed
- Repair - repair corrupted files by reinstalling subsystems or client software that were previously installed, thereby replacing the corrupted files
- Move - move subsystems between servers
- Remove - remove subsystems or client software that were previously installed, or remove the entire OA software package

This section includes the following topics:

- [Preparation checklist](#) on page 150
- [Stopping or starting processes and services before making changes](#) on page 151
- [Adding Avaya OA components](#) on page 155
- [Repairing Avaya OA components](#) on page 193
- [Moving subsystems](#) on page 221
- [Changing subsystem attributes](#) on page 232
- [Removing Avaya OA components](#) on page 243

Important:

If you are planning to upgrade your OA software to the latest version, do not do any additions or repairs to existing components until you have first upgraded your OA software. For instructions on how to upgrade to a new version of Avaya OA software, see [Upgrading Avaya OA software](#) on page 269.

Preparation checklist

Before you make any changes to your OA installation, follow these important steps and recommendations.

Procedure	✓
Have the original installation media available for use during the process.	
Before performing any OA change, Avaya strongly recommends that you perform a backup of the database and file systems.	
<p>For a configuration that includes Avaya IC, verify that the Avaya IC components have been installed, configured, and are started before you add, repair, configure, and start the OA components. For more information about Avaya IC planning and installation, see:</p> <ul style="list-style-type: none"> ● <i>Avaya Interaction Center Release 7.0 Installation Planning and Prerequisites</i> ● <i>Avaya Interaction Center Release 7.0 Installation and Configuration</i> 	
Verify that there is a minimum of 512 MB of free temporary space on the <code>c :</code> drive for Windows, in <code>/var/tmp</code> for Solaris, and <code>/tmp</code> for AIX. If this space is not available, the installer may not run successfully.	
Verify that there is at least 2 GB of free space on the server where the Real-time subsystem is being added.	
If installing the OA Source-EC and Source-EC Bridge subsystems on an Avaya IC server, verify that there is at least 100 MB of free disk space for the installation files.	
<p>Before you make changes to the OA installation, turn off all virus scan software.</p> <p>⚠ SECURITY ALERT: Temporarily turning off your virus scan software opens a potential risk for a virus attack. However, this risk should be low since the server is probably not being used at the same time when OA is being installed. After you complete the changes, remember to turn on the virus scan software.</p>	
Verify that no OA files are open.	
Verify that all OA Administration client users have logged off and closed their browser windows before you make changes to the OA software.	

Consider the following while you are making changes to the installed components:

- Avaya recommends that you write down all user IDs and database names used when adding components as you will need them during configuration and when you make future changes. After installation, most of this information can be found using the `oa1ist` command.
- After adding the Administration client, you may want to customize the Administration client installation. See [Customizing the Administration client](#) on page 118.
- The dialog boxes that are displayed when making changes depend on what components are being installed.

Stopping or starting processes and services before making changes

Before you add, repair, move, or remove any OA components, you must stop certain processes on the server. This is required when you currently have the Historical subsystem, Real-time subsystem, Report subsystem (basic), Source-CMS data collection software, Source-EC (Event Collector) data collection software, or Source-EC Bridge (Event Collector Bridge) on the server.

Determining which components are installed on your server

Before you stop processes or traffic for data collection, use the `oa1ist` command to display the components currently installed on your server.

Making changes to installed Avaya OA components

To use the `oalist` command:

1. Enter the following commands:

```
. /opt/BI/.profile (Solaris and AIX only)
```

```
oalist
```

A message similar to the following is displayed:

```
Subsystems installed
  Real Time
  Reports
  Data API Utility
  Source-EC

Server Names
  Historical: bigbird
  Alarm Server Type: IC
  Alarm Server: grover

Database information
  Type: DB2
  Instance Name: icoadb
  OA DB Name: icoadb
  DB2 Version: 8.x

User information
  OA User ID: biadmin
  Group ID: oaadmin

Reports information
  WebSphere Root: /usr/IBM/WebSphere/AppServer
  HTTP Root: /usr/IBMIHS
  WebSphere Application Server: server1
  WebSphere Admin Console User: biadmin

OA Software information
  Version Installed: 7.0.0.025
```

Stopping processes and services on a Windows server

Based on the subsystems that are installed, use the following table to determine which procedures should be done to stop processes and services:

Subsystems	Procedure
Historical Real-time	<ol style="list-style-type: none"> 1. Log in as an administrative user. 2. In a command prompt window, enter <code>pa stop all</code>. 3. Select Start > Programs > Administrative Tools > Services. 4. Stop the Avaya Business Intelligence and ORBacus Naming services.
Report	<ol style="list-style-type: none"> 1. Log in as an administrative user. 2. In a command prompt window, enter <code>pa stop all</code>. 3. Select Start > Programs > Administrative Tools > Services. 4. Stop the Avaya Business Intelligence, ORBacus Naming, and Stumbras-Tomcat services.
Source-EC Source-EC Bridge	<ol style="list-style-type: none"> 1. Log in as an administrative user. 2. From IC Manager, stop the Source-EC subsystems. 3. Select Start > Programs > Administrative Tools > Services. 4. Stop the ORBacus Naming service.
Data API Utility	<ol style="list-style-type: none"> 1. Log in as an administrative user. 2. In a command prompt window, enter <code>pa stop all</code>.

Making changes to installed Avaya OA components

Stopping processes on a Solaris server

Based on the subsystems that are installed, use the following table to determine which procedures should be done to stop processes and services:

Subsystems	Procedure
Historical Real-time Source-CMS Data API Utility	<ol style="list-style-type: none">1. Log in using an OA user ID and password.2. Enter the following commands: <pre>. /opt/BI/.profile pa stop all</pre>
Report	<ol style="list-style-type: none">1. Log in using an OA user ID and password.2. Enter the following commands: <pre>. /opt/BI/.profile pa stop all cd \$SUN_WEB_HOME/https-stumbras ./stop</pre>
Source-EC	From IC Manager, stop the Source-EC subsystems.

Stopping processes on an AIX server

Based on the subsystems that are installed, use the following table to determine which procedures should be done to stop processes and services:

Subsystems	Procedure
Historical Report Real-time Data API Utility	<ol style="list-style-type: none">1. Log in using an OA user ID and password.2. Enter the following commands: <pre>. /opt/BI/.profile pa stop all</pre>
Source-EC	From IC Manager, stop the Source-EC subsystems.

Adding Avaya OA components

You can add subsystems and client software to an existing OA installation. When adding a subsystem or client software, many of the installation option fields will have data already populated from the original installation. In most cases, that data cannot be changed.

Note:

The procedure given in this section does not include adding a Source-CMS data collection subsystem. See [Installing Avaya OA components on a CMS server](#) on page 92 for more information.

This section includes the following topics:

- [License key considerations](#) on page 155
- [Interactions](#) on page 156
- [Adding Avaya OA components](#) on page 156
- [Completing an addition to Avaya OA](#) on page 177

License key considerations

When adding Avaya IC as a data source to a configuration that previously only received CMS data, you must upgrade to an Avaya IC and Avaya CMS Analytical license. To do this, you must reinstall (repair) the Historical subsystem, making sure to select Avaya IC as a data source. See [Repairing Avaya OA components](#) on page 193.

Interactions

When adding components to an existing installation, there are some combinations that will not be allowed. This section describes those combinations and how to handle the interaction.

Adding Report subsystem to Advanced Reporting subsystem and DB2 database -

The Advanced Reporting subsystem can only be installed on a Windows server. If the Advanced Reporting subsystem is on a server that is using a DB2 database installed on a dedicated AIX database server, you cannot add the basic Report subsystem to the same server where the Advanced Reporting subsystem is located because the basic Report subsystem must use a database that is supported on Windows (Microsoft SQL or Oracle). If you must use a Windows server for the basic Report subsystem, you must first remove the Advanced Reporting subsystem before you add the basic Report subsystem.

Adding new data collection source - If you need to add a new data collection source, do a repair on the existing installation. See [Repairing Avaya OA components](#) on page 193 for more information.

Adding Avaya OA components

Note:

The procedures for adding Avaya OA software is almost identical for all operating systems. For this procedure, the Windows dialog boxes are shown and any differences for the other operating systems are described.

To add OA components:

1. Stop all OA processes. See [Stopping or starting processes and services before making changes](#) on page 151.
2. Do one of the following to access and start the installation executable:

⚠ CAUTION:

Install from a CD-ROM drive that is local to the server where you are installing OA. Installing from a networked CD drive is not supported.

Operating System	Procedure
Windows	<ol style="list-style-type: none"> 1. Log in with a user ID that has administration privileges. 2. If Windows Terminal Services is installed in Application mode, open a command prompt window and enter: <code>change user /install</code> <p>⚠ CAUTION: If Windows Terminal Services was installed in Administration mode, you cannot properly install any OA subsystem on that machine. See Operating systems on page 48 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>.</p> <ol style="list-style-type: none"> 3. Place the OA CD-ROM in the drive. 4. Using Windows Explorer, navigate to the CD-ROM drive and double-click the <code>winSetup.exe</code> file.

Making changes to installed Avaya OA components

Operating System	Procedure
Solaris	<ol style="list-style-type: none"><li>1. Log in as <code>root</code>.<li>2. Place the OA CD-ROM in the drive and wait about 15 seconds. A file manager window is displayed showing the contents of the CD-ROM. Note: If the File Manager window does not open, enter the following commands to start the volume manager: <code>/etc/init.d/volmgt stop</code> <code>/etc/init.d/volmgt start</code><li>3. From a terminal window, enter the following commands: <code>. /opt/BI/.profile</code> <code>cd /cdrom/cdrom0</code> <code>./SolSetup</code>

Operating System	Procedure
AIX	<ol style="list-style-type: none"> 1. Log in as <code>root</code>. 2. To set the monitor display, enter: <pre>export DISPLAY=hostname:0.0</pre> where <i>hostname</i> is the name of the server. 3. If you are adding the Historical subsystem, enter the following commands to set the DB2 environment: <ul style="list-style-type: none"> - As the instance owner, or any member of DB2 SYSADM group: <pre>export EXTSHM=ON</pre> <pre>db2set DB2ENVLIST=EXTSHM</pre> <pre>db2stop</pre> <pre>db2start</pre> - As the user launching the OA Installation (<code>root</code>): <pre># export EXTSHM=ON</pre> <pre># ./AixSetup</pre> 4. Place the OA CD-ROM in the drive and wait about 15 seconds. <pre>export LANG=en_US</pre> <pre>. /opt/BI/.profile</pre> <pre>mkdir /cdrom (if this directory does not already exist)</pre> <pre>mount -v cdrfs -r /dev/cd0 /cdrom</pre> <pre>cd /cdrom</pre> <pre>./AixSetup</pre>

After several seconds, the **Initializing wizard** window is displayed, followed by the **Welcome** dialog box.

 **Important:**

You can stop the installation at any time by clicking **Cancel** before you start the actual installation of files (see Step 47). If you click **Cancel**, you will be asked to confirm your intention to cancel. If you cancel, the installation is terminated and the system is restored to its previous state.

3. Click **Next**.

The **License Key** dialog box is displayed.

4. Enter the provided license key for the components purchased.

Making changes to installed Avaya OA components

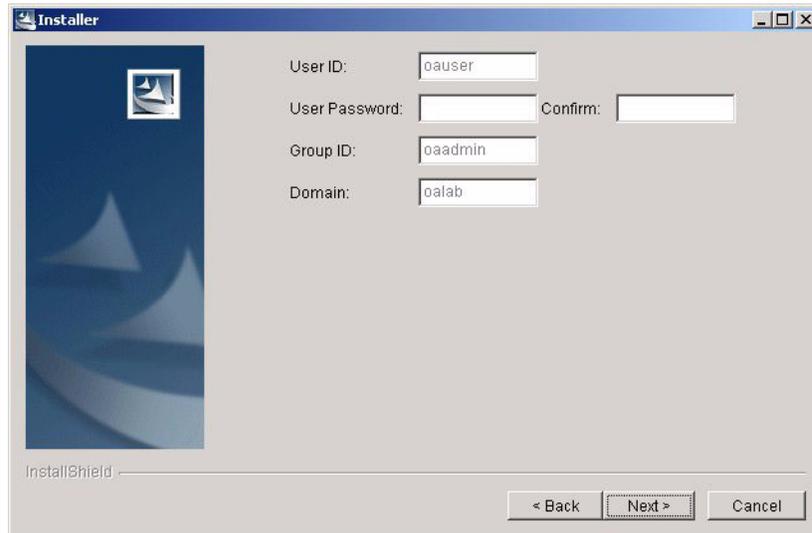
5. Click **Next**.

The **License Agreement** dialog box is displayed.

6. Select **I accept the terms in the license agreement**.

7. Click **Next**.

The **User Information** dialog box is displayed.



The screenshot shows a Windows-style dialog box titled "Installer". On the left side, there is a blue vertical panel with a white Avaya logo at the top and a stylized blue and white graphic below. The main area of the dialog is light gray and contains four text input fields with labels to their left: "User ID:" with the value "oouser", "User Password:" with an empty field, "Confirm:" with an empty field, "Group ID:" with the value "oadmin", and "Domain:" with the value "oalab". At the bottom of the dialog, there are three buttons: "< Back", "Next >", and "Cancel". The "Next >" button is highlighted with a dotted border. In the bottom-left corner of the dialog, the text "InstallShield" is visible.

Note:

The **Domain** field is only displayed for Windows systems.

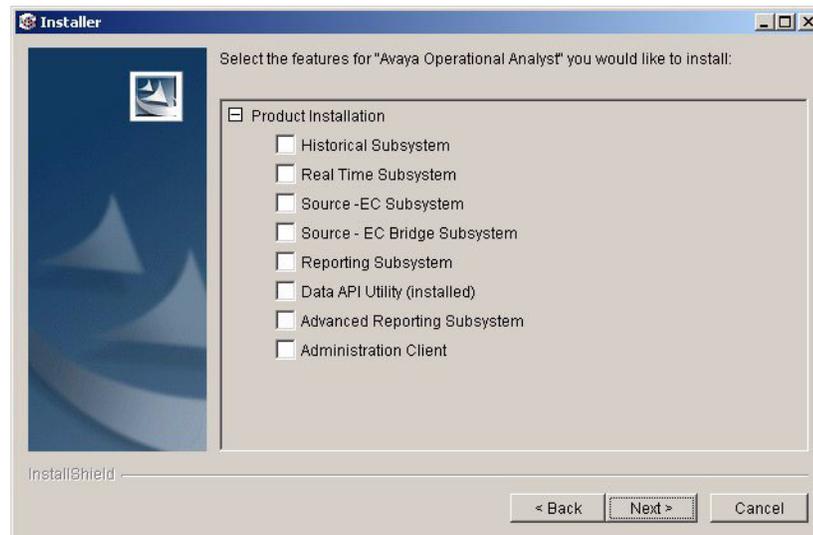
8. Enter and confirm the password for the installed user ID.

9. Click **Next**.

Note:

There may be a long delay before the next dialog box is displayed.

The **Feature Selection** dialog box is displayed.



This dialog box indicates the components that were previously installed. In this example, the Historical subsystem, Report subsystem, and Administration client are already installed.

Making changes to installed Avaya OA components

10. Select the components you want to add.

Important:

After selecting or clearing a check box, there may be a delay before the dialog box refreshes and you see the check mark or the check mark is cleared. This may take a few seconds. Do not select or clear another check box until the dialog box refreshes and you can see that the check box has been selected or cleared.

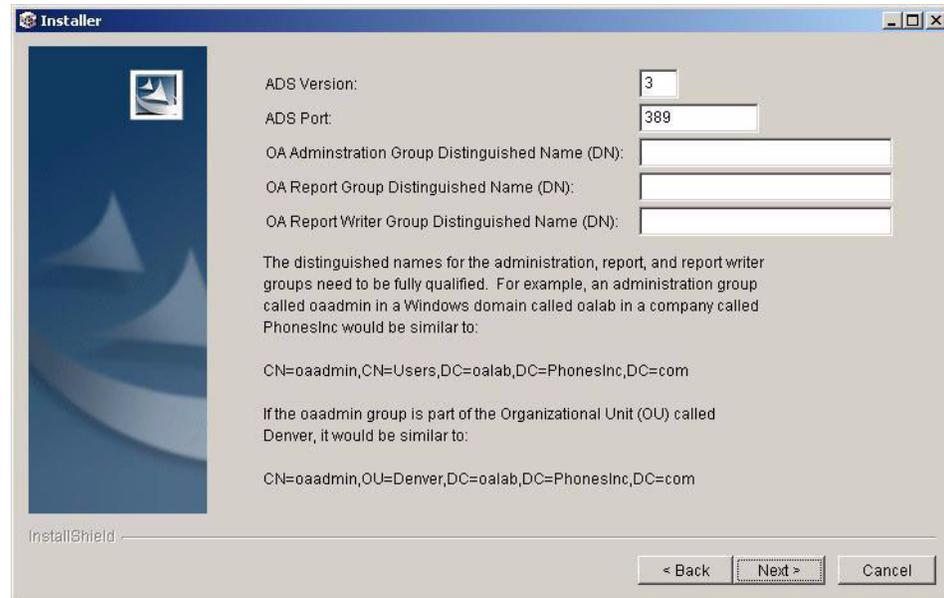
Do not select any components that are already installed. If you want to repair an already installed component, see the procedure [Repairing Avaya OA components](#) on page 193.

The following example shows the **Feature Selection** dialog box with the Real-time subsystem, Data API Utility, and Advanced Reporting subsystem selected:



11. Click **Next**.

The **ADS Configuration** dialog box is displayed:



12. Administer the dialog as shown in the following table:

Field	Description
ADS Version	Enter the LDAP version being used on the authentication server. OA supports versions 2 and 3, with the default set to 3.
ADS Port	Enter the port number used for ADS. OA defaults to 389, which is the default when ADS is installed.
OA Administration Group Distinguished Name (DN)	Enter the DN for the administration group. For typical example of ADS setup, if you use the default group named oaadmin, a domain named oalab, and the company name is Telco, you would enter: CN=oaadmin,CN=Users,DC=oalab,DC=telco,DC=com If you are not using ADS, use the following format for the DN: localhost\oaadmin

Making changes to installed Avaya OA components

Field	Description
OA Report Group Distinguished Name (DN)	Enter the DN for the report group. For typical example of ADS setup, if you use the default group named oarpt, a domain named oalab, and the company name is Telco, you would enter: CN=oarpt,CN=Users,DC=oalab,DC=telco,DC=com If you are not using ADS, use the following format for the DN: localhost\oarpt
OA Report Writer Group Distinguished Name (DN)	Enter the DN for the report writer group. For typical example of ADS setup, if you use the default group named oawriter, a domain named oalab, and the company name is Telco, you would enter: CN=oawriter,CN=Users,DC=oalab,DC=telco,DC=com If you are not using ADS, use the following format for the DN: localhost\oawriter

13. Click **Next**.

If you are adding the Historical subsystem or the Report subsystem, the **Reports Configuration** dialog box is displayed. If you are not adding the Historical subsystem or the Report subsystem, continue with Step 16.

14. For Solaris and AIX, enter the installation data for the Web server software.

See the following table for Solaris field information:

Field	Description
Sun Web Server Install Location	<code>/usr/iplanet/servers</code> (Sun Java System Web Server Version 6.0) <code>/opt/SUNWwbsvr</code> (Sun Java System Web Server Version 6.1) This is the default installation location and must match the installation location selected in Installing and configuring the Sun Web server on a Solaris machine on page 112 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i> .
Stumbras Port Number	Enter any port from 1024 through 65535; 11000 is recommended
Fully Qualified Reports Server Name	Enter the fully-qualified domain name of the Web server as described in Installing and configuring the Sun Web server on a Solaris machine on page 112 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>

See the following table for AIX field information:

Field	Description
WebSphere Install Location	<p><code>/usr/IBM/WebSphere/AppServer</code></p> <p>This is the default installation location and must match the installation location selected in Installing and configuring WebSphere Application Server on an AIX machine on page 114 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>.</p>
IBM HTTP Server Install Location	<p><code>/usr/IBMIHS</code></p> <p>This is the default installation location. If the IC Web Channel and the OA Report subsystem will be installed on the same server machine, there must be two instances of the HTTP Server software installed on that machine. You must determine where the HTTP Server software was installed for Avaya IC, which is typically in the default location <code>/usr/IBMIHS/bin</code>. Once that location has been determined, you must select a different location where the HTTP Server software will be installed for OA, for example, <code>/usr/OA_IBMHttpServer/bin</code>. See Installing and configuring WebSphere Application Server on an AIX machine on page 114 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i> for more information.</p>
WebSphere Application Server Name	<p><code>server1</code></p> <p>This is the default server name for WebSphere and must match the name used during installation in Installing and configuring WebSphere Application Server on an AIX machine on page 114 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>.</p>
WebSphere Admin Console Login ID	<p>If you configured WebSphere for Global Security (see Creating a secure login by enabling Global Security (optional) on page 124 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>), enter the login ID in this field. Otherwise, leave this field blank.</p>
WebSphere Admin Console Password	<p>Enter and confirm the Administrative Console password, if assigned. Otherwise, leave this field blank.</p>
DB2 Version	<p>Select from the drop-down box which version of DB2 you are using for the historical database.</p> <p>The DB2 Version field is displayed only if the Report subsystem is being installed on a server without the Historical subsystem.</p>

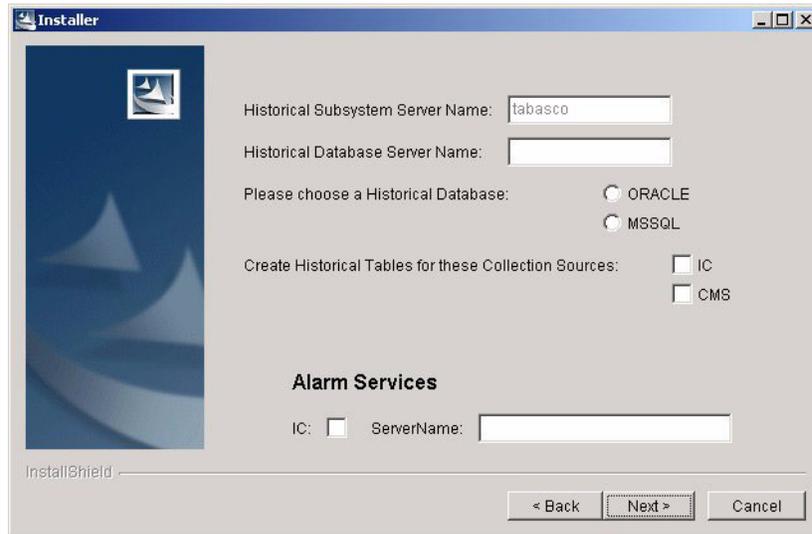
15. Click **Next**.

For AIX only, a warning message is displayed if you did not enter WebSphere Admin Console login ID and password. Confirm that, if the login ID was assigned for Global Security during WebSphere installation, you have entered the login ID and password. See [Creating a secure login by enabling Global Security \(optional\)](#) on page 124 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites* for

Making changes to installed Avaya OA components

more information. If a login ID for global security was not assigned, these fields can be empty.

16. A warning message may be displayed about deleting the TimesTen database log files. Follow any instructions shown. When finished, click **OK**.
17. The **Historical Server Configuration** dialog box is displayed.



Note:

The fields that appear on the **Historical Server Configuration** dialog box vary depending on your selections.

18. Administer the dialog as shown in the following table:

Field	Description
Historical Subsystem Server Name	<p>Do one of the following:</p> <ul style="list-style-type: none"> ● If you are installing the Historical subsystem, the name of this server is displayed and cannot be changed. ● If you are not installing the Historical subsystem, enter the fully-qualified domain name of the machine where the Historical subsystem is installed.
Historical Database Server Name	<p>Do one of the following:</p> <ul style="list-style-type: none"> ● If the historical database is located on the same machine where the Historical subsystem is being installed, enter the machine name. ● If the historical database is located on a different machine than where the Historical subsystem is being installed, enter the fully-qualified domain name for the machine where the historical database is installed. <p>The filegroups or tablespaces must be manually created on the historical database server before this installation may continue. See Filegroup and tablespace sizing on page 59 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>.</p>
Please choose a Historical Database	<p>Select the appropriate database. If the system can identify the database type based on the Historical Database Server Name, it will be the only type listed.</p>
Create Historical Tables for these Collection Sources	<p>Select the collection sources for the historical tables. You can collect data from Avaya IC, CMS, or both depending on what is allowed with your product license. If you are using a back-end database, you must create filegroups or tablespaces for Avaya IC, CMS or both prior to selecting collection sources. See Filegroup and tablespace sizing on page 59 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>.</p> <p>Note: You cannot remove these collection sources when adding components to an OA installation.</p>
Alarm Services	<p>If you want to send alarm data to the Avaya IC server, click the IC box under Alarm Services, and enter the fully-qualified domain name of the server where the Source-EC (Event Collector) subsystem is installed in the Server Name field. For an OA and CMS configuration without Avaya IC, leave these options blank.</p>

19. Click **Next**.

Making changes to installed Avaya OA components

20. If you are adding the Historical or Report subsystem, the **Database Configuration** dialog box is displayed.

Important:

If you are adding the Historical subsystem to a server that is separate from the historical database, you must first install the database client software on the server where the Historical subsystem is being added.

21. Use the following information to complete the dialog box. Use the values from your database installation, which is described in [Installing the historical database software](#) on page 57 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*. Some of the fields may include default values.

Field	Oracle	Microsoft SQL	DB2
DB Administrator Password	Password for the <code>sys</code> user ID	Password for the <code>sa</code> user ID	N/A
OA DB User ID	User ID for the OA database (OA creates this user ID during a new installation)	User ID for the OA database (OA creates this User ID during a new installation)	User ID for the OA database (OA creates this user ID during a new installation)
OA DB User Password	User password for the OA database	User password for the OA database	User password for the OA database
OA Database Name	New database name that will be created during install (for example, <code>oadb</code>)	New database name that will be created during install (for example, <code>oadb</code>)	The database name given when DB2 was installed and an instance was created.

Field	Oracle	Microsoft SQL	DB2
IC DB User ID ¹	User ID for the Avaya IC Repository database (this must be an existing Avaya IC user ID, for example, <code>repository</code>)	User ID for the Avaya IC Repository database (this must be an existing Avaya IC user ID, for example, <code>repository</code>)	User ID for the Avaya IC Repository database (this must be an existing Avaya IC user ID, for example, <code>db2inst1</code>)
IC DB User Password ¹	User password for the Avaya IC Repository user ID	User password for the Avaya IC Repository user ID	User password for the Avaya IC Repository user ID
IC Repository Database ¹	Avaya IC Repository database name (for example, <code>repository</code>)	Avaya IC Repository database name (for example, <code>repository</code>)	Avaya IC Repository database/schema name (for example, <code>repository</code>)
DB Instance Name	Avaya IC and OA database instance name	Avaya IC and OA database instance name (<code>MSSQLSERVER</code> if you used the default database instance)	Avaya IC and OA database instance name (for example, <code>db2inst1</code> , which is the default).
TCP/IP Port Number	1521 (if using the default configuration, otherwise the port number specified during database installation)	1433 (if using the default configuration, otherwise the port number specified during database installation)	Port number assigned to the database instance creation during the DB2 installation. If you are not sure of the number, check <code>/etc/services</code> and look for the DB2 instance name. The port number is included.
Oracle TNS Server Name	A valid TNS server name. This name is assigned by the database administrator during Oracle installation. The default name is <code>dbservername.oadb</code> . You must check the <code>tnsnames.ora</code> file and use the exact entry found there. If an entry is not found, ask the DBA to create a <code>tnsnames.ora</code> entry and then use the exact entry found there.	N/A	N/A
SQL Server DataBase Name	N/A	New Microsoft SQL database created during installation	N/A

Making changes to installed Avaya OA components

1. This field does not display if Avaya IC is not used as a collection source. During the creation of the Repository Database using Oracle as your database software, you will be asked to provide a password for the Repository database. Use this name as your IC DB User ID along with the password you enter.

22. Click **Next**.

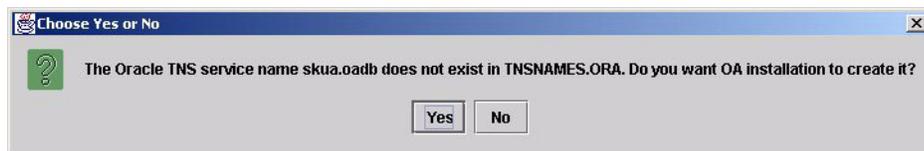
One of the following occurs:

- For Oracle, continue with Step 23.
- For Microsoft SQL, continue with Step 26.
- For AIX, continue with Step 30.

23. A warning dialog about the Oracle archive log may be displayed.

24. Click **OK** to acknowledge the warning, if displayed.

25. For Oracle, the `TNSnames.ora` file is scanned to see if the TNS server name is contained within that file. If it is, the install continues with Step 30. If it is not, the following warning message is displayed asking if you want the installation program to modify the `TNSnames.ora` file to include the TNS server name.

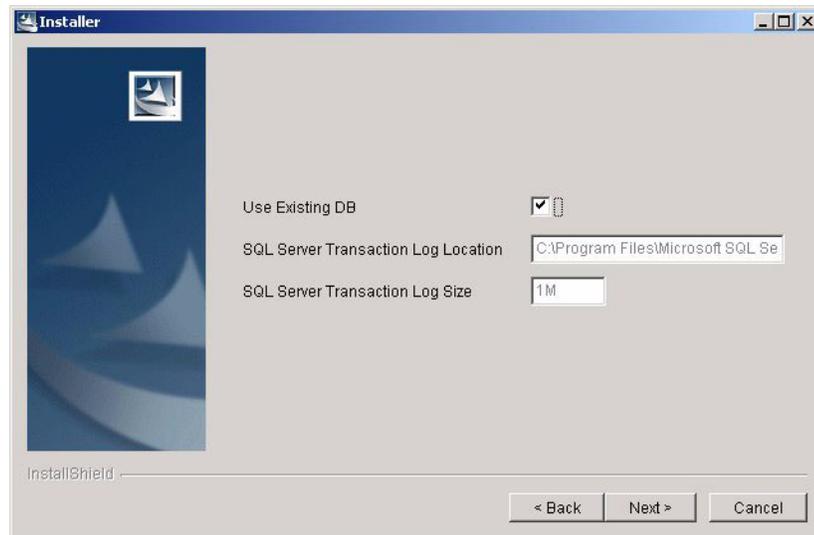


- If you select **No**, you are returned to the **Database Configuration** dialog box. You can go no further until you resolve the TNS server name issue.
- If you select **Yes**, the installation program attempts to edit the file. One of the following occurs:
 - If the permissions on the `TNSnames.ora` file allow writing, the file is modified to include the administered TNS server name and the install continues.
 - If the permissions on the `TNSnames.ora` file are read-only, the file cannot be modified and a message is displayed stating that the permissions on the file must be changed manually. Select **OK** to return to the **Database Configuration** dialog box. You must change permissions on the file if you want to continue with the install.

Note:

There may be a long delay before the next dialog box is displayed.

26. The following dialog box is displayed when using Microsoft SQL Server. If you are not using Microsoft SQL, continue with Step 30.



27. Select **Use Existing DB** if you want to use an existing database.
28. If you choose to not use the existing database, enter the size and location of the Microsoft SQL Server Transaction Log. You can use the default locations if you want.
29. Click **Next**.

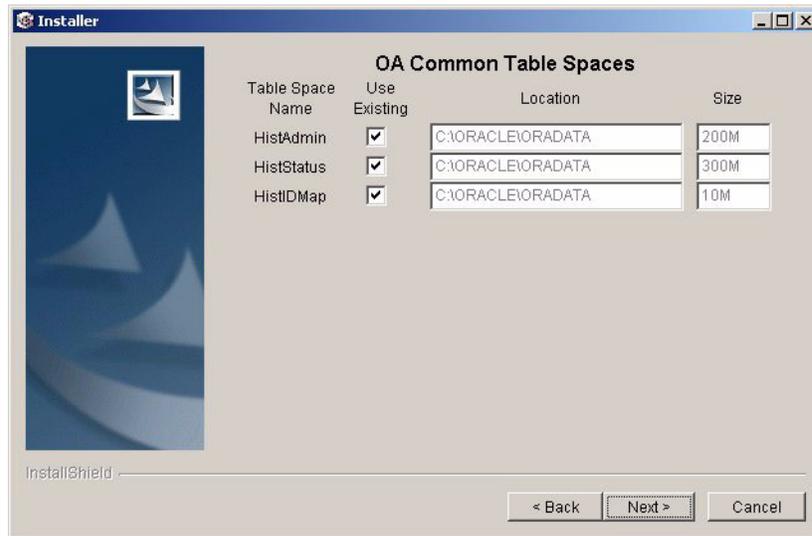
If you are adding the Historical subsystem, the next step is to configure tablespaces.

! Important:

If the database is on a back-end database server, none of the dialog boxes shown in this section are displayed. Continue with Step 38.

Making changes to installed Avaya OA components

30. The **OA Common Table Spaces** dialog box is displayed.



31. Enter the correct location and size for each filegroup or tablespace. For more information on how to set these values see [Filegroup and tablespace sizing](#) on page 59 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.

Note:

If the filegroups and tablespaces do not already exist, the **Use Existing** checkboxes will not display and the **Location** and **Size** input fields will include editable default values. If the filegroups and tablespaces do already exist, the **Use Existing** checkboxes will be selected. You can clear the checkboxes and enter a different location and size.

32. Click **Next**.

If data will be collected from CMS, the **OA CMS Specific** dialog box is displayed.



33. Enter the correct location and size for each filegroup or tablespace. For more information on how to set these values see [Filegroup and tablespace sizing](#) on page 59 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.

Note:

If the filegroups and tablespaces do not already exist, the **Use Existing** checkboxes will not display and the **Location** and **Size** input fields will include editable default values. If the filegroups and tablespaces do already exist, the **Use Existing** checkboxes will be selected. You can clear the checkboxes and enter a different location and size.

Making changes to installed Avaya OA components

34. Click **Next**.

If data will be collected from Avaya IC, the **OA IC Specific** dialog box is displayed.



35. Enter the correct location and size for each filegroup or tablespace. For more information on how to set these values see [Filegroup and tablespace sizing](#) on page 59 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*.

Note:

If the filegroups and tablespaces do not already exist, the **Use Existing** checkboxes will not display and the **Location** and **Size** input fields will include editable default values. If the filegroups and tablespaces do already exist, the **Use Existing** checkboxes will be selected. You can clear the checkboxes and enter a different location and size.

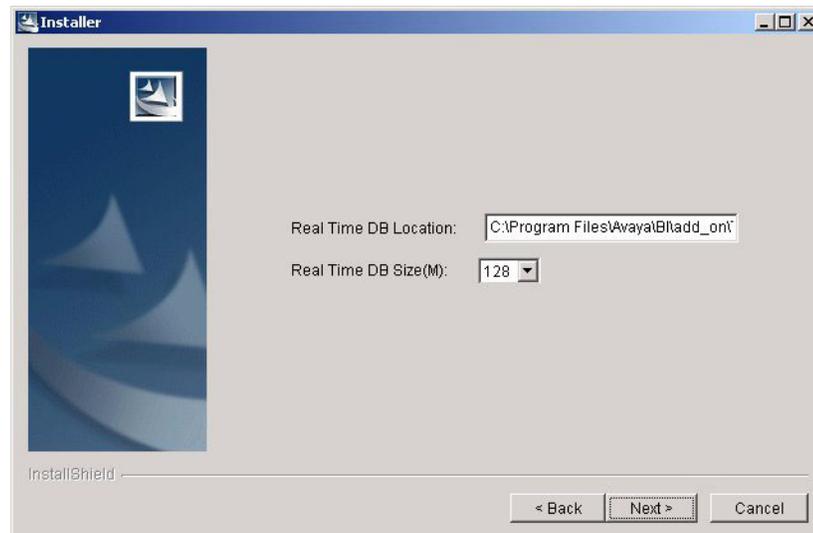
36. Click **Next**.

A warning message concerning the storage of historical data on one disk may be displayed.

37. Click **OK** to acknowledge the warning, if displayed.

38. One of the following occurs:

- If you are not adding a Real-time subsystem, continue with Step 42.
- If you are adding a Real-time subsystem, the **Real-time Configuration** dialog box is displayed.



39. In the **Real Time DB Location** field, Avaya recommends that you enter a path name that is on a different disk drive from where the OA software is being installed, and that has at least 2.2 GB of free disk space.

40. In the **Real Time DB Size(M)** field, the only option is **128**.

41. Click **Next**.

! Important:

If you do not have at least 2.2 GB of free disk space to install TimesTen, a warning message is displayed. You cannot continue until you free up at least 2.2 GB of disk space.

42. If you are adding the Administration client (Windows only), the **Administration client locale settings** dialog box is displayed. If you are not adding the Administration client, continue with Step 45.

43. Select a locale setting from the drop-down list.

44. Click **Next**.

45. The **Installation Preview** dialog box is displayed listing the components you have selected.

Making changes to installed Avaya OA components

46. Scroll through the preview dialog box to verify the selected components and configuration data.

CAUTION:

Do *not* close the **Progress** dialog box after you have clicked **Next** in the following step. If you close the **Progress** dialog box after the installation has started, the installation will be disrupted and you must contact Avaya support to do a manual cleanup of the installation.

47. Click **Next** to start the installation.

The **Progress** dialog box is displayed showing the progress of the installation, which will take several minutes. Near the end of the installation, the dialog box will go blank for some time.

When the installation is finished, the **Install Complete** dialog box is displayed.

48. Click **Next**.

- On Solaris and AIX, the **Install Complete** dialog closes and the addition is finished.
- On Windows, the **Restart System** dialog box is displayed.

Before you reboot the server, make sure that a copy of the `server.properties` file is saved in case it is deleted during the reboot. Do the following:

- i. Open Windows Explorer.
- ii. Navigate to `%PABASE%\BI\data\admin`.
- iii. Copy the `server.properties` file onto the Windows clipboard.
- iv. Go to your Windows desktop (or some other location other than the OA installation directory) and paste the `server.properties` file there.

Important:

You must always restart a Windows server at this time for OA to operate properly. If you are not requested to restart the server, you must manually restart the server.

- v. Go back to the **Restart System** dialog box, select the option to restart your system now, and click **Next**.
- vi. After the system reboots, navigate to `%PABASE%\BI\data\admin`.
- vii. Verify that the `server.properties` file is in the folder.
- viii. If the file is not in the folder, go to the location where you saved a copy of `server.properties` and copy the file onto the Windows clipboard.
- ix. Navigate to `%PABASE%\BI\data\admin`.
- x. Paste the `server.properties` file into the folder.

49. Do one of the following:

- On Windows, press the eject button on the CD-ROM drive, remove the CD-ROM, and store it in a safe location.
- On Solaris, close all but one terminal window and enter:

```
cd /  
eject cdrom
```

- On AIX, close all but one terminal window and enter:

```
cd /  
umount /cdrom
```

50. Press the eject button on the CD-ROM drive (AIX only).

51. Remove the OA CD-ROM and store it in a safe location.

52. If you added the Report subsystem, remember to install the Report client support files (see [Installing and testing the Report client](#) on page 102).

Completing an addition to Avaya OA

Depending on the platform you are using, use the procedures in the following sections to complete your addition:

- [To complete an addition to a Windows system](#) on page 177
- [To complete an addition to a Solaris system](#) on page 181
- [To complete an addition to an AIX system](#) on page 186

To complete an addition to a Windows system

1. Log in using an OA user ID and password (see [Creating user IDs and group IDs on Windows servers](#) on page 96 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).
2. Open a command prompt window.
3. If Terminal Services is enabled, enter:

```
change user /execute
```

Making changes to installed Avaya OA components

4. In the command prompt window, enter the following command to show what processes are running:

```
pa list
```

A listing similar to the following is displayed.

.	system boot	Dec 20 07:54			
.	run-level 4	Dec 31 10:23	4	0	@
java	.	Dec 20 07:54	.	292	id=admb
java	.	Dec 20 07:54	.	52	id=adm0
java	.	Jan 02 16:16	.	995	id=ams
java	.	Dec 20 07:54	.	295	id=aut
java	.	Dec 20 07:54	.	296	id=schd
.					
.					
.					

Note that:

- There should be several Java entries, and these lines should not have an exit code at the end of the line.
 - If there are any exit codes displayed on the Java entries, that process is not running. Escalate the problem to Avaya Technical Support.
 - The `id=aut` and `id=schd` will only display when the Historical subsystem is installed.
 - The recorder entries are displayed only if you are collecting data from CMS or Avaya IC. Forwarder entries may be displayed on a server that has the Real-time subsystem installed.
5. If you get the message `mom is not active`, enter:

```
pa start all
```
 6. Repeat Step 4 to verify that OA has started.

7. Enter:

```
oalist
```

A message similar to the following is displayed listing what components are installed on this server:

```
Subsystems installed
  Real Time
  Reports
  Data API Utility
  Source-EC

Server Names
  Historical: bigbird
  Alarm Server Type: IC
  Alarm Server: grover

Database information
  Type: DB2
  Instance Name: icoadb
  OA DB Name: icoadb
  DB2 Version: 8.x

User information
  OA User ID: biadmin
  Group ID: oaadmin

Reports information
  WebSphere Root: /usr/IBM/WebSphere/AppServer
  HTTP Root: /usr/IBMIHS
  WebSphere Application Server: server1
  WebSphere Admin Console User: biadmin

OA Software information
  Version Installed: 7.0.0.025
```

8. Select **Start > Programs > Administrative Tools > Services**.

Making changes to installed Avaya OA components

9. Validate that the following services are started and are set to start automatically. If they are not administered to start automatically, administer them as such.
 - If the Historical subsystem is installed, check for the following:
 - Avaya Business Intelligence Service
 - ORBacus Naming Service
 - If the Real-time subsystem is installed, check for the following:
 - Avaya Business Intelligence Service
 - ORBacus Naming Service
 - TimesTen Data Manager 5.0
 - If the Report subsystem is installed, check for the following:
 - Avaya Business Intelligence Service
 - ORBacus Naming Service
 - Stumbras-Tomcat
 - If the Source-EC (Event Collector) subsystem is installed, check for the following:
 - ORBacus Naming Service
10. If you are not successful starting OA, see [Starting and stopping OA-related processes](#) on page 41 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting* for more troubleshooting information.

To complete an addition to a Solaris system

1. Log out of the desktop environment.
2. Log in using an OA user ID and password (see [Creating user IDs and group IDs on Solaris servers](#) on page 99 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).

CAUTION:

Do not use any OA commands while logged in as `root`. Using the `root` login ID on these commands will change ownership of files and will make them unusable by the OA user ID.

3. Enter:

```
. /opt/BI/.profile
```

4. Enter the following command to show what processes are running:

```
pa list
```

A listing similar to the following is displayed.

.	system boot	Dec 20 07:54				
.	run-level 4	Dec 31 10:23	4	0	@	
java	.	Dec 20 07:54	.	292	id=admb	
java	.	Dec 20 07:54	.	52	id=adm0	
java	.	Jan 02 16:16	.	995	id=ams	
java	.	Dec 20 07:54	.	295	id=aut	
java	.	Dec 20 07:54	.	296	id=schd	
.						
.						
.						

Note that:

- There should be several Java entries, and these lines should not have an exit code at the end of the line.
- If there are any exit codes displayed on the Java entries, that process is not running. Escalate the problem to Avaya Technical Support.
- The `id=aut` and `id=schd` will only display when the Historical subsystem is installed.
- The recorder entries are displayed only if you are collecting data from CMS or Avaya IC. Forwarder entries may be displayed on a server that has the Real-time subsystem installed.

5. If you get the message `mom is not active`, enter:

```
pa start all
```

6. Repeat Step 4 to verify that OA has started.

Making changes to installed Avaya OA components

7. If you are not successful starting OA, see [Starting and stopping OA-related processes](#) on page 41 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting* for more troubleshooting information.

8. Enter:

```
oalist
```

A message similar to the following is displayed:

```
Subsystems installed
  Real Time
  Reports
  Data API Utility
  Source-EC

Server Names
  Historical: bigbird
  Alarm Server Type: IC
  Alarm Server: grover

Database information
  Type: DB2
  Instance Name: icoadb
  OA DB Name: icoadb
  DB2 Version: 8.x

User information
  OA User ID: biadmin
  Group ID: oaadmin

Reports information
  WebSphere Root: /usr/IBM/WebSphere/AppServer
  HTTP Root: /usr/IBMIHS
  WebSphere Application Server: server1
  WebSphere Admin Console User: biadmin

OA Software information
  Version Installed: 7.0.0.025
```

9. If the Historical subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?           0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229   182  0 10:28:00 pts/11    0:00 grep initsrv
```

b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin 239   182  0 10:32:21 pts/11    0:00 grep nameserv
```

10. If the Real-time subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?           0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229   182  0 10:28:00 pts/11    0:00 grep initsrv
```

b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin 239   182  0 10:32:21 pts/11    0:00 grep nameserv
```

Making changes to installed Avaya OA components

- c. Enter the following command to see if the TimesTen Data Manager 5.0 is running:

```
ps -ef | grep timesten
```

A message similar to the following should be displayed.

```
root    233      1  0   Dec 23 ?           0:01 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestend
root    234    233  0   Dec 23 ?           0:00 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -id 0
root    235    233  0   Dec 23 ?           0:00 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -id 1
root    236    233  0   Dec 23 ?           0:00 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -id 2
root    237    233  0   Dec 23 ?           0:00 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -id 3
biadmin 244    182  0 10:34:22 pts/11    0:00 grep timesten
```

11. If the Source-EC subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

- a. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OApport 1000
0 -OAnumeric
biadmin 239    182  0 10:32:21 pts/11    0:00 grep nameserv
```

12. If the Report subsystem is installed, enter the following commands to start Stumbras:

```
cd $SUN_WEB_HOME/https-stumbras
```

```
./start
```

The following message is displayed.

```
.
.
.
Startup: server started successfully
```

13. If the Report subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?           0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229   182  0 10:28:00 pts/11   0:00 grep initsrv
```

b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin 239   182  0 10:32:21 pts/11   0:00 grep nameserv
```

c. Enter the following command to see if Stumbras-Tomcat is running:

```
ps -ef | grep https-stumbras
```

A message similar to the following should be displayed.

- For Sun Java System Web Server 6.0:

```
biadmin 6141      1  0   Dec 31 ?           0:00 ./uxwdog -d /usr/iplanet/servers/
https-stumbras/config
biadmin 6143   6142  0   Dec 31 ?           1:01 ns-httpd -d /usr/iplanet/servers/
https-stumbras/config
biadmin 6142   6141  0   Dec 31 ?           0:03 ns-httpd -d /usr/iplanet/servers/
https-stumbras/config
biadmin 254   182  0 10:38:51 pts/11   0:00 grep https-stumbras
```

- For Sun Java System Web Server 6.1:

```
biadmin 28604 28603  0 16:38:23 ?           1:58 webservd -r /opt/SUNWwbsvr -d //o
pt/SUNWwbsvr/https-stumbras/config -n https-st
biadmin 28602      1  0 16:38:22 ?           0:00 ./webservd-wdog -r /opt/SUNWwbsvr
-d //opt/SUNWwbsvr/https-stumbras/config -n h
biadmin 28603 28602  0 16:38:22 ?           0:01 webservd -r /opt/SUNWwbsvr -d //o
pt/SUNWwbsvr/https-stumbras/config -n https-st
biadmin 29266 29259  0 18:55:22 pts/22   0:00 grep https-stumbras
```

To complete an addition to an AIX system

1. Log out of the desktop environment.
2. Log in using an OA user ID and password (see [Creating user IDs and group IDs on AIX servers](#) on page 105 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).

⚠ CAUTION:

Do not use any OA commands while logged in as `root`. Using the `root` login ID on these commands will change ownership of files and will make them unusable by the OA user ID.

3. Enter:

```
. /opt/BI/.profile
```

4. Enter the following command to show what processes are running:

```
pa list
```

A listing similar to the following is displayed.

.	system boot	Dec 20 07:54				
.	run-level 4	Dec 31 10:23	4	0	@	
java	.	Dec 20 07:54	.	292	id=admb	
java	.	Dec 20 07:54	.	52	id=adm0	
java	.	Jan 02 16:16	.	995	id=ams	
java	.	Dec 20 07:54	.	295	id=aut	
java	.	Dec 20 07:54	.	296	id=schd	
.						
.						
.						

Note that:

- There should be several Java entries, and these lines should not have an exit code at the end of the line.
 - If there are any exit codes displayed on the Java entries, that process is not running. Escalate the problem to Avaya Technical Support.
 - The `id=aut` and `id=schd` will only display when the Historical subsystem is installed.
 - The recorder entries are displayed only if you are collecting data from CMS or Avaya IC. Forwarder entries may be displayed on a server that has the Real-time subsystem installed.
5. If OA is not running (`mom` is not active), enter:

```
pa start all
```
 6. Repeat Step 4 to verify that OA has started.

7. If you are not successful starting OA, see [Starting and stopping OA-related processes](#) on page 41 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting* for more troubleshooting information.

8. Enter:

```
oalist
```

A message similar to the following is displayed:

```
Subsystems installed
  Real Time
  Reports
  Data API Utility
  Source-EC

Server Names
  Historical: bigbird
  Alarm Server Type: IC
  Alarm Server: grover

Database information
  Type: DB2
  Instance Name: icoadb
  OA DB Name: icoadb
  DB2 Version: 8.x

User information
  OA User ID: biadmin
  Group ID: oaadmin

Reports information
  WebSphere Root: /usr/IBM/WebSphere/AppServer
  HTTP Root: /usr/IBMIHS
  WebSphere Application Server: server1
  WebSphere Admin Console User: biadmin

OA Software information
  Version Installed: 7.0.0.025
```

Making changes to installed Avaya OA components

9. If the Historical subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

- a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?           0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229    182  0 10:28:00 pts/11    0:00 grep initsrv
```

- b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin 239    182  0 10:32:21 pts/11    0:00 grep nameserv
```

10. If the Real-time subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

- a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?           0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229    182  0 10:28:00 pts/11    0:00 grep initsrv
```

- b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin 239    182  0 10:32:21 pts/11    0:00 grep nameserv
```

- c. Enter the following command to see if the TimesTen Data Manager 5.0 is running:

```
ps -ef | grep timesten
```

A message similar to the following should be displayed.

```
biadmin 20858 48090 0 13:01:34 pts/0 0:00 grep timesten
root 31910 36980 0 Apr 16 - 0:17 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -verbose -id 2 -facility user
root 32664 36980 0 Apr 16 - 0:17 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -verbose -id 1 -facility user
root 36302 36980 0 Apr 16 - 3:35 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -verbose -id 3 -facility user
root 36980 6302 0 Apr 16 - 0:42 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestend -fg
root 40150 36980 0 Apr 16 - 0:18 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -verbose -id 0 -facility user
```

11. If the Source-EC subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

- a. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885 1 0 Dec 27 ? 38:41 /opt/BI/bin/nameserv -OApport 10000
-OAnumeric
biadmin 239 182 0 10:32:21 pts/11 0:00 grep nameserv
```

12. If the Report subsystem is installed, enter the following commands to stop and restart the WebSphere software:

```
stopWebSphere -w $WEBSPHHERE_HOME -s servername -u userID
-p userpassword
```

```
startWebSphere -w $WEBSPHHERE_HOME -s servername -h HTTP_ROOT -u
userID -p userpassword
```

where *\$WEBSPHHERE_HOME* is the installation path WebSphere (default is /usr/IBM/WebSphere/AppServer), *servername* is the WebSphere Application Server Name under which OA Reports is deployed (default is server1), *HTTP_ROOT* is the installation path for the HTTP Server (default is /usr/IBMIHS), *userID* is the user ID administered for Global Security on WebSphere, and *userpassword* is the password for that user ID.

Making changes to installed Avaya OA components

Note:

If the default values are used for `$WEBSPPHERE_HOME`, `servername`, or `HTTP_ROOT` then do not use these options. If a Global Security user ID has not been administered, do not use the user and password options.

The following message is displayed.

```
.  
. .  
ADMU3000I: Server server1 open for e-business; process id is XXXXX
```

13. If the Report subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

- a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?           0:06 /opt/BI/bin/initsrv -n oaadmin -v 30  
biadmin 229    182  0 10:28:00 pts/11    0:00 grep initsrv
```

- b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OApport 10000  
-OAnumeric  
biadmin 239    182  0 10:32:21 pts/11    0:00 grep nameserv
```

- c. Enter the following command to see if WebSphere is running:

```
ps -ef | grep WebSphere
```

A message similar to the following should be displayed.

```

biadmin 28514      1    0   Jun 03      -   4:39 /usr/IBM/WebSphere/AppServer/java/
bin/java -Xbootclasspath/p:/usr/IBM/WebSphere/AppServer/java/jre/lib/ext/
ibmorb.jar:/usr/IBM/WebSphere/AppServer/java/jre/lib/ext/ibmext.jar
-Dwas.status.socket=53964 -classpath /usr/IBM/WebSphere/AppServer/profiles/
default/properties:/usr/IBM/WebSphere/AppServer/properties:/usr/IBM/WebSphere/
AppServer/lib/bootstrap.jar:/usr/IBM/WebSphere/AppServer/lib/j2ee.jar:/usr/IBM/
WebSphere/AppServer/lib/lmproxy.jar:/usr/IBM/WebSphere/AppServer/lib/
urlprotocols.jar:/usr/opt/db2_08_01/java/db2jcc.jar:/usr/opt/db2_08_01/java/
db2jcc_license_cu.jar:/usr/opt/db2_08_01/java/db2jcc_license_cisuz.jar -Xms50m
-Xmx512m -Dws.ext.dirs=/usr/IBM/WebSphere/AppServer/java/lib:/usr/IBM/WebSphere/
AppServer/profiles/default/classes:/usr/IBM/WebSphere/AppServer/classes:/usr/
IBM/WebSphere/AppServer/lib:/usr/IBM/WebSphere/AppServer/installedChannels:/usr/
IBM/WebSphere/AppServer/lib/ext:/usr/IBM/WebSphere/AppServer/web/help:/usr/IBM/
WebSphere/AppServer/deploytool/itp/plugins/com.ibm.etools.ejbdeploy/runtime
-Dcom.ibm.itp.location=/usr/IBM/WebSphere/AppServer/bin
-Djava.util.logging.configureByServer=true -Dibm.websphere.preload.classes=true
-Duser.install.root=/usr/IBM/WebSphere/AppServer/profiles/default
-Dwas.install.root=/usr/IBM/WebSphere/AppServer
-Djava.util.logging.manager=com.ibm.ws.bootstrap.WsLogManager
-Ddb2j.system.home=/usr/IBM/WebSphere/AppServer/cloudscape -Dserver.root=/usr/
IBM/WebSphere/AppServer/profiles/default -Djava.awt.headless=true
-Djava.security.auth.login.config=/usr/IBM/WebSphere/AppServer/profiles/default/
properties/wsjaas.conf -Djava.security.policy=/usr/IBM/WebSphere/AppServer/
profiles/default/properties/server.policy com.ibm.ws.bootstrap.WSLauncher
com.ibm.ws.runtime.WsServer /usr/IBM/WebSphere/AppServer/profiles/default/config
groverNode01Cell groverNode01 server1

```

Making changes to installed Avaya OA components

14. To verify that OA reports are running using the WebSphere Administrative Console:

a. In a browser window, enter:

```
http://report_server_FQDN:port_number/reports1
```

where *report_server_FQDN* is the fully-qualified domain name of the server where the Report subsystem is installed and *port_number* is the port number assigned to the WebSphere Administrative Console (for example, 9060).

b. Log in to the WebSphere Administration Console using the Global Security user ID and password (if assigned). Otherwise, enter any user ID.

c. Select **Applications > Enterprise Applications**.

d. If there is a green arrow next to **Default**, select the check box to the left of **Default** and select **Stop**.

e. Verify that there is a green arrow next to **OAReports**. If there is a red X, select the check box to the left of **OAReports** and select **Start**. This should change the status to a green arrow. If not, escalate the problem using the normal channels.

Repairing Avaya OA components

The repair process reinstalls software that was previously installed for components that are not working properly. When repairing a subsystem or client software, many of the installation dialog box fields will have data already populated from the original installation and that data cannot be changed.

This section includes the following topics:

- [Considerations when doing a repair](#) on page 193
- [Repairing Avaya OA components](#) on page 193
- [Completing a repair to Avaya OA software](#) on page 204

Considerations when doing a repair

When doing a repair, consider the following:

- During the repair process, some directories and files are not repaired because they have been previously modified during the running of OA. The components located under the `%PABASE%\data` or `$PABASE/data` directories are not touched. Therefore, it is critical to have a valid backup of this area in case file system problems develop and this directory needs to be restored after the repair.
- Further, the repair process does not repair the contents of a historical or real-time database. Problems with databases must be resolved by the database administrator.
- After doing a repair of the Basic Report subsystem, you must go to each Report client machine, uninstall the Report client, and reinstall the Report client. See [Installing and testing the Report client](#) on page 102 for more information.

Repairing Avaya OA components

Note:

The procedures for repairing Avaya OA software is almost identical for all operating systems. For this procedure, the Windows dialog boxes are shown and any differences for the other operating systems are described.

To repair OA components:

1. Stop all OA processes. See [Stopping or starting processes and services before making changes](#) on page 151.
2. Do one of the following to access and start the installation executable:

Making changes to installed Avaya OA components

 **CAUTION:**

Install from a CD-ROM drive that is local to the server where you are installing OA. Installing from a networked CD drive is not supported.

Operating System	Procedure
Windows	<ol style="list-style-type: none"><li>1. Log in with a user ID that has administration privileges.<li>2. If Windows Terminal Services is installed in Application mode, open a command prompt window and enter: <code>change user /install</code> <p> CAUTION:</p> <p>If Windows Terminal Services was installed in Administration mode, you cannot properly install any OA subsystem on that machine. See Operating systems on page 48 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>.</p> <ol style="list-style-type: none"><li>3. Place the OA CD-ROM in the drive.<li>4. Using Windows Explorer, navigate to the CD-ROM drive and double-click the <code>winSetup.exe</code> file.

Operating System	Procedure
Solaris	<ol style="list-style-type: none"> 1. Log in as <code>root</code>. 2. Place the OA CD-ROM in the drive and wait about 15 seconds. A file manager window is displayed showing the contents of the CD-ROM. <ul style="list-style-type: none"> Note: If the File Manager window does not open, enter the following commands to start the volume manager: <pre>/etc/init.d/volmgt stop /etc/init.d/volmgt start</pre> 3. From a terminal window, enter the following commands: <pre>. /opt/BI/.profile cd /cdrom/cdrom0 ./SolSetup</pre>
AIX	<ol style="list-style-type: none"> 1. Log in as <code>root</code>. 2. To set the monitor display, enter: <pre>export DISPLAY=hostname:0.0</pre> where <i>hostname</i> is the name of the server. 3. If you are adding the Historical subsystem, enter the following commands to set the DB2 environment: <ul style="list-style-type: none"> - As the instance owner, or any member of DB2 SYSADM group: <pre>export EXTSHM=ON db2set DB2ENVLIST=EXTSHM db2stop db2start</pre> - As the user launching the OA Installation (<code>root</code>): <pre># export EXTSHM=ON # ./AixSetup</pre> 4. Place the OA CD-ROM in the drive and wait about 15 seconds. <pre>. /opt/BI/.profile mkdir /cdrom (if this directory does not already exist) mount -v cdrfs -r /dev/cd0 /cdrom cd /cdrom ./AixSetup</pre>

Making changes to installed Avaya OA components

After several seconds, the **Initializing wizard** window is displayed, followed by the **Welcome** dialog box.

Important:

You can stop the installation at any time by clicking **Cancel** before you start the actual installation of files (see Step 28). If you click **Cancel**, you will be asked to confirm your intention to cancel. If you cancel, the installation is terminated and the system is restored to its previous state.

3. Click **Next**.

The **License Key** dialog box is displayed.

4. Enter the provided license key for the components purchased.

5. Click **Next**.

The **License Agreement** dialog box is displayed.

6. Select **I accept the terms in the license agreement**.

7. Click **Next**.

The **User Information** dialog box is displayed.



The screenshot shows a Windows-style dialog box titled "Installer". On the left side, there is a blue vertical panel with a white arrow icon pointing right. Below this panel, the text "InstallShield" is visible. On the right side, there are several input fields: "User ID:" with the value "oouser", "User Password:" and "Confirm:" (both empty), "Group ID:" with the value "oadmin", and "Domain:" with the value "oalab". At the bottom right, there are three buttons: "< Back", "Next >", and "Cancel".

Note:

The **Domain** field is only displayed for Windows systems.

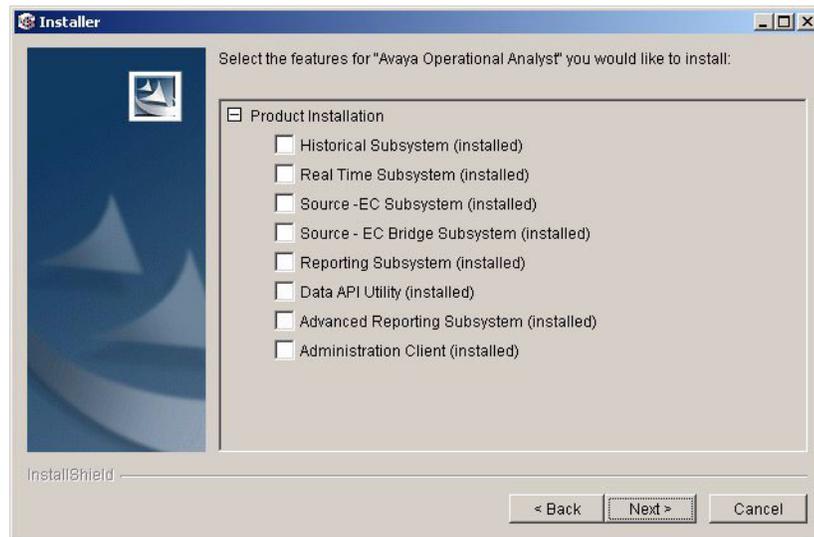
8. Enter and confirm the password for the installed user ID.

9. Click **Next**.

Note:

There may be a long delay before the next dialog box is displayed.

The **Feature Selection** dialog box is displayed showing the components that were previously installed. In this example, all available components are installed.



Making changes to installed Avaya OA components

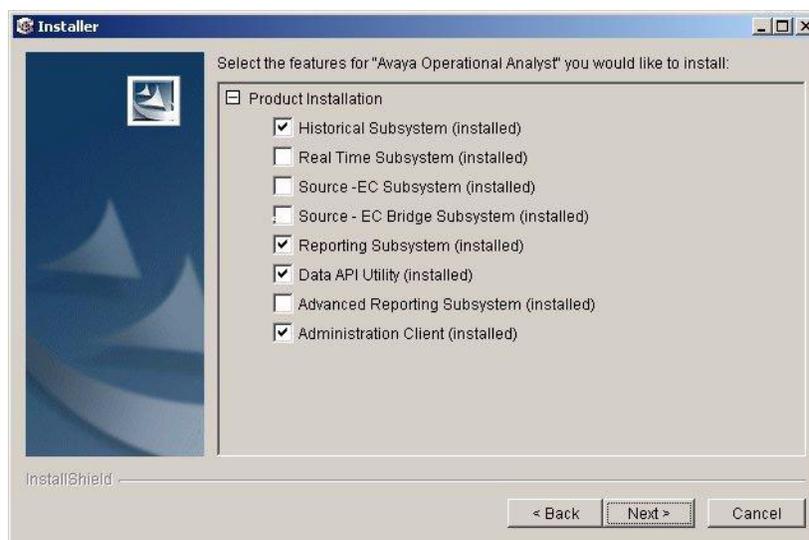
10. Select the components to you want to repair.

Important:

After selecting or clearing a check box, there may be a delay before the dialog box refreshes and you see the check mark or the check mark is cleared. This may take a few seconds. Do not select or clear another check box until the dialog box refreshes and you can see that the check box has been selected or cleared.

You can only select components that are already installed. If you want to install a new component, see the procedure [Adding Avaya OA components](#) on page 155.

The following example shows the **Feature Selection** dialog box with the Historical subsystem, Reporting subsystem, Data API Utility, and Administration client selected for repair:



11. Click **Next**. One of the following occurs:

- If you are repairing the Historical subsystem or the Report subsystem on a Windows or Solaris system, the **Reports Configuration** dialog box is displayed, but no options can be changed. Continue with Step 12.
- If you are repairing the Report subsystem on an AIX system, and the Report subsystem was previously installed using a non-default WebSphere Administrative Console user ID, the **Reports Configuration** dialog box is displayed showing the current **WebSphere Admin Console User ID**. The user ID password must be entered and confirmed. Continue with Step 12.
- If you are not repairing the Historical subsystem or the Report subsystem, the process continues with Step 13.

12. Click **Next**.

13. If you are repairing the Historical subsystem, the **Historical Server Configuration** dialog box is displayed. If you are not repairing the Historical subsystem, continue with Step 16.



14. Do the following:

- If you need to add a new data collection source, select that source, either **IC** or **CMS**.
- If you are just repairing an existing data collection source, do not select a new source.
- Complete the **Alarm Services** options as needed. The server name must be the server where the Source-EC subsystem is installed. This information may already be displayed, but can be changed if needed.

15. Click **Next**.

16. One of the following occurs:

- If you are repairing only the Source-CMS subsystem on a Solaris server, the CMS User ID dialog box is displayed and you must enter and confirm the password for the Informix user ID. Continue with Step 26.
- If you are repairing only the Real-time subsystem, continue with Step 24.
- If you are repairing the Historical subsystem, continue with Step 17.

Making changes to installed Avaya OA components

17. The **Database Configuration** dialog box is displayed. Only the password fields can be changed.



The screenshot shows a window titled "Installer" with a blue header bar. On the left is a vertical blue bar with a white shield icon and the text "InstallShield" at the bottom. The main area is light gray and contains several input fields:

- DB Administrator Password: [] Confirm: []
- OA DB User ID: [oracle]
- OA DB User Password: [*****] Confirm: [*****]
- DB Instance Name: [dssdb]
- TCP/IP Port Number: [1521]
- Oracle TNS Service Name: [ruffles.oadb]

At the bottom right are three buttons: "< Back", "Next >", and "Cancel".

18. Enter and confirm the administrator password. If during the repair you are adding Avaya IC as a data collection source, enter the **IC DB User ID**, **IC DB User Password**, **IC Repository Database** name (not shown in the above example).

19. Click **Next**.

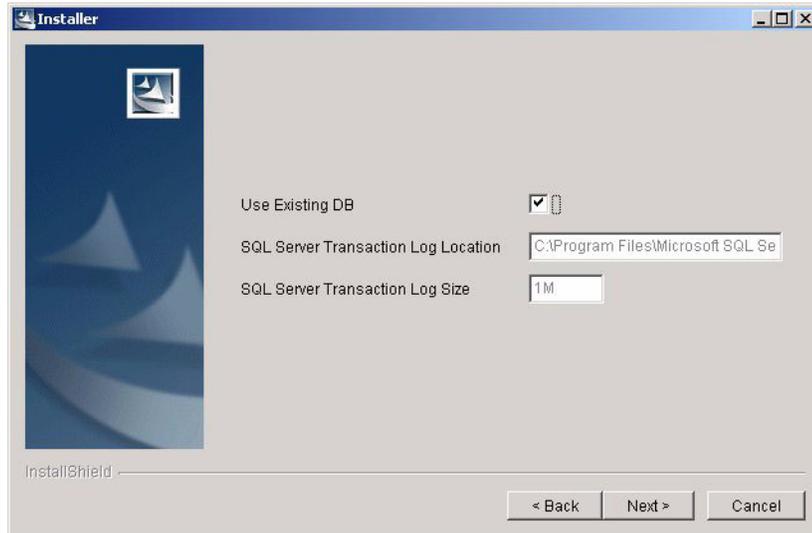
A warning message may be displayed.

20. Click **OK** to acknowledge the warning.

Note:

There may be a long delay before the next dialog box is displayed.

The following dialog box is displayed when using Microsoft SQL Server. If you are not using Microsoft SQL, continue with Step 24.



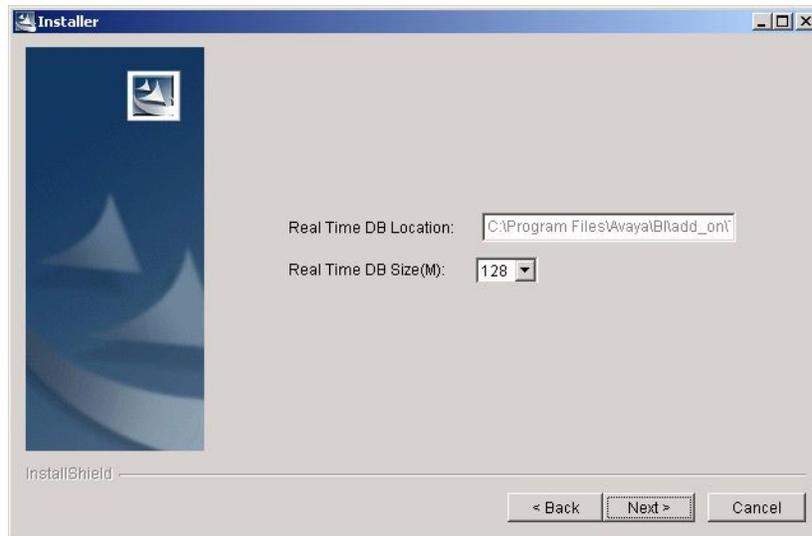
21. Select **Use Existing DB** if you want to use an existing database.

22. If you choose to not use the existing database, enter the size and location of the Microsoft SQL Server Transaction Log. You can use the default locations if you want.

23. Click **Next**.

Making changes to installed Avaya OA components

24. If you are repairing the Real-time subsystem, the **Real-time Database** dialog box is displayed, but no options can be changed. If you are not repairing the Real-time subsystem, continue with Step 26.



25. Click **Next**.

Note:

There may be a long delay before the next dialog box is displayed.

26. The **Installation Preview** dialog box is displayed listing the components you have selected.
27. Scroll through the preview dialog box to verify the selected components and configuration data.

CAUTION:

Do *not* close the **Progress** dialog box after you have clicked **Next** in the following step. If you close the **Progress** dialog box after the installation has started, the installation will be disrupted and you must contact Avaya support to do a manual cleanup of the installation.

28. Click **Next** to start the installation.

The **Progress** dialog box is displayed showing the progress of the installation, which will take several minutes. Near the end of the installation, the dialog box will go blank for some time.

When the installation is finished, the **Install Complete** dialog box is displayed.

29. Click **Next**.

- On Solaris and AIX, the **Install Complete** dialog closes and the repair is finished.
- On Windows, the **Restart System** dialog box is displayed.

Before you reboot the server, make sure that a copy of the `server.properties` file is saved in case it is deleted during the reboot. Do the following:

- Open Windows Explorer.
- Navigate to `%PABASE%\BI\data\admin`.
- Copy the `server.properties` file onto the Windows clipboard.
- Go to your Windows desktop (or some other location other than the OA installation directory) and paste the `server.properties` file there.

 **Important:**

You must always restart a Windows server at this time for OA to operate properly. If you are not requested to restart the server, you must manually restart the server.

- Go back to the **Restart System** dialog box, select the option to restart your system now, and click **Next**.
- After the system reboots, navigate to `%PABASE%\BI\data\admin`.
- Verify that the `server.properties` file is in the folder.
- If the file is not in the folder, go to the location where you saved a copy of `server.properties` and copy the file onto the Windows clipboard.
- Navigate to `%PABASE%\BI\data\admin`.
- Paste the `server.properties` file into the folder.

30. Do one of the following:

- On Windows, press the eject button on the CD-ROM drive, remove the CD-ROM, and store it in a safe location.
- On Solaris, close all but one terminal window and enter:

```
cd /
eject cdrom
```

- On AIX, close all but one terminal window and enter:

```
cd /
umount /cdrom
```

31. Press the eject button on the CD-ROM drive (AIX only), remove the OA CD-ROM, and store it in a safe location.

Completing a repair to Avaya OA software

Depending on the platform you are using, use the procedures in the following sections to complete your repair:

- [To complete a repair to a Windows system](#) on page 204
- [To complete a repair to a Solaris system](#) on page 207
- [To complete a repair to an AIX system](#) on page 213

To complete a repair to a Windows system

1. Log in using an OA user ID and password (see [Creating user IDs and group IDs on Windows servers](#) on page 96 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).

2. Open a command prompt window.

3. If Terminal Services is enabled, enter:

```
change user /execute
```

4. In the command prompt window, enter the following command to show what processes are running:

```
pa list
```

A listing similar to the following is displayed.

.	system boot	Dec 20 07:54				
.	run-level 4	Dec 31 10:23	4	0	@	
java	.	Dec 20 07:54	.	292	id=admb	
java	.	Dec 20 07:54	.	52	id=adm0	
java	.	Jan 02 16:16	.	995	id=ams	
java	.	Dec 20 07:54	.	295	id=aut	
java	.	Dec 20 07:54	.	296	id=schd	
.						
.						
.						

Note that:

- There should be several Java entries, and these lines should not have an exit code at the end of the line.
- If there are any exit codes displayed on the Java entries, that process is not running. Escalate the problem to Avaya Technical Support.
- The `id=aut` and `id=schd` will only display when the Historical subsystem is installed.

- The recorder entries are displayed only if you are collecting data from CMS or Avaya IC. Forwarder entries may be displayed on a server that has the Real-time subsystem installed.

5. If you get the message `mom is not active`, enter:

```
pa start all
```

6. Repeat Step 4 to verify that OA has started.

7. Enter:

```
oalist
```

A message similar to the following is displayed listing what components are installed on this server:

```
Subsystems installed
  Real Time
  Reports
  Data API Utility
  Source-EC

Server Names
  Historical: bigbird
  Alarm Server Type: IC
  Alarm Server: grover

Database information
  Type: DB2
  Instance Name: icoadb
  OA DB Name: icoadb
  DB2 Version: 8.x

User information
  OA User ID: biadmin
  Group ID: oaadmin

Reports information
  WebSphere Root: /usr/IBM/WebSphere/AppServer
  HTTP Root: /usr/IBMIHS
  WebSphere Application Server: server1
  WebSphere Admin Console User: biadmin

OA Software information
  Version Installed: 7.0.0.025
```

8. Select **Start > Programs > Administrative Tools > Services**.

Making changes to installed Avaya OA components

9. Validate that the following services are started and are set to start automatically. If they are not administered to start automatically, administer them as such.
 - If the Historical subsystem is installed, check for the following:
 - Avaya Business Intelligence Service
 - ORBacus Naming Service
 - If the Real-time subsystem is installed, check for the following:
 - Avaya Business Intelligence Service
 - ORBacus Naming Service
 - TimesTen Data Manager 5.0
 - If the Report subsystem is installed, check for the following:
 - Avaya Business Intelligence Service
 - ORBacus Naming Service
 - Stumbras-Tomcat
 - If the Source-EC (Event Collector) subsystem is installed, check for the following:
 - ORBacus Naming Service
10. If you are not successful starting OA, see [Starting and stopping OA-related processes](#) on page 41 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting* for more troubleshooting information.

To complete a repair to a Solaris system

1. Log out of the desktop environment.
2. Log in using an OA user ID and password (see [Creating user IDs and group IDs on Solaris servers](#) on page 99 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).

CAUTION:

Do not use any OA commands while logged in as `root`. Using the `root` login ID on these commands will change ownership of files and will make them unusable by the OA user ID.

3. Enter:

```
. /opt/BI/.profile
```

4. Enter the following command to show what processes are running:

```
pa list
```

A listing similar to the following is displayed.

.	system boot	Dec 20 07:54				
.	run-level 4	Dec 31 10:23	4	0	@	
java	.	Dec 20 07:54	.	292	id=admb	
java	.	Dec 20 07:54	.	52	id=adm0	
java	.	Jan 02 16:16	.	995	id=ams	
java	.	Dec 20 07:54	.	295	id=aut	
java	.	Dec 20 07:54	.	296	id=schd	
.						
.						
.						

Note that:

- There should be several Java entries, and these lines should not have an exit code at the end of the line.
- If there are any exit codes displayed on the Java entries, that process is not running. Escalate the problem to Avaya Technical Support.
- The `id=aut` and `id=schd` will only display when the Historical subsystem is installed.
- The recorder entries are displayed only if you are collecting data from CMS or Avaya IC. Forwarder entries may be displayed on a server that has the Real-time subsystem installed.

5. If you get the message `mom is not active`, enter:

```
pa start all
```

6. Repeat Step 4 to verify that OA has started.

Making changes to installed Avaya OA components

7. If you are not successful starting OA, see [Starting and stopping OA-related processes](#) on page 41 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting* for more troubleshooting information.

8. Enter:

```
oalist
```

A message similar to the following is displayed:

```
Subsystems installed
  Real Time
  Reports
  Data API Utility
  Source-EC

Server Names
  Historical: bigbird
  Alarm Server Type: IC
  Alarm Server: grover

Database information
  Type: DB2
  Instance Name: icoadb
  OA DB Name: icoadb
  DB2 Version: 8.x

User information
  OA User ID: biadmin
  Group ID: oaadmin

Reports information
  WebSphere Root: /usr/IBM/WebSphere/AppServer
  HTTP Root: /usr/IBMIHS
  WebSphere Application Server: server1
  WebSphere Admin Console User: biadmin

OA Software information
  Version Installed: 7.0.0.025
```

9. If the Historical subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the Avaya Business Intelligence Service is running:

ps -ef | grep initsrv

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?           0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229   182  0 10:28:00 pts/11   0:00 grep initsrv
```

b. Enter the following command to see if the ORBacus Naming Service is running:

ps -ef | grep nameserv

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin 239   182  0 10:32:21 pts/11   0:00 grep nameserv
```

10. If the Real-time subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the Avaya Business Intelligence Service is running:

ps -ef | grep initsrv

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?           0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229   182  0 10:28:00 pts/11   0:00 grep initsrv
```

b. Enter the following command to see if the ORBacus Naming Service is running:

ps -ef | grep nameserv

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin 239   182  0 10:32:21 pts/11   0:00 grep nameserv
```

Making changes to installed Avaya OA components

- c. Enter the following command to see if the TimesTen Data Manager 5.0 is running:

```
ps -ef | grep timesten
```

A message similar to the following is displayed.

```
root    233      1  0   Dec 23 ?           0:01 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestend
root    234    233  0   Dec 23 ?           0:00 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -id 0
root    235    233  0   Dec 23 ?           0:00 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -id 1
root    236    233  0   Dec 23 ?           0:00 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -id 2
root    237    233  0   Dec 23 ?           0:00 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -id 3
biadmin 244    182  0 10:34:22 pts/11    0:00 grep timesten
```

11. If the Source-CMS subsystem is installed, use the following command and response to verify that the required service is running. If the service is not running, escalate the problem using the normal channels.

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin  239    182  0 10:32:21 pts/11    0:00 grep nameserv
```

12. If the Source-EC subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

- a. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin  239    182  0 10:32:21 pts/11    0:00 grep nameserv
```

13. If the Report subsystem is installed, enter the following commands to start Stumbras:

```
cd $SUN_WEB_HOME/https-stumbras
./start
```

The following message is displayed.

```
.
.
.
Startup: server started successfully
```

14. If the Report subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

- a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?           0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229    182  0 10:28:00 pts/11    0:00 grep initsrv
```

- b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin 239    182  0 10:32:21 pts/11    0:00 grep nameserv
```

Making changes to installed Avaya OA components

c. Enter the following command to see if Stumbras-Tomcat is running:

```
ps -ef | grep https-stumbras
```

A message similar to the following should be displayed.

- For Sun Java System Web Server 6.0:

```
biadmin 6141      1  0   Dec 31 ?           0:00 ./uxwdog -d /usr/iplanet/servers/
https-stumbras/config
biadmin 6143    6142  0   Dec 31 ?           1:01 ns-httpd -d /usr/iplanet/servers/
https-stumbras/config
biadmin 6142    6141  0   Dec 31 ?           0:03 ns-httpd -d /usr/iplanet/servers/
https-stumbras/config
biadmin  254     182  0 10:38:51 pts/11    0:00 grep https-stumbras
```

- For Sun Java System Web Server 6.1:

```
biadmin 28604 28603  0 16:38:23 ?           1:58 webservd -r /opt/SUNWwbsvr -d //o
pt/SUNWwbsvr/https-stumbras/config -n https-st
biadmin 28602      1  0 16:38:22 ?           0:00 ./webservd-wdog -r /opt/SUNWwbsvr
-d //opt/SUNWwbsvr/https-stumbras/config -n h
biadmin 28603 28602  0 16:38:22 ?           0:01 webservd -r /opt/SUNWwbsvr -d //o
pt/SUNWwbsvr/https-stumbras/config -n https-st
biadmin 29266 29259  0 18:55:22 pts/22    0:00 grep https-stumbras
```

To complete a repair to an AIX system

1. Log out of the desktop environment.
2. Log in using an OA user ID and password (see [Creating user IDs and group IDs on AIX servers](#) on page 105 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).

⚠ CAUTION:

Do not use any OA commands while logged in as `root`. Using the `root` login ID on these commands will change ownership of files and will make them unusable by the OA user ID.

3. Enter:

```
. /opt/BI/.profile
```

4. Enter the following command to show what processes are running:

```
pa list
```

A listing similar to the following is displayed.

.	system boot	Dec 20 07:54				
.	run-level 4	Dec 31 10:23	4	0	@	
java	.	Dec 20 07:54	.	292	id=admb	
java	.	Dec 20 07:54	.	52	id=adm0	
java	.	Jan 02 16:16	.	995	id=ams	
java	.	Dec 20 07:54	.	295	id=aut	
java	.	Dec 20 07:54	.	296	id=schd	
.						
.						
.						

Note that:

- There should be several Java entries, and these lines should not have an exit code at the end of the line.
- If there are any exit codes displayed on the Java entries, that process is not running. Escalate the problem to Avaya Technical Support.
- The `id=aut` and `id=schd` will only display when the Historical subsystem is installed.
- The recorder entries are displayed only if you are collecting data from CMS or Avaya IC. Forwarder entries may be displayed on a server that has the Real-time subsystem installed.

5. If OA is not running (mom is not active), enter:

```
pa start all
```

6. Repeat Step 4 to verify that OA has started.

Making changes to installed Avaya OA components

7. If you are not successful starting OA, see [Starting and stopping OA-related processes](#) on page 41 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting* for more troubleshooting information.

8. Enter:

```
oalist
```

A message similar to the following is displayed:

```
Subsystems installed
  Real Time
  Reports
  Data API Utility
  Source-EC

Server Names
  Historical: bigbird
  Alarm Server Type: IC
  Alarm Server: grover

Database information
  Type: DB2
  Instance Name: icoadb
  OA DB Name: icoadb
  DB2 Version: 8.x

User information
  OA User ID: biadmin
  Group ID: oaadmin

Reports information
  WebSphere Root: /usr/IBM/WebSphere/AppServer
  HTTP Root: /usr/IBMIHS
  WebSphere Application Server: server1
  WebSphere Admin Console User: biadmin

OA Software information
  Version Installed: 7.0.0.025
```

9. If the Historical subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?           0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229   182  0 10:28:00 pts/11   0:00 grep initsrv
```

b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin 239   182  0 10:32:21 pts/11   0:00 grep nameserv
```

10. If the Real-time subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?           0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229   182  0 10:28:00 pts/11   0:00 grep initsrv
```

b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin 239   182  0 10:32:21 pts/11   0:00 grep nameserv
```

Making changes to installed Avaya OA components

- c. Enter the following command to see if the TimesTen Data Manager 5.0 is running:

```
ps -ef | grep timesten
```

A message similar to the following is displayed.

```
biadmin 20858 48090 0 13:01:34 pts/0 0:00 grep timesten
root 31910 36980 0 Apr 16 - 0:17 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -verbose -id 2 -facility user
root 32664 36980 0 Apr 16 - 0:17 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -verbose -id 1 -facility user
root 36302 36980 0 Apr 16 - 3:35 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -verbose -id 3 -facility user
root 36980 6302 0 Apr 16 - 0:42 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestend -fg
root 40150 36980 0 Apr 16 - 0:18 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -verbose -id 0 -facility user
```

11. If the Source-EC subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

- a. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885 1 0 Dec 27 ? 38:41 /opt/BI/bin/nameserv -OApport 10000
-OAnumeric
biadmin 239 182 0 10:32:21 pts/11 0:00 grep nameserv
```

12. If the Report subsystem is installed, enter the following commands to stop and restart the WebSphere software:

```
stopWebSphere -w $WEBSPHHERE_HOME -s servername -u userID
-p userpassword
```

```
startWebSphere -w $WEBSPHHERE_HOME -s servername -h HTTP_ROOT -u
userID -p userpassword
```

where *\$WEBSPHHERE_HOME* is the installation path WebSphere (default is /usr/IBM/WebSphere/AppServer), *servername* is the WebSphere Application Server Name under which OA Reports is deployed (default is server1), *HTTP_ROOT* is the installation path for the HTTP Server (default is /usr/IBMIHS), *userID* is the user ID administered for Global Security on WebSphere, and *userpassword* is the password for that user ID.

Note:

If the default values are used for *\$WEBSPHHERE_HOME*, *servername*, or *HTTP_ROOT* then do not use these options. If a Global Security user ID has not been administered, do not use the user and password options.

The following message is displayed.

```
.  
. .  
. .  
ADMU3000I: Server server1 open for e-business; process id is XXXXX
```

Making changes to installed Avaya OA components

13. If the Report subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

- a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?           0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229    182  0 10:28:00 pts/11    0:00 grep initsrv
```

- b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin 239    182  0 10:32:21 pts/11    0:00 grep nameserv
```

- c. Enter the following command to see if WebSphere is running:

```
ps -ef | grep WebSphere
```

A message similar to the following should be displayed.

```

biadmin 28514      1    0   Jun 03    -   4:39 /usr/IBM/WebSphere/AppServer/java/
bin/java -Xbootclasspath/p:/usr/IBM/WebSphere/AppServer/java/jre/lib/ext/
ibmorb.jar:/usr/IBM/WebSphere/AppServer/java/jre/lib/ext/ibmext.jar
-Dwas.status.socket=53964 -classpath /usr/IBM/WebSphere/AppServer/profiles/
default/properties:/usr/IBM/WebSphere/AppServer/properties:/usr/IBM/WebSphere/
AppServer/lib/bootstrap.jar:/usr/IBM/WebSphere/AppServer/lib/j2ee.jar:/usr/IBM/
WebSphere/AppServer/lib/lmproxy.jar:/usr/IBM/WebSphere/AppServer/lib/
urlprotocols.jar:/usr/opt/db2_08_01/java/db2jcc.jar:/usr/opt/db2_08_01/java/
db2jcc_license_cu.jar:/usr/opt/db2_08_01/java/db2jcc_license_cisuz.jar -Xms50m
-Xmx512m -Dws.ext.dirs=/usr/IBM/WebSphere/AppServer/java/lib:/usr/IBM/WebSphere/
AppServer/profiles/default/classes:/usr/IBM/WebSphere/AppServer/classes:/usr/
IBM/WebSphere/AppServer/lib:/usr/IBM/WebSphere/AppServer/installedChannels:/usr/
IBM/WebSphere/AppServer/lib/ext:/usr/IBM/WebSphere/AppServer/web/help:/usr/IBM/
WebSphere/AppServer/deploytool/itp/plugins/com.ibm.etools.ejbdeploy/runtime
-Dcom.ibm.itp.location=/usr/IBM/WebSphere/AppServer/bin
-Djava.util.logging.configureByServer=true -Dibm.websphere.preload.classes=true
-Duser.install.root=/usr/IBM/WebSphere/AppServer/profiles/default
-Dwas.install.root=/usr/IBM/WebSphere/AppServer
-Djava.util.logging.manager=com.ibm.ws.bootstrap.WsLogManager
-Ddb2j.system.home=/usr/IBM/WebSphere/AppServer/cloudscape -Dserver.root=/usr/
IBM/WebSphere/AppServer/profiles/default -Djava.awt.headless=true
-Djava.security.auth.login.config=/usr/IBM/WebSphere/AppServer/profiles/default/
properties/wsjaas.conf -Djava.security.policy=/usr/IBM/WebSphere/AppServer/
profiles/default/properties/server.policy com.ibm.ws.bootstrap.WSLauncher
com.ibm.ws.runtime.WsServer /usr/IBM/WebSphere/AppServer/profiles/default/config
groverNode01Cell groverNode01 server1

```

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14. To verify that OA reports are running using the WebSphere Administrative Console:

a. In a browser window, enter:

```
http://report_server_FQDN:port_number/reports1
```

where *report_server_FQDN* is the fully-qualified domain name of the server where the Report subsystem is installed and *port_number* is the port number assigned to the WebSphere Administrative Console (for example, 9060).

b. Log in to the WebSphere Administration Console using the Global Security user ID and password (if assigned). Otherwise, enter any user ID.

c. Select **Applications > Enterprise Applications**.

d. If there is a green arrow next to **Default**, select the check box to the left of **Default** and select **Stop**.

e. Verify that there is a green arrow next to **OAReports**. If there is a red X, select the check box to the left of **OAReports** and select **Start**. This should change the status to a green arrow. If not, escalate the problem using the normal channels.

Moving subsystems

You may find that you need to move subsystems between servers. Some examples of situations that would require moving subsystems include the following:

- An existing machine in the OA configuration needs to be replaced with a faster machine in order to handle more traffic or more users.
- A single server OA configuration needs to grow to accommodate more traffic or more users. One or more of the OA subsystems are moved from the server to another machine. See [Example of moving subsystems](#) on page 223.
- A machine may need to be replaced because of a hardware failure.
- You may want to consolidate multiple CMS systems into one CMS system.
- The network is changing in such a way that the fully-qualified domain name for one or more machines changes. See [Example for changing a domain name](#) on page 232 for an example.

Note:

There is a prerequisite that TCP/IP and Domain Name Service (DNS) administration be set up for each machine in an OA configuration. See [Appendix B: Networking](#) on page 141 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites* for more information on the TCP/IP administration and DNS resolution prerequisites.

This section includes the following topics:

- [General guidelines](#) on page 222
- [Example of moving subsystems](#) on page 223
- [Moving the Real-time subsystem](#) on page 224
- [Moving the Event Collector subsystem](#) on page 226
- [Moving the Event Collector Bridge subsystem](#) on page 227
- [Moving CMS and ACD subsystems](#) on page 228
- [Moving the Report subsystem](#) on page 231

General guidelines

Follow these general guidelines when moving subsystems:

- Install no more than one of the same type of subsystem on a physical machine. For example there can only be one historical, one real-time, one report, or one CMS subsystem per machine. Some subsystems can be co-resident. CMS is the only subsystem that must reside on a separate physical machine from the other subsystems.
- Choose a low- or no-traffic time to move subsystem. Many subsystem changes require significant changes in data flow.
- Moving the historical database is not supported. Doing so impacts a significant amount of OA and Avaya IC administration.
- Moving the Historical subsystem is not supported.
- Because real-time data is transient, you can install the Real-time subsystem on a new machine. This installs the real-time database on that machine as well. The system forces a pump-up (that is, administration copy from Avaya IC to OA). Change Avaya IC to point to the new Real-time subsystem, and the data flows from Avaya IC to the new machine. See [Moving the Real-time subsystem](#) on page 224.
- If communication between the Historical subsystem and any of the subsystems containing interfaces is failing, attempting to delete those subsystems results in an Admin Client error message. You can stop the delete and work to re-establish the communication or you can proceed with the delete. If you proceed with the delete, the OA database will be updated, but you leave obsolete but functioning interface services on the original server. Use the system console on the original server to stop the services (see [Making changes to installed Avaya OA components](#) on page 149). Then remove the original subsystem, following the instructions in [Removing Avaya OA components](#) on page 243.

Example of moving subsystems

The following example shows how you can take a single-server OA configuration and move to a two-server configuration.

In this example, assume that the following subsystems in a single server system are all on server A:

- Historical
- Real-time
- Avaya IC
- Report

If you want to move the Real-time and Report subsystems to server B:

1. Install the OA Real-time and Report subsystems on the new server, B.

The standard OA installation program installs the software needed for these subsystems, including the real-time database.

2. Move the Real-time subsystem. Follow the instructions in [Moving the Real-time subsystem](#) on page 224.
3. Move the Report subsystem. Follow the instructions in [Moving the Report subsystem](#) on page 231.

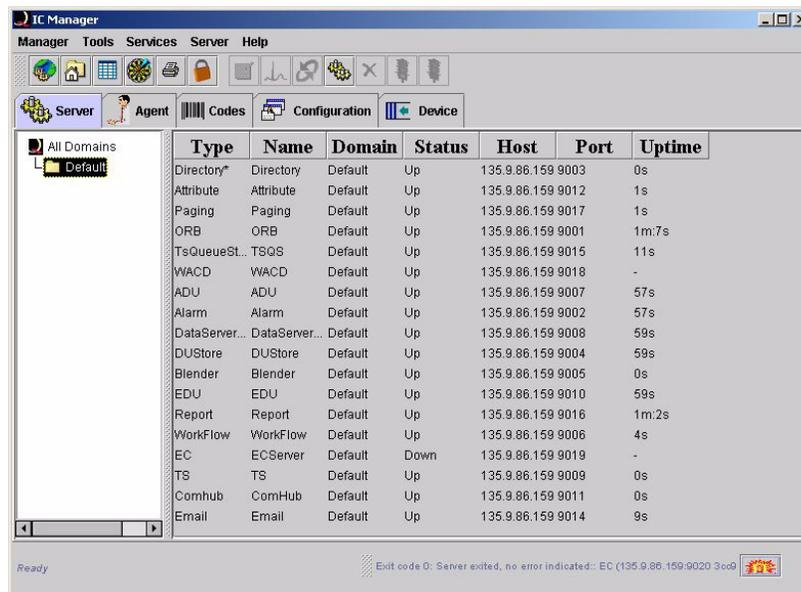
Moving the Real-time subsystem

Move an existing Real-time subsystem to another physical machine by following these steps:

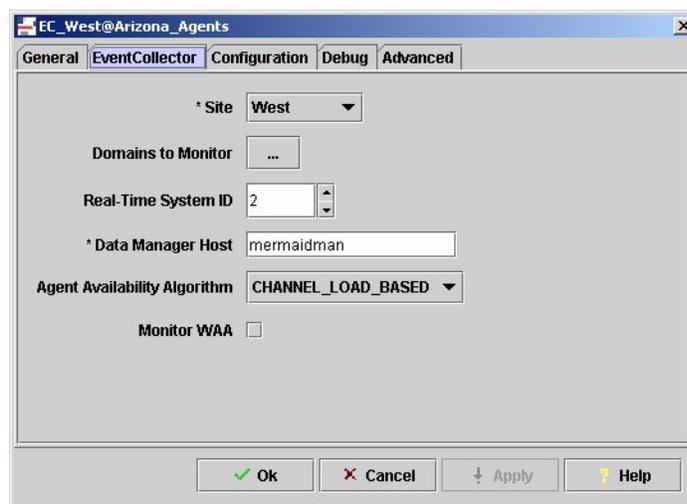
1. Install the OA Real-time subsystem software on the new server (see [Installing Avaya OA components](#) on page 29).
2. Stop all traffic from Avaya IC to OA by stopping the Event Collector server in the IC Manager.
3. On the subsystem window of the Administration client, modify the Real-time subsystem and change the location to be the domain name or IP address for the new machine.

The Administration client will present a list of any interface services that must be disabled before proceeding.
4. Access the **Interface Services** window and select the services in the list. View the current status for each service, then disable each service.
5. Return to the subsystem window and change the server location to that of the new machine.
6. For each Avaya IC subsystem, click **Modify...** to verify that its Real-time subsystem drop-down box reflects the correct Real-time subsystem.
7. Access **IC Manager** and change the Event Controller administration properties to point to the new real-time machine.
8. Using the IC Manager:

- a. Select the **Server** tab.



- b. Select the Event Collector that corresponds to the Real-time subsystem that is being moved. In this case, the name is **ECServer**.
- c. Double-click to access the **Server Editor** dialog.
- d. Select the **Event Collector** tab.



- e. Change the **Data Manager Host** name for the new real-time server.
- f. Click **Apply** and click **Ok**.

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9. Return to the main IC Manager page and view the Services tab. Highlight the Event Collector Server to stop it and start it. Use the buttons with the red and green stoplights.

The Avaya IC and new real-time should be communicating at this point. Traffic can be restarted. The change in data flow will force a pump-up (copy of administration data) from the Avaya IC to OA when the new database comes up.

10. Remove the original subsystem. Follow the instructions given in [Removing Avaya OA components](#) on page 243.

Moving the Event Collector subsystem

To move the Event Collector subsystem:

1. Install the Avaya IC software on the new server (see *Avaya Interaction Center Release 7.0 Installation and Configuration*).
2. Install the Source-EC (Event Collector) component on the new server (see [Installing Avaya OA components](#) on page 29).
3. On the new server, configure the Event Collector so that its properties, Data Manager Host and Real-time System ID, are set correctly. See [Determining Real-time System ID and Data Manager Host](#) on page 136 for more details.
 - The Data Manager Host should refer to the host for the Real-time subsystem.
 - The Real-time System ID should match the Source ID for this Avaya IC subsystem in the OA Administration client.

Note:

There are no changes in OA administration for Avaya IC. OA does not store location data (that is, host name or IP address) for the Avaya IC subsystem. In OA, Avaya IC exists as a logical subsystem with a source ID and an associated Real-time subsystem only.

4. Remove the original subsystem. Follow the instructions given in [Removing Avaya OA components](#) on page 243.

Moving the Event Collector Bridge subsystem

The Event Collector Bridge subsystem can be moved only to a Windows server and to a server that has Business Advocate installed.

To move the Event Collector Bridge subsystem:

1. Install the Avaya IC software on the new server (see *Avaya Interaction Center Release 7.0 Installation and Configuration*).
2. Install the Source-EC Bridge (Event Collector Bridge) component on the new server (see [Installing Avaya OA components on a Windows platform](#) on page 32).
3. On the new server, configure the Event Collector Bridge so that its properties are set correctly. See [Administering the Source-EC Bridge \(Event Collector Bridge\)](#) on page 143 for more details.

Note:

There are no changes in OA administration for Avaya IC. OA does not store location data (that is, host name or IP address) for the Avaya IC subsystem. In OA, Avaya IC exists as a logical subsystem with a source ID and an associated Real-time subsystem only.

4. Remove the original subsystem. Follow the instructions given in [Removing Avaya OA components](#) on page 243.

Moving CMS and ACD subsystems

When you move a CMS subsystem, you must also move the ACD subsystem that applies to that CMS server. This section includes the following topics:

- [Moving a CMS subsystem](#) on page 228
- [Moving ACDs associated with a CMS subsystem](#) on page 230

Moving a CMS subsystem

To move the CMS subsystem to a different CMS server:

1. Install the CMS subsystem on the new server (see [Installing Avaya OA components on a CMS server](#) on page 92).
2. On the subsystem window of the Administration client, highlight the CMS subsystem and click **Modify...**
3. Change the location (domain name or IP address) to location of the new machine.
The Administration client presents a list of interface services that must be disabled before proceeding.
4. Access the **Interface Services** window and select the services in the list. Get the current status for each service and disable each service.

Note:

Depending on the number of services and whether data is being transferred by a forwarder or recorder, disabling the services can take a long period of time. The Administration client may appear to hang during this procedure, but it is just working on the request.

5. Return to the subsystem window and execute the change of the location of the CMS.
6. If necessary, enable the interface services on the new CMS. On the interface services window, select the CMS forwarders that reside on the new server and click **Enable**.
7. Remove the original subsystem. Follow the instructions given in [Removing Avaya OA components](#) on page 243.

Note:

Do not use the above procedure to merge two CMS servers. Successful handling of CMS data requires that all display names be retrieved and that containers be created that use the desired display names. For example, assume CMS-A was collecting data from ACDs 1 and 2, and CMS-B was collecting data from ACDs 3 and 4. Now, the customer wants to use CMS-A to collect data for ACDs 1, 2, 3, and 4, and eliminate CMS-B. The user should configure CMS-A to add support for ACDs 3 and 4. Then the user should move those ACDs to CMS-A by accessing their **Modify...** dialog and changing their CMS Subsystem Name to be CMS-A. Finally, the user should delete CMS-B.

8. For each ACD that was moved, schedule a data collection job to retrieve its display names:
 - a. Access the scheduled jobs window.
 - b. Select **data collection** from the **Job Type** drop-down list. Then click **Add...**
 - c. In the add dialog, select the correct source subsystem and the Historical store of **cms display names**. Set the time parameters for the job such that it runs **Now**
 - d. Click **OK**.
 - e. Click **Save**.
9. On the Scheduled Jobs window, click **Job Status**.

This displays the **Job Status** dialog.
10. Select a Job Type of **data collection** and verify that the job has successfully completed.

The job name should display in the table with a status of **Successful**.
11. Access the **Container Profiles** window to update or add any containers that should now include data for the new ACDs.
12. Remove the original subsystem. Follow the instructions given in [Removing Avaya OA components](#) on page 243.

Moving ACDs associated with a CMS subsystem

Every ACD subsystem has an associated CMS subsystem name. To move an ACD, the CMS subsystem name should be changed on the ACD subsystem dialog.

1. On the subsystem window of the Administration client, highlight the ACD to be moved, and click **Modify...**
2. Change the CMS Subsystem Name drop-down list box to specify a different CMS.
3. Click **OK**.
4. Click **Save**.

The administration client will return a list of interface services that must be disabled before the ACD can be moved.

5. Access the **Interface Services** window and highlight the interface services from the list. View status for each service, then highlight each service and click **Disable**.
6. Return to the subsystem window and modify the ACD again.
7. Change the CMS Subsystem Name.
8. Click **OK**.
9. Click **Save**.

Forwarders will now exist on the new CMS subsystem for that ACD.

10. Access the **Interface Services** window, and if they are not enabled, enable the forwarders in order to begin the data collection for the ACD.
11. Remove the original subsystem. Follow the instructions given in [Removing Avaya OA components](#) on page 243.

Moving the Report subsystem

A Report subsystem can be moved by either changing the location field in the subsystem dialog box, or by installing the new subsystem, adding the new subsystem, and then deleting the old subsystem.

To move a Report subsystem by changing the location field in the subsystem dialog box:

1. Stop running reports on the server where the subsystem is being removed.
2. Install the Report subsystem on the new server using the OA installation CD-ROM. See [Installing Avaya OA components](#) on page 29.
3. On the subsystem window of the Administration client, highlight the Report subsystem and click **Modify...**
4. Change the location (domain name or IP address) to the name of the new machine.
5. Click **OK**.
6. Click **Save**.

Note:

Moving the Report subsystem changes the URL to the reports window. For example, if you had been using the URL `http://machine1/reports1`, the new URL would be `http://machine2/reports1` if you moved the Report subsystem to machine2.

7. Remove the original subsystem. Follow the instructions given in [Removing Avaya OA components](#) on page 243.

To move a Report subsystem by installing the new subsystem, adding the new subsystem, and then deleting the old subsystem:

1. Stop running reports on the server where the subsystem is being removed.
2. Install the Report subsystem on the new server using the OA installation CD-ROM. See [Installing Avaya OA components](#) on page 29.
3. Add the new Report subsystem. See [Adding a Report subsystem](#) on page 132.

Note:

Moving the Report subsystem changes the URL to the reports window. For example, if you had been using the URL `http://machine1/reports1`, the new URL would be `http://machine2/reports1` if you moved the Report subsystem to machine2.

4. Remove the original subsystem. Follow the instructions given in [Removing Avaya OA components](#) on page 243.

Changing subsystem attributes

You may want to change names, IP addresses, and port numbers for subsystems on OA.

This section includes the following topics:

- [Example for changing a domain name](#) on page 232
- [Changing the Historical subsystem machine name or IP address](#) on page 233
- [Changing the naming service port number](#) on page 239

Example for changing a domain name

You may want to change the machine name or IP address of the Historical subsystem server without physically moving the subsystem to another machine. In this example, if the following subsystems are on the following servers:

- Historical subsystem on server A
- Real-time subsystem on server B
- Avaya IC subsystem on server A
- Report subsystem on server B

If you want to change the fully-qualified domain name for the subsystems on server A:

1. Refer to [Appendix B: Networking](#) on page 141 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites* for more information on the TCP/IP administration and DNS resolution prerequisites that are required on OA machines.
2. Change the fully-qualified domain name for the Avaya IC subsystem. See Avaya Interaction Center 7.0 documentation for details.
3. Change the fully-qualified domain name for the Historical subsystem. See [Changing the Historical subsystem machine name or IP address](#) on page 233.

If you want to change the fully-qualified domain name for the subsystems on server B:

1. Refer to [Appendix B: Networking](#) on page 141 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites* for more information on the TCP/IP administration and DNS resolution prerequisites that are required on OA machines.
2. Change the fully-qualified domain name for the Real-time subsystem:
 - a. Enter the **Subsystem** screen in the OA Administration client.
 - b. Highlight the Real-time subsystem that should be changed.
 - c. Select **Modify**.

- d. Change the contents of the field labeled **Internet domain name** to the correct name.
 - e. Select **OK**.
 - f. Select **Save** in the **Subsystem** screen.
3. Change the fully-qualified domain name for the Report subsystem:
 - a. Enter the **Subsystem** screen in the OA Administration client.
 - b. Highlight the Reports subsystem that should be changed.
 - c. Select **Modify**.
 - d. Change the contents of the field labeled **Internet domain name** to the correct name.
 - e. Select **OK**.
 - f. Select **Save** in the **Subsystem** screen.
 4. Restart Stumbras-Tomcat on the Report subsystem (in this example, on Windows):
 - a. Log in as an administrative user.
 - b. Select **Start > Programs > Administrative Tools > Services**.
 - c. Restart the Stumbras-Tomcat service.

Changing the Historical subsystem machine name or IP address

You may want to change the machine name or IP address of the Historical subsystem server without physically moving the subsystem to another machine. These changes are made only to the administration of the machine.

Note:

These steps assume that the database was installed using the Administrator login that is local to the current machine. If a different login was used during the installation, there may be issues with the database administration that must be resolved according to the database manufacturer's instructions.

To change the name or IP address for the machine where the Historical subsystem is installed:

1. Log in using the appropriate user ID and password (see [Creating users and setting OS parameters](#) on page 95 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).

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2. Stop all traffic to OA from every CMS and Avaya IC.
 - For CMS:
 - i. Go to the Interface Services window and highlight each of the forwarders for each CMS. That is, the Subsystem column contains the name of the CMS.
 - ii. Press **View Status**.
 - iii. Highlight them again.
 - iv. Select **Disable** and **Save**.
 - For Avaya IC:
 - i. Go to the IC Manager for each Avaya IC.
 - ii. In the **Server** tab, highlight the Event Collector and stop it.
 - iii. In the **Server** tab, highlight the Event Collector Bridge and stop it.
3. Follow the operating system instructions for changing a fully qualified domain name or IP address. On Windows, this includes using **Control Panel** to change the system's domain. Make necessary changes to the DNS server IP addresses.

Note:

Do not use the `hosts` file to resolve hostnames to IP addresses in OA configurations. Be sure DNS administration resolves all machine names in the same way.

4. On a Windows system, restart the system and log in to the new domain.
5. On the Historical server, update the following files manually:

The file path on Solaris and AIX is `$PABASE/data/admin/`.

The file path on Windows is `%PABASE%\data\admin\`.

- Change the `hostname` and `service` properties in the `db.properties` file from:

```
hostname=<old-machine-name>
```

```
service =<old-machine-name>.<db-instance-name>
```

to:

```
hostname=<new-machine-name>
```

```
service =<new-machine-name>.<db-instance-name>
```

- Change the `REPORT_GROUP`, `ADMIN_GROUP` and `RWRITER_GROUP` properties in the `autserver.properties` file (Windows) from:

```
ADMIN_GROUP    =[old-domain-name]\\<admin-client-user-group>
REPORT_GROUP   =[old-domain-name]\\<report-srvr-user-group>
RWRITER_GROUP  =[old-domain-name]\\<report-writer-user-group>
```

to:

```
ADMIN_GROUP    =[new-domain-name]\\<admin-client-user-group>
REPORT_GROUP   =[new-domain-name]\\<report-srvr-user-group>
RWRITER_GROUP  =[new-domain-name]\\<report-writer-user-group>
```

- Change the `REPORT_GROUP` and `ADMIN_GROUP` properties in the `autserver.properties` file (Solaris and AIX) from:

```
ADMIN_GROUP    =[old-machine-name]\<admin-client-user-group>
REPORT_GROUP   =[old-machine-name]\<report-srvr-user-group>
RWRITER_GROUP  =[old-machine-name]\\<report-writer-user-group>
```

to:

```
ADMIN_GROUP    =[new-machine-name]\<admin-client-user-group>
REPORT_GROUP   =[new-machine-name]\<report-srvr-user-group>
RWRITER_GROUP  =[new-machine-name]\\<report-writer-user-group>
```

6. Stop OA by doing one of the following:

- On Windows:
 - i. Select **Start > Programs > Administrative Tools > Services**.
 - ii. Select **Avaya Business Intelligence Service**.
 - iii. Select **Action > Stop**.
- On Solaris and AIX, enter the following commands:


```
. /opt/BI/.profile
pa stop all
```

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7. Change the following properties in the `server.properties` file from:

```
histserver=[name of historical server]
```

```
reportsServer=[name of reports server]
```

```
histDBserver=[name of database server]
```

```
histDbName=[name of database server]
```

to

```
histserver=[new name of historical server]
```

```
reportsServer=[new name of reports server]
```

```
histDBserver=[new name of database server]
```

```
histDbName=[new name of database server]
```

Note:

If the name of the given server is fully qualified, the new name must be fully qualified. If the name of the given server is not fully qualified, the new name must not be fully qualified. If the name is blank, no change is necessary.

8. Stop and start Orbacus Naming Service.

- On Windows:
 - i. Select **Start > Programs > Administrative Tools > Services**.
 - ii. Select **ORBacus Naming Service**.
 - iii. Select **Action > Stop**.
 - iv. Select **Action > Start**.

- On Solaris and AIX:

i. Edit `/etc/inittab` and change the following lines from:

```
in:234:respawn:/opt/BI/bin/initsrv.sh
```

```
nm:234:respawn:/opt/BI/bin/nameserv.sh
```

to:

```
in:234:off:/opt/BI/bin/initsrv.sh
```

```
nm:234:off:/opt/BI/bin/nameserv.sh
```

ii. Enter:

```
init q
```

This turns these daemons off. To turn them on, change the same lines back to `respawn` and enter the `init q` command again.

9. Stop and start the Web server.

- On Windows:

- i. Select **Start > Programs > Administrative Tools > Services**.
 - ii. Select **Stumbras-Tomcat**.
 - iii. Select **Action > Stop**.
 - iv. Select **Action > Start**.
- On Solaris, enter the following commands:


```
cd $SUN_WEB_HOME/https-stumbras
./stop
./start
```
 - On AIX, enter the following commands:


```
. /home/instanceID/.profile
stopWebSphere -w $WEBSPHHERE_HOME -s servername -u userID
-p userpassword
startWebSphere -w $WEBSPHHERE_HOME -s servername -h HTTP_ROOT
-u userID -p userpassword
```

where *\$WEBSPHHERE_HOME* is the installation path WebSphere (default is /usr/IBM/WebSphere/AppServer), *servername* is the WebSphere Application Server Name under which OA Reports is deployed (default is server1), *HTTP_ROOT* is the installation path for the HTTP Server (default is /usr/IBMIHS), *userID* is the user ID administered for Global Security on WebSphere, and *userpassword* is the password for that user ID.

Note:

If the default values are used for *\$WEBSPHHERE_HOME*, *servername*, or *HTTP_ROOT* then do not use these options. If a Global Security user ID has not been administered, do not use the user and password options.

The following message is displayed.

```
.
.
.
ADMU3000I: Server server1 open for e-business; process id is XXXXX
```

10. Start OA:

- On Windows:
 - i. Select **Start > Programs > Administrative Tools > Services**.
 - ii. Select **Avaya Business Intelligence Service**.
 - iii. Click on **Action > Start**.
- On Solaris and AIX:


```
pa start all
```

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11. On every server that is *not* a Historical server, manually update the following files:

`$PABASE/data/admin/server.properties` (Solaris and AIX)

`%PABASE%\data\admin\server.properties` (Windows)

Change the `histserver` property from:

`histserver=<old-machine-name>`

to:

`histserver=<new-machine-name>`

12. On every server that is *not* a Historical server, use the console to stop and start OA, entering:

```
pa stop all
```

```
pa start all
```

 **Important:**

Stopping and starting all OA processes forces to restart and re-read the `server.properties` file. OA will not function correctly if this step is not performed.

13. On every Windows client PC where the OA Administration client is installed, edit the `%PABASE%\AdminPol.html` and `%PABASE%\AdminSig.html` files. The server name should be changed to the server name where the new Historical subsystem is installed.

Change the `SERVER_NAME` property from:

```
<PARAM NAME="SERVER_NAME" VALUE="OLD-NAME" >
```

```
SERVER_NAME="OLD-NAME"
```

to:

```
<PARAM NAME="SERVER_NAME" VALUE="NEW-NAME" >
```

```
SERVER_NAME="NEW-NAME"
```

14. Restart the client software.
15. Open the **Subsystems** window of the OA Administration client. An asterisk (*) is displayed next to the Historical subsystem, indicating that the hostname and IP address are no longer in sync. Change the domain name to the new domain, then click **OK** and **Save**.
16. Enable the forwarders for CMS.
17. Start the Event Collector and Event Collector Bridge for Avaya IC using IC Manager.

Changing the naming service port number

You may need to change the port number used by the ORBacus naming service. This is required if you are using another product that accesses the same port number as the default value used by OA. The default port number, 10000, can be changed to anything that is supported by the operating system. The instructions below explain how to manually change the port number for the naming service and the OA software. The port number change must be applied to all hosts of the system.

To change the naming service port number:

1. Log in using an OA user ID and password (see [Creating users and setting OS parameters](#) on page 95 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).

2. In a command prompt window, enter:

```
. /opt/BI/.profile  
pa stop all
```

Making changes to installed Avaya OA components

3. On Windows only:
 - a. Select **Start > Programs > Administrative Tools > Services**.
 - b. Stop the Avaya Business Intelligence service, the ORBacus Naming Service, and the Stumbras-Tomcat service.
4. In the following file on the OA server running the Report subsystem:
 - `%PABASE%\stumbras\webapp\WEB-INF\config\ConfigService\ConfigureService.xml` (Windows)
 - `$SUN_WEB_HOME/https-stumbras/webapp/WEB-INF/config/RTPAService/RTPAService.properties` (Solaris Sun Java Web Server 6.0)
 - `$SUN_WEB_HOME/https-stumbras/webapps/WEB-INF/config/RTPAService/RTPAService.properties` (Solaris Sun Java Web Server 6.1)
 - `$WEBSPPHERE_HOME/profiles/default/installedApps/hostnameNode01Cell/OAReports.ear/stumbras.war/WEB-INF/config/ConfigService/ConfigureService.xml` (AIX)

change 10000 on the line `<Port>10000</Port>` to the port number you want to use:
5. In the following file on all OA servers, the Avaya IC server where the EC has been installed, and to the PCs running the Administration Client:
 - `%PABASE%\data\admin\server.properties` (Windows)
 - `$PABASE/data/admin/server.properties` (Solaris and AIX)

add the line `NSPort=<port>` where `<port>` is the same port number you used in the `ConfigureService.xml` file in the previous step.
6. In the registry editor (`regedit`) on a Windows server, change the port value located at `HKEY_LOCAL_MACHINE\SOFTWARE\OOC\Properties\ooc\naming\port`. Do this on all Windows OA servers, the Windows Avaya IC server where the EC has been installed, and to the Windows PCs running the Administration Client.
7. Using `sqlplus` for Oracle, Query Analyzer for Microsoft SQL, and `db2` for DB2, apply the following query to the historical database, once for each Real-time host:

```
update dcProperty
set value = 'corbaname::hostname:port#CRM_BI.root/real.pkg/
RTDSSDSGatewayV1.obj'
```

where:

 - `value` is similar to `N' %<hostname>%RTDSSDSGatewayV1.obj '`
 - `name` is similar to `'RTPAConfig.Server%CorbaURL'`;
 - `hostname` is the name of one of the real time subsystem host

- *port* is the same port number you used for the OA hosts

You need to run this query for each Real-time host. For example, if you have two Real-time hosts, called *firstRT* and *otherRT*, and you want to change the port number to 5000, you will need to run these two queries:

```
update dcProperty
```

```
set value = 'corbaname::firstRT:5000#CRM_BI.root/real.pkg/
  RTDSSDSGatewayV1.obj'
```

```
update dcProperty
```

```
set value = 'corbaname::otherRT:5000#CRM_BI.root/real.pkg/
  RTDSSDSGatewayV1.obj'
```

8. On Windows only:

- Select **Start > Programs > Administrative Tools > Services**.
- Start the Avaya Business Intelligence service, the ORBacus Naming Service, and the Stumbras-Tomcat service.

9. On Solaris and AIX:

- In the file *\$PABASE/bin/nameserv.sh*, update the line *-Oaport port* where *port* is the port number you want to use.
- Make a backup copy of the */etc/inittab* file. Use the command:

```
cp /etc/inittab /etc/inittab.orig
```

CAUTION:

Be very careful when editing the */etc/inittab* file. Errors can cause the system to stop working.

c. Open */etc/inittab* and change the following lines from:

```
in:234:respawn:/opt/BI/bin/initsrv.sh
nm:234:respawn:/opt/BI/bin/nameserv.sh
to:
```

```
in:234:off:/opt/BI/bin/initsrv.sh
nm:234:off:/opt/BI/bin/nameserv.sh
```

d. Enter:

```
init q
```

This turns these daemons off. To turn them on, change the same lines back to *respawn* and enter the *init q* command again.

10. In a command prompt window, enter:

```
pa start all
```

To change the naming service port number on a Windows platform where the EC Server is installed:

1. Access the IC Manager tool.
2. Select the **Configuration** tab.
3. Add a new name/value pair for `NSPort=port` where `port` is the same port number you used for the OA hosts. This is done by clicking on the `->=` (New) icon in the configuration tab dialog.

To change the naming service port number on a Solaris platform running CMS:

1. Log in as `root`.
2. In a terminal window, enter:

```
. /opt/BI/.profile
pa stop all
```
3. In the file `$PABASE/data/admin/server.properties`, add the line `NSPort=port` where `port` is the port number you want to use.
4. In the file `$PABASE/bin/nameserv.sh`, update the line `-Oaport port` where `port` is the port number you want to use.
5. Make a backup copy of the `/etc/inittab` file. Use the command:

```
cp /etc/inittab /etc/inittab.orig
```

CAUTION:

Be very careful when editing the `/etc/inittab` file. Errors can cause the system to stop working.

6. Open `/etc/inittab` and change the following lines from:

```
in:234:respawn:/opt/BI/bin/initsrv.sh
nm:234:respawn:/opt/BI/bin/nameserv.sh
to:
in:234:off:/opt/BI/bin/initsrv.sh
nm:234:off:/opt/BI/bin/nameserv.sh
```

7. Enter:

```
init q
```

This turns these daemons off. To turn them on, change the same lines back to `respawn` and enter the `init q` command again.

8. Enter:

```
pa start all
```

Removing Avaya OA components

You can remove individual components or all of the OA software. When a source subsystem is deleted, it is not removed from the database. The associated data is not purged from the database, which allows reports to continue to access the data collected from a source prior to its deletion.

 **CAUTION:**

Before removing any components, Avaya strongly recommends that you do a backup of the database and file systems.

This section includes the following topics:

- [Considerations when removing OA components](#) on page 243
- [Removing Avaya OA components on Windows](#) on page 243
- [Removing Avaya OA software on Solaris](#) on page 250
- [Removing Avaya OA software on AIX](#) on page 259

Considerations when removing OA components

When removing OA components, consider the following:

- If you remove the Real-time subsystem from a server, the supporting TimesTen software is not removed. If there is no need to keep the software on that server, you should manually remove the TimesTen software.

Removing Avaya OA components on Windows

To remove OA components on Windows:

1. Stop all OA processes. See [Stopping or starting processes and services before making changes](#) on page 151.
2. Log in as a user with administration privileges.
3. If Terminal Services is enabled, enter `change user /install` in a command prompt window.
4. Select **Start > Settings > Control Panel**.

The **Control Panel** dialog box is displayed.

Making changes to installed Avaya OA components

5. Double-click **Add or Remove Programs**.

The **Add or Remove Programs** dialog box is displayed.

6. Under **Avaya Operational Analyst**, select **Change/Remove**.

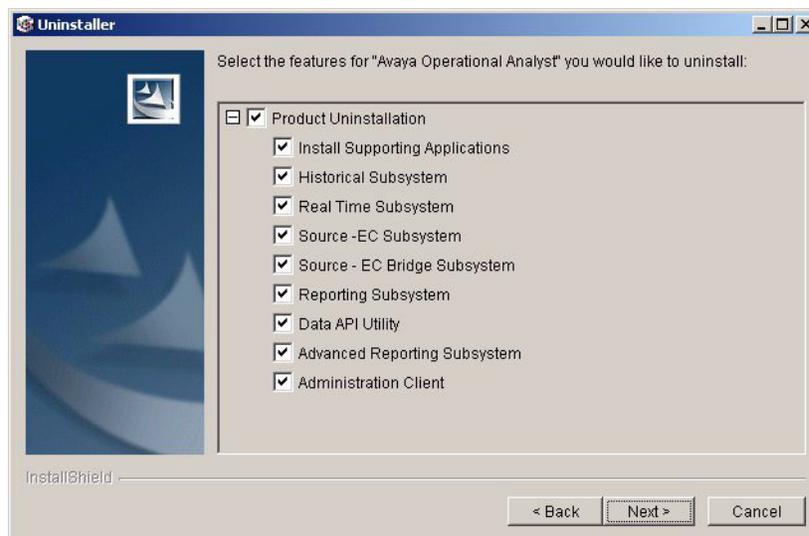
After several seconds, the **Initializing wizard** window is displayed, followed by the **Welcome** dialog box. If errors appear on this dialog box, the uninstall process has failed and you must remove the software manually. Contact support for help.

Important:

You can stop the removal at any time by clicking **Cancel** before you start the actual removal of files (see Step 10). If you click **Cancel**, you will be asked to confirm your intention to cancel. If you cancel, the removal is terminated and the system is restored to its previous state.

7. Click **Next**.

The **Feature Selection** dialog box is displayed. Components that are currently installed are shown with check marks. Components that are not installed are greyed out (hidden).



CAUTION:

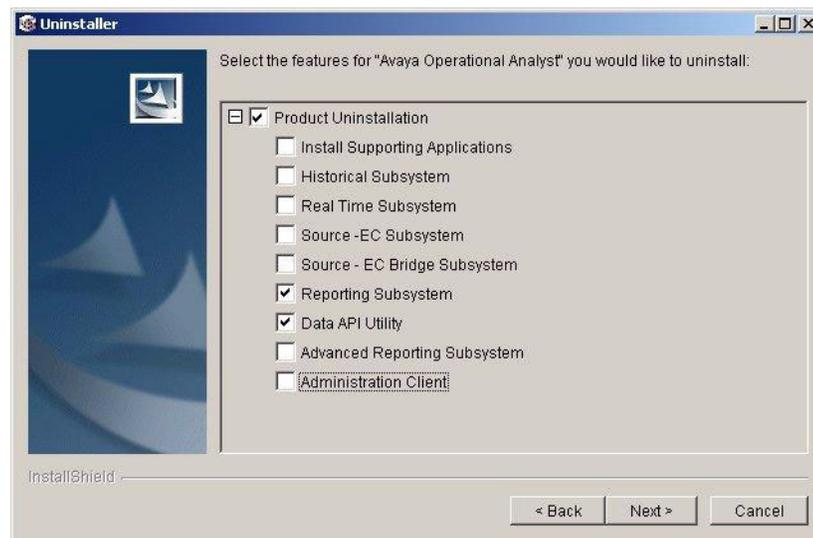
Any component that is selected will be removed. If you want to remove only some components, make sure that the components you want to keep are *not* checked. Do *not* select or clear the main **Product Uninstallation** or **Install Supporting Applications** check boxes; the software will automatically set these options depending on what components are being removed.

8. Leave checks in the components you want to remove, and clear the check marks for the components you want to keep.

⚠ Important:

After selecting or clearing a check box, there may be a delay before the dialog box refreshes and you see the check mark or the check mark is cleared. This may take a few seconds. Do not select or clear another check box until the dialog box refreshes and you can see that the check box has been selected or cleared.

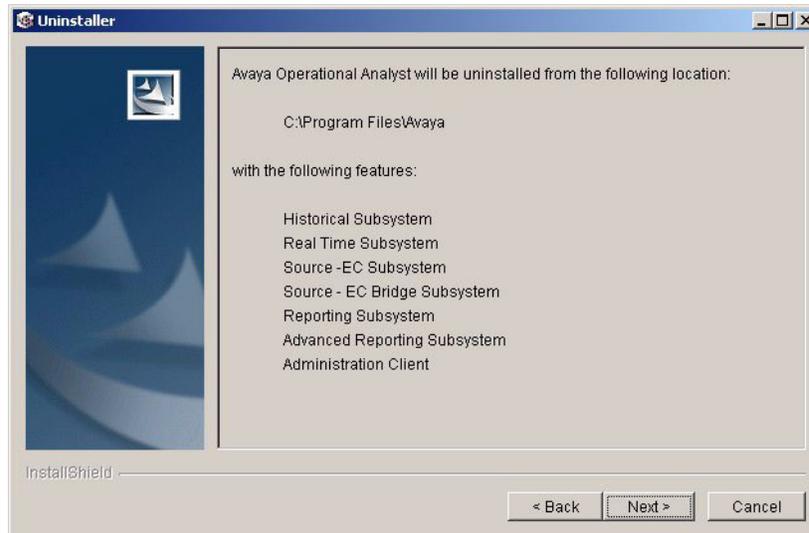
The following example shows that you are removing the Reporting subsystem and the Data API Utility.



Making changes to installed Avaya OA components

9. Click **Next**.

A confirmation dialog box is displayed.



! CAUTION:

Do *not* close the dialog box after you have clicked **Next** in the following step. If you close the dialog box after the removal has started, the removal will be disrupted and you must contact Avaya support to do a manual cleanup of the removal.

10. Click **Next**.

The uninstall process begins. If you receive any messages, take note of the messages and click **Next** to continue. When the uninstall is complete, which will take several minutes, the **Uninstall Complete** dialog box is displayed.

! CAUTION:

If you get any failure messages saying that the uninstall could not be completed, do not attempt to do another uninstall. Escalate the problem through normal channels.

11. When the uninstall process completes, which will take several minutes, the uninstall complete dialog box is displayed.

12. Click **Next**.

The **Restart System** dialog box is displayed.

13. Select the option to restart your system now and click **Next**.

⚠ Important:

You must always restart a Windows server at this time for OA to operate properly. If you are not requested to restart the server, you must manually restart the server.

14. Do one of the following:

- If you removed all components from this server, you are finished.
- If you did not remove all components from this server, continue with Step 15.

15. Log in using an OA user ID and password (see [Creating user IDs and group IDs on Windows servers](#) on page 96 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).

16. Open a command prompt window.

17. In the command prompt window, enter the following command to show what processes are running:

```
pa list
```

A listing similar to the following is displayed.

```

.      system boot  Dec 20 07:54
.      run-level 4  Dec 31 10:23    4      0      @
java   .            Dec 20 07:54    .      292   id=admb
java   .            Dec 20 07:54    .      52    id=adm0
java   .            Jan 02 16:16    .      995   id=ams
java   .            Dec 20 07:54    .      295   id=aut
java   .            Dec 20 07:54    .      296   id=schd
.
.
.

```

Note that:

- There should be several Java entries, and these lines should not have an exit code at the end of the line.
- If there are any exit codes displayed on the Java entries, that process is not running. Escalate the problem to Avaya Technical Support.
- The `id=aut` and `id=schd` will only display when the Historical subsystem is installed.
- The recorder entries are displayed only if you are collecting data from CMS or Avaya IC. Forwarder entries may be displayed on a server that has the Real-time subsystem installed.

18. If you get the message `mom is not active`, enter:

```
pa start all
```

Making changes to installed Avaya OA components

19. Repeat Step 4 to verify that OA has started.

20. Enter:

```
oalist
```

A message similar to the following is displayed listing what components are installed on this server:

```
Subsystems installed
  Real Time
  Reports
  Data API Utility
  Source-EC

Server Names
  Historical: bigbird
  Alarm Server Type: IC
  Alarm Server: grover

Database information
  Type: DB2
  Instance Name: icoadb
  OA DB Name: icoadb
  DB2 Version: 8.x

User information
  OA User ID: biadmin
  Group ID: oaadmin

Reports information
  WebSphere Root: /usr/IBM/WebSphere/AppServer
  HTTP Root: /usr/IBMIHS
  WebSphere Application Server: server1
  WebSphere Admin Console User: biadmin

OA Software information
  Version Installed: 7.0.0.025
```

21. Select **Start > Programs > Administrative Tools > Services**.

22. Validate that the following services are started and are set to start automatically. If they are not administered to start automatically, administer them as such.
 - If the Historical subsystem is installed, check for the following:
 - Avaya Business Intelligence Service
 - ORBacus Naming Service
 - If the Real-time subsystem is installed, check for the following:
 - Avaya Business Intelligence Service
 - ORBacus Naming Service
 - TimesTen Data Manager 5.0
 - If the Report subsystem is installed, check for the following:
 - Avaya Business Intelligence Service
 - ORBacus Naming Service
 - Stumbras-Tomcat
 - If the Source-EC (Event Collector) subsystem is installed, check for the following:
 - ORBacus Naming Service
23. If you are not successful starting OA, see [Starting and stopping OA-related processes](#) on page 41 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting* for more troubleshooting information.

Removing Avaya OA software on Solaris

To remove OA software on Solaris:

1. Stop all OA processes. See [Stopping or starting processes and services before making changes](#) on page 151.
2. Log in as `root`.
3. Move to the home directory of the OA User ID used when OA was installed. For example, if you used the `biadmin` user ID when OA was installed and you originally installed OA in the default location, enter the following commands:

```
. /opt/BI/.profile  
cd /export/home/biadmin
```

4. Enter:

```
ls _uninst*
```

This lists the files in the uninstall directory.

Note:

There may be more than one uninstall directory. If there is, you will see something similar to the following:

```
_uninst  
_uninst2  
_uninst3
```

5. Enter:

```
cd _uninstX
```

where `x` is the highest numbered uninstall directory, if there is more than one directory.

6. Enter one of the following commands, depending on which one you find in the directory:

```
./OARemove.bin
```

or

```
./AOARemove.bin
```

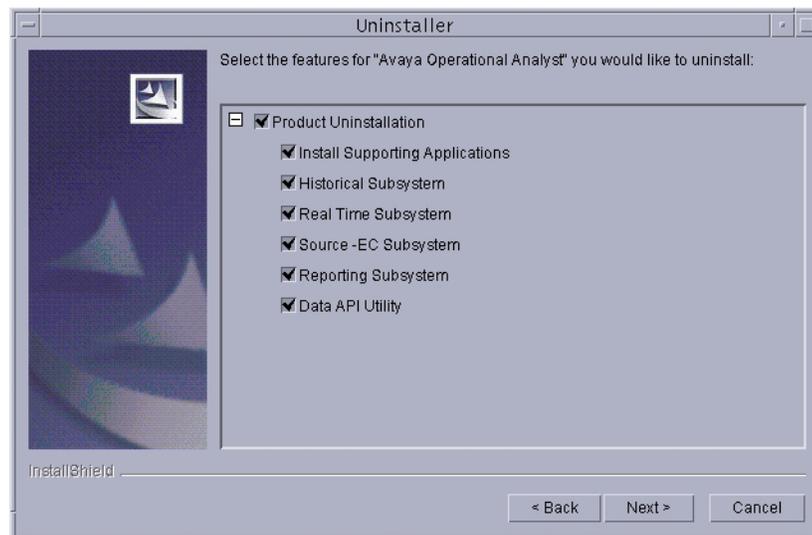
After several seconds, the **Initializing wizard** window is displayed, followed by the **Welcome** dialog box. If errors appear on this dialog box, the uninstall process has failed and you must remove the software manually. Contact support for help.

⚠ Important:

You can stop the removal at any time by clicking **Cancel** before you start the actual removal of files (see Step 10). If you click **Cancel**, you will be asked to confirm your intention to cancel. If you cancel, the removal is terminated and the system is restored to its previous state.

7. Click **Next**.

The **Feature Selection** dialog box is displayed. Components that are currently installed are shown with check marks. Components that are not installed are greyed out (hidden).



Making changes to installed Avaya OA components

⚠ CAUTION:

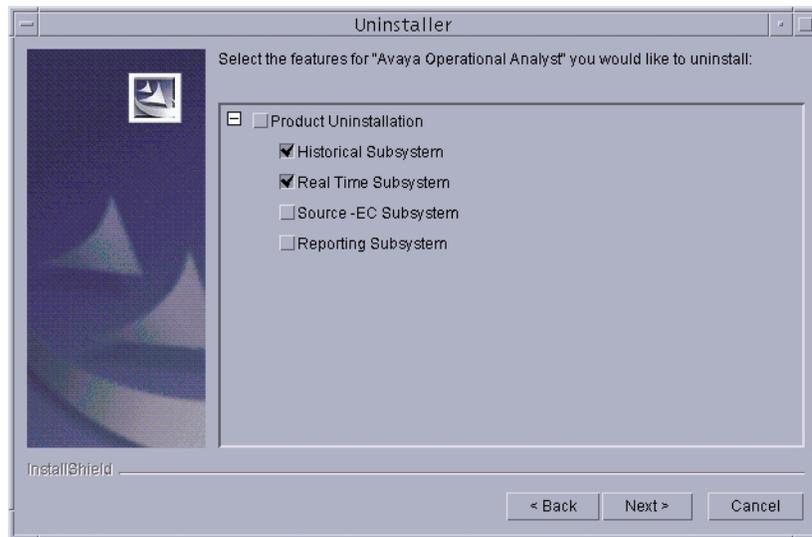
Any component that is selected will be removed. If you want to remove only some components, make sure that the components you want to keep are *not* checked. Do *not* select or clear the main **Product Uninstallation** or **Install Supporting Applications** check boxes; the software will automatically set these options depending on what components are being removed.

8. Leave checks in the components you want to remove, and clear the check marks for the components you want to keep.

⚠ Important:

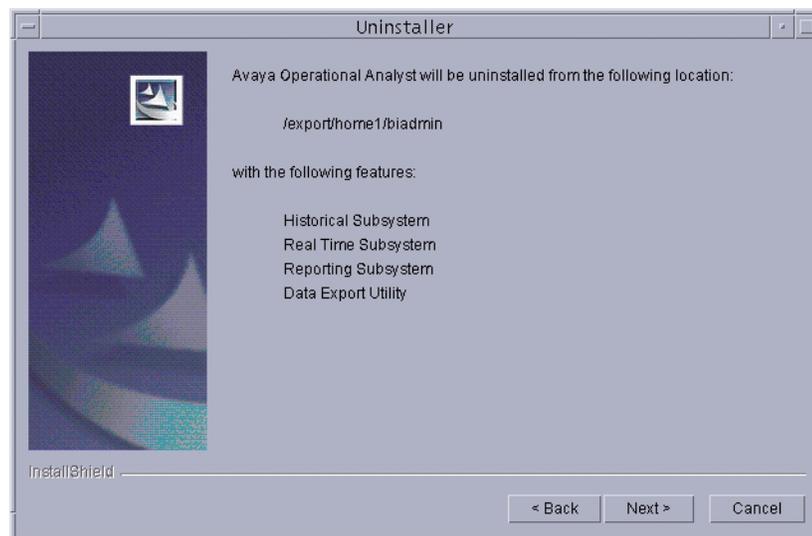
After selecting or clearing a check box, there may be a delay before the dialog box refreshes and you see the check mark or the check mark is cleared. This may take a few seconds. Do not select or clear another check box until the dialog box refreshes and you can see that the check box has been selected or cleared.

The following example shows that you are removing the Historical subsystem and the Real Time subsystem.



9. Click **Next**.

A confirmation dialog box is displayed.



CAUTION:

Do *not* close the dialog box after you have clicked **Next** in the following step. If you close the dialog box after the removal has started, the removal will be disrupted and you must contact Avaya support to do a manual cleanup of the removal.

10. Click **Next**.

The install process begins. If you receive any messages, take note of the messages and click **Next** to continue. When the uninstall is complete, which will take several minutes, the **Uninstall Complete** dialog box is displayed.

CAUTION:

If you get any failure messages saying that the uninstall could not be completed, do not attempt to do another uninstall. Escalate the problem through normal channels.

11. Click **Next**.

The uninstall has been completed.

12. Do one of the following:

- If you removed all components from this server, you are finished.
- If you did not remove all components from this server, continue with Step 13.

13. Log out of the desktop environment.

Making changes to installed Avaya OA components

14. Log in using an OA user ID and password (see [Creating user IDs and group IDs on Solaris servers](#) on page 99 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).

⚠ CAUTION:

Do not use any OA commands while logged in as `root`. Using the `root` login ID on these commands will change ownership of files and will make them unusable by the OA user ID.

15. Enter:

```
. /opt/BI/.profile
```

16. Enter the following command to show what processes are running:

```
pa list
```

A listing similar to the following is displayed.

```
.      system boot  Dec 20 07:54
.      run-level 4  Dec 31 10:23   4      0      @
java   .            Dec 20 07:54   .      292   id=admb
java   .            Dec 20 07:54   .      52    id=adm0
java   .            Jan 02 16:16   .      995   id=ams
java   .            Dec 20 07:54   .      295   id=aut
java   .            Dec 20 07:54   .      296   id=schd
.
.
.
```

Note that:

- There should be several Java entries, and these lines should not have an exit code at the end of the line.
 - If there are any exit codes displayed on the Java entries, that process is not running. Escalate the problem to Avaya Technical Support.
 - The `id=aut` and `id=schd` will only display when the Historical subsystem is installed.
 - The recorder entries are displayed only if you are collecting data from CMS or Avaya IC. Forwarder entries may be displayed on a server that has the Real-time subsystem installed.
17. If you get the message `mom is not active`, enter:

```
pa start all
```
 18. Repeat Step 4 to verify that OA has started.
 19. If you are not successful starting OA, see [Starting and stopping OA-related processes](#) on page 41 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting* for more troubleshooting information.

20. Enter:

oalist

A message similar to the following is displayed:

```

Subsystems installed
  Real Time
  Reports
  Data API Utility
  Source-EC

Server Names
  Historical: bigbird
  Alarm Server Type: IC
  Alarm Server: grover

Database information
  Type: DB2
  Instance Name: icoadb
  OA DB Name: icoadb
  DB2 Version: 8.x

User information
  OA User ID: biadmin
  Group ID: oaadmin

Reports information
  WebSphere Root: /usr/IBM/WebSphere/AppServer
  HTTP Root: /usr/IBMIHS
  WebSphere Application Server: server1
  WebSphere Admin Console User: biadmin

OA Software information
  Version Installed: 7.0.0.025
    
```

21. If the Historical subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the Avaya Business Intelligence Service is running:

ps -ef | grep initsrv

A message similar to the following should be displayed.

```

root 2886      1  0   Dec 27 ?           0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229    182  0 10:28:00 pts/11    0:00 grep initsrv
    
```

Making changes to installed Avaya OA components

- b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin  239    182  0 10:32:21 pts/11   0:00 grep nameserv
```

22. If the Real-time subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

- a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?           0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229    182  0 10:28:00 pts/11   0:00 grep initsrv
```

- b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin  239    182  0 10:32:21 pts/11   0:00 grep nameserv
```

- c. Enter the following command to see if the TimesTen Data Manager 5.0 is running:

```
ps -ef | grep timesten
```

A message similar to the following should be displayed.

```
root 233      1  0   Dec 23 ?           0:01 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestend
root 234      233  0   Dec 23 ?           0:00 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -id 0
root 235      233  0   Dec 23 ?           0:00 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -id 1
root 236      233  0   Dec 23 ?           0:00 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -id 2
root 237      233  0   Dec 23 ?           0:00 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -id 3
biadmin 244    182  0 10:34:22 pts/11   0:00 grep timesten
```

23. If the Source-EC subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin  239    182  0 10:32:21 pts/11   0:00 grep nameserv
```

24. If the Report subsystem is installed, enter the following commands to start Stumbras:

```
cd $SUN_WEB_HOME/https-stumbras
```

```
./start
```

The following message is displayed.

```
The OA environment will be set.
.
.
.
Startup: server started successfully
```

25. If the Report subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?           0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin  229    182  0 10:28:00 pts/11   0:00 grep initsrv
```

b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin  239    182  0 10:32:21 pts/11   0:00 grep nameserv
```

Making changes to installed Avaya OA components

c. Enter the following command to see if Stumbras-Tomcat is running:

```
ps -ef | grep https-stumbras
```

A message similar to the following should be displayed.

- For Sun Java System Web Server 6.0:

```
biadmin 6141      1  0   Dec 31 ?           0:00 ./uxwdog -d /usr/iplanet/servers/
https-stumbras/config
biadmin 6143    6142  0   Dec 31 ?           1:01 ns-httpd -d /usr/iplanet/servers/
https-stumbras/config
biadmin 6142    6141  0   Dec 31 ?           0:03 ns-httpd -d /usr/iplanet/servers/
https-stumbras/config
biadmin  254     182  0 10:38:51 pts/11   0:00 grep https-stumbras
```

- For Sun Java System Web Server 6.1:

```
biadmin 28604 28603  0 16:38:23 ?           1:58 webservd -r /opt/SUNWwbsvr -d //o
pt/SUNWwbsvr/https-stumbras/config -n https-st
biadmin 28602      1  0 16:38:22 ?           0:00 ./webservd-wdog -r /opt/SUNWwbsvr
-d //opt/SUNWwbsvr/https-stumbras/config -n h
biadmin 28603 28602  0 16:38:22 ?           0:01 webservd -r /opt/SUNWwbsvr -d //o
pt/SUNWwbsvr/https-stumbras/config -n https-st
biadmin 29266 29259  0 18:55:22 pts/22   0:00 grep https-stumbras
```

Removing Avaya OA software on AIX

To remove OA software on AIX:

 **CAUTION:**

If you are removing the Report subsystem, WebSphere must be running, so do not stop WebSphere.

1. Stop all OA processes. See [Stopping or starting processes and services before making changes](#) on page 151.

2. Log in as `root`.

3. To set the monitor display, enter:

```
export DISPLAY=hostname:0.0
```

where *hostname* is the name of the server.

4. Move to the home directory of the OA User ID used when OA was installed. For example, if you used the `biadmin` user ID when OA was installed and you originally installed OA in the default location, enter the following commands:

```
. /opt/BI/.profile
```

```
cd /home/biadmin/_uninst
```

5. Enter:

```
./OARemove.bin
```

After several seconds, the **Initializing wizard** window is displayed, followed by the **Welcome** dialog box. If errors appear on this dialog box, the uninstall process has failed and you must remove the software manually. Contact support for help.

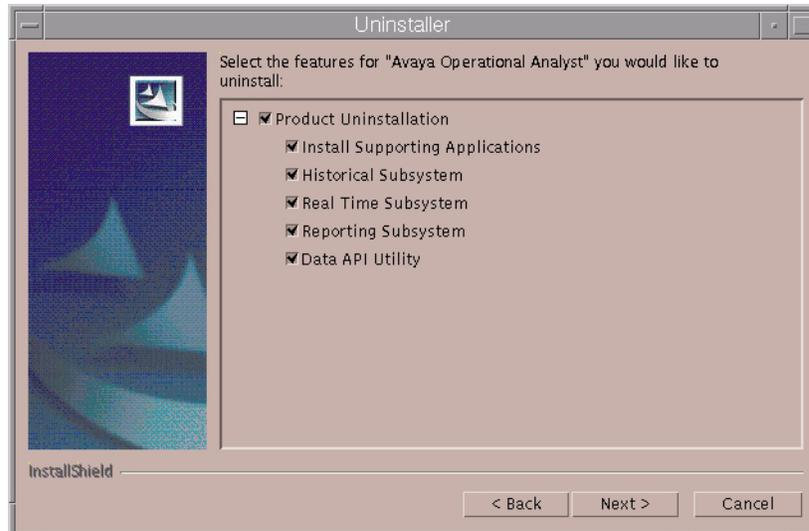
 **Important:**

You can stop the removal at any time by clicking **Cancel** before you start the actual removal of files (see Step 10). If you click **Cancel**, you will be asked to confirm your intention to cancel. If you cancel, the removal is terminated and the system is restored to its previous state.

Making changes to installed Avaya OA components

6. Click **Next**.

The **Feature Selection** dialog box is displayed. Components that are currently installed are shown with check marks. Components that are not installed are greyed out (hidden).



CAUTION:

Any component that is selected will be removed. If you want to remove only some components, make sure that the components you want to keep are *not* checked. Do *not* select or clear the main **Product Uninstallation** or **Install Supporting Applications** check boxes; the software will automatically set these options depending on what components are being removed.

7. Leave checks in the components you want to remove, and clear the check marks for the components you want to keep.

Important:

After selecting or clearing a check box, there may be a delay before the dialog box refreshes and you see the check mark or the check mark is cleared. This may take a few seconds. Do not select or clear another check box until the dialog box refreshes and you can see that the check box has been selected or cleared.

8. Click **Next**.

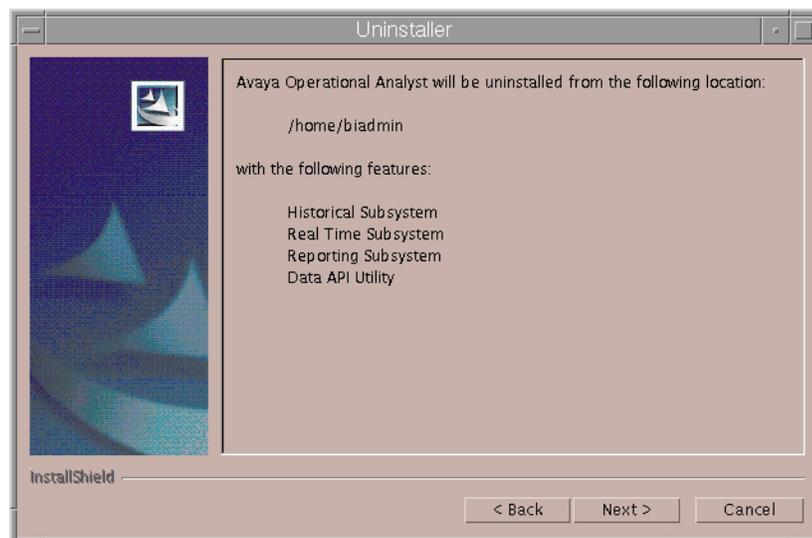
If the Report subsystem is being removed and WebSphere is not running, a warning dialog box is displayed noting that WebSphere must be running. In another command prompt window, start WebSphere by entering the following commands:

```
. /opt/BI/.profile
pa stop all
startWebSphere -u userID -p userpassword
```

where *userID* is the user ID administered for Global Security on WebSphere and *userpassword* is the password for that user ID. If a Global Security user ID has not been administered, do not use the user and password options.

9. Return to the installation warning and click **OK**.

A confirmation dialog box is displayed.



CAUTION:

Do *not* close the dialog box after you have clicked **Next** in the following step. If you close the dialog box after the removal has started, the removal will be disrupted and you must contact Avaya support to do a manual cleanup of the removal.

Making changes to installed Avaya OA components

10. Click **Next**.

The uninstall process begins. If you receive any messages, take note of the messages and click **Next** to continue. When the uninstall is complete, which will take several minutes, the **Uninstall Complete** dialog box is displayed.

 **CAUTION:**

If you get any failure messages saying that the uninstall could not be completed, do not attempt to do another uninstall. Escalate the problem through normal channels.

11. Click **Next**.

The uninstall has been completed.

12. Do one of the following:

- If you removed all components from this server, you are finished.
- If you did not remove all components from this server, continue with Step 13.

13. Log out of the desktop environment.

14. Log in using an OA user ID and password (see [Creating user IDs and group IDs on AIX servers](#) on page 105 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).

 **CAUTION:**

Do not use any OA commands while logged in as `root`. Using the `root` login ID on these commands will change ownership of files and will make them unusable by the OA user ID.

15. Enter:

```
. /opt/BI/.profile
```

16. Enter the following command to show what processes are running:

```
pa list
```

A listing similar to the following is displayed.

.	system boot	Dec 20 07:54				
.	run-level 4	Dec 31 10:23	4	0	@	
java	.	Dec 20 07:54	.	292	id=admb	
java	.	Dec 20 07:54	.	52	id=adm0	
java	.	Jan 02 16:16	.	995	id=ams	
java	.	Dec 20 07:54	.	295	id=aut	
java	.	Dec 20 07:54	.	296	id=schd	
.						
.						
.						

Note that:

- There should be several Java entries, and these lines should not have an exit code at the end of the line.
- If there are any exit codes displayed on the Java entries, that process is not running. Escalate the problem to Avaya Technical Support.
- The `id=aut` and `id=schd` will only display when the Historical subsystem is installed.
- The recorder entries are displayed only if you are collecting data from CMS or Avaya IC. Forwarder entries may be displayed on a server that has the Real-time subsystem installed.

17. If OA is not running (mom is not active), enter:

```
pa start all
```

18. Repeat Step 4 to verify that OA has started.

19. If you are not successful starting OA, see [Starting and stopping OA-related processes](#) on page 41 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting* for more troubleshooting information.

Making changes to installed Avaya OA components

20. Enter:

```
oalist
```

A message similar to the following is displayed:

```
Subsystems installed
  Real Time
  Reports
  Data API Utility
  Source-EC

Server Names
  Historical: bigbird
  Alarm Server Type: IC
  Alarm Server: grover

Database information
  Type: DB2
  Instance Name: icoadb
  OA DB Name: icoadb
  DB2 Version: 8.x

User information
  OA User ID: biadmin
  Group ID: oaadmin

Reports information
  WebSphere Root: /usr/IBM/WebSphere/AppServer
  HTTP Root: /usr/IBMIHS
  WebSphere Application Server: server1
  WebSphere Admin Console User: biadmin

OA Software information
  Version Installed: 7.0.0.025
```

21. If the Historical subsystem is still installed (not removed), use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?           0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229    182  0 10:28:00 pts/11    0:00 grep initsrv
```

- b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin  239    182  0 10:32:21 pts/11    0:00 grep nameserv
```

22. If the Real-time subsystem is still installed (not removed), use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

- a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?           0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin  229    182  0 10:28:00 pts/11    0:00 grep initsrv
```

- b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin  239    182  0 10:32:21 pts/11    0:00 grep nameserv
```

- c. Enter the following command to see if the TimesTen Data Manager 5.0 is running:

```
ps -ef | grep timesten
```

A message similar to the following should be displayed.

```
biadmin 20858 48090  0 13:01:34 pts/0    0:00 grep timesten
root 31910 36980  0 Apr 16   -  0:17 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -verbose -id 2 -facility user
root 32664 36980  0 Apr 16   -  0:17 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -verbose -id 1 -facility user
root 36302 36980  0 Apr 16   -  3:35 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -verbose -id 3 -facility user
root 36980  6302  0 Apr 16   -  0:42 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestend -fg
root 40150 36980  0 Apr 16   -  0:18 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -verbose -id 0 -facility user
```

Making changes to installed Avaya OA components

23. If the Source-EC subsystem is still installed (not removed), use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?           38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin  239    182  0 10:32:21 pts/11   0:00 grep nameserv
```

24. If the Report subsystem is still installed (not removed), enter the following commands to stop and restart the WebSphere software:

```
stopWebSphere -w $WEBSPHHERE_HOME -s servername -u userID
-p userpassword
```

```
startWebSphere -w $WEBSPHHERE_HOME -s servername -h HTTP_ROOT -u
userID -p userpassword
```

where *\$WEBSPHHERE_HOME* is the installation path WebSphere (default is /usr/IBM/WebSphere/AppServer), *servername* is the WebSphere Application Server Name under which OA Reports is deployed (default is server1), *HTTP_ROOT* is the installation path for the HTTP Server (default is /usr/IBMIHS), *userID* is the user ID administered for Global Security on WebSphere, and *userpassword* is the password for that user ID.

Note:

If the default values are used for *\$WEBSPHHERE_HOME*, *servername*, or *HTTP_ROOT* then do not use these options. If a Global Security user ID has not been administered, do not use the user and password options.

The following message is displayed.

```
.
.
.
ADMU3000I: Server server1 open for e-business; process id is XXXXX
```

25. If the Report subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

- a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886      1  0   Dec 27 ?          0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229    182  0 10:28:00 pts/11   0:00 grep initsrv
```

- b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885      1  0   Dec 27 ?          38:41 /opt/BI/bin/nameserv -OApport 10000
-OAnumeric
biadmin 239    182  0 10:32:21 pts/11   0:00 grep nameserv
```

- c. Enter the following command to see if WebSphere is running:

```
ps -ef | grep WebSphere
```

A message similar to the following should be displayed.

```
biadmin 28514      1  0   Jun 03   -   4:39 /usr/IBM/WebSphere/AppServer/java/
bin/java -Xbootclasspath/p:/usr/IBM/WebSphere/AppServer/java/jre/lib/ext/
ibmorb.jar:/usr/IBM/WebSphere/AppServer/java/jre/lib/ext/ibmext.jar
-Dwas.status.socket=53964 -classpath /usr/IBM/WebSphere/AppServer/profiles/
default/properties:/usr/IBM/WebSphere/AppServer/properties:/usr/IBM/WebSphere/
AppServer/lib/bootstrap.jar:/usr/IBM/WebSphere/AppServer/lib/j2ee.jar:/usr/IBM/
WebSphere/AppServer/lib/lmproxy.jar:/usr/IBM/WebSphere/AppServer/lib/
urlprotocols.jar:/usr/opt/db2_08_01/java/db2jcc.jar:/usr/opt/db2_08_01/java/
db2jcc_license_cu.jar:/usr/opt/db2_08_01/java/db2jcc_license_cisuz.jar -Xms50m
-Xmx512m -Dws.ext.dirs=/usr/IBM/WebSphere/AppServer/java/lib:/usr/IBM/WebSphere/
AppServer/profiles/default/classes:/usr/IBM/WebSphere/AppServer/classes:/usr/
IBM/WebSphere/AppServer/lib:/usr/IBM/WebSphere/AppServer/installedChannels:/usr/
IBM/WebSphere/AppServer/lib/ext:/usr/IBM/WebSphere/AppServer/web/help:/usr/IBM/
WebSphere/AppServer/deploytool/itp/plugins/com.ibm.etools.ejbdeploy/runtime
-Dcom.ibm.itp.location=/usr/IBM/WebSphere/AppServer/bin
-Djava.util.logging.configureByServer=true -Dibm.websphere.preload.classes=true
-Duser.install.root=/usr/IBM/WebSphere/AppServer/profiles/default
-Dwas.install.root=/usr/IBM/WebSphere/AppServer
-Djava.util.logging.manager=com.ibm.ws.bootstrap.WsLogManager
-Ddb2j.system.home=/usr/IBM/WebSphere/AppServer/cloudscape -Dserver.root=/usr/
IBM/WebSphere/AppServer/profiles/default -Djava.awt.headless=true
-Djava.security.auth.login.config=/usr/IBM/WebSphere/AppServer/profiles/default/
properties/wsjaas.conf -Djava.security.policy=/usr/IBM/WebSphere/AppServer/
profiles/default/properties/server.policy com.ibm.ws.bootstrap.WSlauncher
com.ibm.ws.runtime.WsServer /usr/IBM/WebSphere/AppServer/profiles/default/config
groverNode01Cell groverNode01 server1
```

26. To verify that OA reports are running using the WebSphere Administrative Console:

Making changes to installed Avaya OA components

- a. In a browser window, enter:

`http://report_server_FQDN:port_number/reports1`

where *report_server_FQDN* is the fully-qualified domain name of the server where the Report subsystem is installed and *port_number* is the port number assigned to the WebSphere Administrative Console (for example, 9060).

- b. Log in to the WebSphere Administration Console using the Global Security user ID and password (if assigned). Otherwise, enter any user ID.
- c. Select **Applications > Enterprise Applications**.
- d. Verify that there is a green arrow next to **OAReports**. If there is a red X, select the check box to the left of **OAReports** and select **Start**. This should change the status to a green arrow. If not, escalate the problem using the normal channels.

■ ■ ■ ■ ■ ■

Upgrading Avaya OA software

You can upgrade your Avaya OA software with a new version of software. However, you cannot add new subsystems while you are doing the upgrade. You must upgrade to the new version of OA software and then add the subsystems using the instructions found in [Adding Avaya OA components](#) on page 155.

Important:

You can upgrade to OA 7.0 from OA 6.1.3 or later only.

If you want to upgrade from versions of OA prior to 6.1.3, you must first upgrade to 6.1.2, migrate your data to 6.1.2 schema, and then upgrade to 6.1.3. See *Avaya Interaction Center and Operational Analyst Release 6.1.2 Software Upgrade and Data Migration* for detailed instructions on first upgrading to OA 6.1.2.

To upgrade from OA 6.1.2 to OA 6.1.3, see "Upgrading Avaya OA software" in *Avaya Operational Analyst Release 6.1.3 Installation and Configuration*.

This section includes the following topics:

- [Preparation checklist](#) on page 270
- [License key considerations](#) on page 272
- [Database upgrade considerations](#) on page 272
- [Upgrading Avaya OA software](#) on page 275

Preparation checklist

Before you upgrade your OA installation, follow these important steps and recommendations.

Procedure	✓
Have the original installation media available for use during the process.	
Before an upgrade, the database administrator must verify that there are no open TTIsql sessions with the TimesTen application.	
Before performing any OA upgrade, Avaya strongly recommends that you perform a backup of the database and file systems.	
<p>Predefined Advanced reports included with OA are overwritten when OA is updated. If your OA installation includes predefined Advanced reports that have been modified, those reports will be lost during the OA upgrade unless you protect them.</p> <p>Follow these steps to protect your modified Advanced reports:</p> <ul style="list-style-type: none"> ● Rename the reports or move them to a folder not affected by OA upgrades. ● Upgrade to OA 7.0. ● If you renamed the reports, rename them to their original names OR if you moved the reports, move them back to their original location 	
<p>For a configuration that includes Avaya IC, verify that the Avaya IC components have been installed, configured, and are started before you upgrade, configure, and start the OA components. For more information about Avaya IC planning and installation, see:</p> <ul style="list-style-type: none"> ● <i>Avaya Interaction Center Release 7.0 Installation Planning and Prerequisites</i> ● <i>Avaya Interaction Center Release 7.0 Installation and Configuration</i> 	
Verify that there is a minimum of 512 MB of free temporary space on the c: drive for Windows, in /var/tmp for Solaris, and /tmp for AIX. If this space is not available, the installer may not run successfully.	
If installing the OA Source-EC and Source-EC Bridge subsystems on an Avaya IC server, verify that there is at least 100 MB of free disk space for the installation files.	
<p>Before you upgrade OA, turn off all virus scan software.</p> <p> SECURITY ALERT: Temporarily turning off your virus scan software opens a potential risk for a virus attack. However, this risk should be low since the server is probably not being used at the same time when OA is being upgraded. After you complete the upgrade, remember to turn on the virus scan software.</p>	

Procedure	✓
Verify that no OA files are open.	
Verify that all OA Administration client users have logged off and closed their browser windows before you upgrade the OA software.	
Determine whether the naming service port number has been assigned to a value other than the default of 10000. If it has been changed, the upgrade will change it back to the default of 10000. After the upgrade, you will have to change it back to its original value. See Changing the naming service port number on page 239 for more information.	

Consider the following while you are upgrading the OA components:

- Avaya recommends that you write down all user IDs and database names used when upgrading components as you will need them during configuration and when you make future changes. After installation, most of this information can be found using the `oa1ist` command.
- After upgrading the Administration client, you may want to customize the Administration client installation. See [Customizing the Administration client](#) on page 118.
- The dialog boxes that are displayed when upgrading depends on what components are being installed.
- After doing an upgrade of the Report subsystem, you must go to each Report client machine, uninstall the Report client, install JRE version 1.4.2_08 if it is not already installed, and reinstall the Report client. See [Installing and testing the Report client](#) on page 102 for more information.

License key considerations

When adding Avaya IC as a data source to a configuration that only received CMS data, you must upgrade to an Avaya IC and Avaya CMS Analytical license. To do this, you must upgrade the OA software with the new license key using the procedures in this section, making sure to select Avaya IC as a data source.

Database upgrade considerations

With OA 7.0, only V8.1 and V8.2 of the DB2 database software are supported. If you are planning to upgrade to that new version of database software at the same time that you are upgrading to OA 7.0, consider the following upgrade scenarios:

- If you upgrade the DB2 software from V7.2 to V8.1 after you have upgraded OA to 7.0, you must reinstall (repair) the OA 7.0 Historical subsystem (see [Repairing Avaya OA components](#) on page 193). During the repair of the Historical subsystem, sets of DB2 V8.1 libraries are installed and the `db.properties` file will be updated to match DB2 V8.1. *Avaya recommends using this order when upgrading DB2.*
- If you upgrade the DB2 software from V7.2 to V8.1 before you upgrade OA to 7.0, the old version of OA 6.1.3 will continue work, but you should quickly upgrade OA to 7.0. After the OA upgrade, OA should work properly with DB2 V8.1. *Avaya does not recommend using this order when upgrading DB2.*

Upgrading WebSphere

OA 7.0 supports only WebSphere 6.0. The following steps outline the recommended method of upgrading to WebSphere 6.0 from WebSphere 5.0.1.

Note:

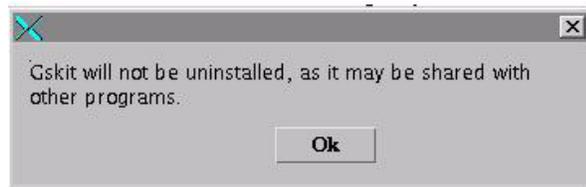
If your OA installation includes customized Basic reports, perform steps 1-7.
If your OA installation does not include customized Basic reports, perform only steps 2-6.

1. If you have customized Basic reports, save a copy of the report files/directories into the /tmp directory. In general these files are found in:
 - /usr/WebSphere/AppServer/installedApps/hostname/OAReports.ear/stumbras.war/reports1/jsp/custom
 - /usr/WebSphere/AppServer/installedApps/hostname/OAReports.ear/stumbras.war/WEB-INF/classes
 - /usr/WebSphere/AppServer/installedApps/hostname/OAReports.ear/stumbras.war/WEB-INF/lib
2. Uninstall OA 6.1.3 Reports:
 - a. From the OA Administration Client, remove the Reporting Subsystem
 - b. From the command line execute:
 - i. `pa stop all`
 - ii. `cd /home/biadmin/_uninst`
 - iii. `java -cp $PABASE/jars/server.jar:uninstall.jar run`
 - c. Select reports ONLY and allow uninstall to complete
3. Uninstall WebSphere 5.0:
 - a. `cd $WEBSPPHERE_HOME/bin` (default is /usr/WebSphere/AppServer/bin)
 - b. Stop the WebSphere server in which OA Reports is deployed, for example:
`stopServer.sh <servername>`
where <servername> is the name of the server in which OA Reports is deployed (default is **server1**)
 - c. `cd $WEBSPPHERE_HOME/_uninst` (default is /usr/WebSphere/AppServer/_uninst)

Upgrading Avaya OA software

d. Execute `./uninstall`

During the uninstall process, you may see a pop-up similar to:



If so, select **OK**.

e. `cd` to the root directory in which WebSphere is installed (default is `/usr`)

f. Execute: `rm -r WebSphere`

g. Execute: `rm -r IBMHttpServer`

4. Install WebSphere 6.0 using the WebSphere installation instructions the "Installing and configuring WepShere Application Server on an AIX machine" section of *OA 7.0 Installation Planning and Prerequisites*.

Note:

Avaya recommends that you install WebSphere in the `/usr/IBM/WebSphere` directory and HTTP Server in the `/usr/IBMHttpServer` directory.

5. Upgrade OA by running the `./AixSetup` installation script.
6. Install OA Reports as described in [Installing Avaya OA components on an AIX platform](#) on page 70.
7. If you have customized Basic reports, restore saved files from `/tmp` to their new location under `$WEBSHERE_HOME/profiles/default/installedApps/hostnameNode01Cell/OAReports.ear/stumbras.war`

Upgrading Avaya OA software

This section includes the following topics:

- [Order of server upgrades](#) on page 275
- [Stopping processes before beginning an upgrade](#) on page 276
- [Upgrading Avaya OA software](#) on page 279
- [Completing an upgrade for Avaya OA](#) on page 289
- [Recovering from a failed upgrade](#) on page 307

Order of server upgrades

The order in which you upgrade the OA subsystems on your servers is very important. For example, if you have the following configuration:

- Main site - server with the Historical subsystem, Report subsystem, Administration client, and Real-time subsystem
- Remote site #1 - server with the Real-time subsystem and Report subsystem
- Remote site #2 - server with the Real-time subsystem, Report subsystem, and Administration client

With this configuration, you should upgrade sites #1 and #2 first, saving the main site for last where the Historical subsystem resides. As a general rule, always upgrade the server that has the Historical subsystem last.

However, if you expand this example to include:

- Remote site #3 - server with CMS-source

Remote site #3 should be upgraded last (after the main site) because the Historical subsystem must be running when the CMS source is upgraded to assure the forwarders are updated properly.

 **Important:**

The Historical subsystem (and especially the administration manager on that subsystem) must be running when you upgrade the CMS-source. If the Historical subsystem is not running, the forwarders will not upgrade correctly and will fail to operate properly.

Stopping processes before beginning an upgrade

Before you upgrade software on an OA server, you must stop certain processes on the server. This is required when you currently have the Historical subsystem, Real-time subsystem, Report subsystem (basic), Source-CMS data collection software, or Source-EC (Event Collector) data collection software on the server.

Determining which components are installed on your server

Before you stop processes or traffic for data collection, use the `oalist` command to display the components currently installed on your server.

To use the `oalist` command:

1. Enter the following commands:

```
. /opt/BI/.profile (Solaris and AIX only)
```

```
oalist
```

A message similar to the following is displayed:

```
Subsystems installed
  Real Time
  Reports
  Data API Utility
  Source-EC

Server Names
  Historical: bigbird
  Alarm Server Type: IC
  Alarm Server: grover

Database information
  Type: DB2
  Instance Name: icoadb
  OA DB Name: icoadb
  DB2 Version: 8.x

User information
  OA User ID: biadmin
  Group ID: oaadmin

Reports information
  WebSphere Root: /usr/IBM/WebSphere/AppServer
  HTTP Root: /usr/IBMIHS
  WebSphere Application Server: server1
  WebSphere Admin Console User: biadmin

OA Software information
  Version Installed: 7.0.0.025
```

Determine when to stop processes

When upgrading OA subsystems, you should stop processes on servers just before you plan on upgrading the software. In other words, do not stop the processes for a server upgrade until the last possible moment.

In general, you should save the upgrade of the Historical subsystem until last, doing subsystems on other servers first.

See [Order of server upgrades](#) on page 275 for more information.

Stopping processes and services on a Windows server

Based on the subsystems that are installed, use the following table to determine which procedures should be done to stop processes and services:

Subsystems	Procedure
Historical Real-time	<ol style="list-style-type: none"> 1. Log in as an administrative user. 2. In a command prompt window, enter <code>pa stop all</code>. 3. Select Start > Programs > Administrative Tools > Services. 4. Stop the Avaya Business Intelligence and ORBacus Naming services.
Report	<ol style="list-style-type: none"> 1. Log in as an administrative user. 2. In a command prompt window, enter <code>pa stop all</code>. 3. Select Start > Programs > Administrative Tools > Services. 4. Stop the Avaya Business Intelligence, ORBacus Naming, and Stumbras-Tomcat services.
Source-EC Source-EC Bridge	<ol style="list-style-type: none"> 1. Log in as an administrative user. 2. From IC Manager, stop the Source-EC subsystems. 3. Select Start > Programs > Administrative Tools > Services. 4. Stop the ORBacus Naming service.
Data API Utility	<ol style="list-style-type: none"> 1. Log in as an administrative user. 2. In a command prompt window, enter <code>pa stop all</code>.

Stopping processes on a Solaris server

Based on the subsystems that are installed, use the following table to determine which procedures should be done to stop processes and services:

Subsystems	Procedure
Historical Real-time Source-CMS Data API Utility	<ol style="list-style-type: none"> 1. Log in using an OA user ID and password. 2. Enter the following commands: <pre>. /opt/BI/.profile pa stop all</pre>
Report	<ol style="list-style-type: none"> 1. Log in using an OA user ID and password. 2. Enter the following commands: <pre>. /opt/BI/.profile pa stop all cd \$SUN_WEB_HOME/https-stumbras ./stop</pre>
Source-EC	From IC Manager, stop the Source-EC subsystems.

Stopping or starting processes on an AIX server

Based on the subsystems that are installed, use the following table to determine which procedures should be done to stop processes and services:

Subsystems	Procedure
Historical Report Real-time Data API Utility	<ol style="list-style-type: none"> 1. Log in using an OA user ID and password. 2. Enter the following commands: <pre>. /opt/BI/.profile pa stop all</pre>
Source-EC	From IC Manager, stop the Source-EC subsystems.

Upgrading Avaya OA software

Note:

The procedures for upgrading Avaya OA software is almost identical for all operating systems. For this procedure, the Windows dialog boxes are shown and any differences for the other operating systems are described.

To start the OA upgrade process:

1. Do one of the following to access and start the installation executable:

 **CAUTION:**

Install from a CD-ROM drive that is local to the server where you are installing OA. Installing from a networked CD drive is not supported.

Operating System	Procedure
Windows	<ol style="list-style-type: none"><li>1. Log in with a user ID that has administration privileges.<li>2. If Windows Terminal Services is installed in Application mode, open a command prompt window and enter: <code>change user /install</code> <p> CAUTION:</p> <p>If Windows Terminal Services was installed in Administration mode, you cannot properly install any OA subsystem on that machine. See Operating systems on page 48 in <i>Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites</i>.</p> <ol style="list-style-type: none"><li>3. Place the OA CD-ROM in the drive.<li>4. Using Windows Explorer, navigate to the CD-ROM drive and double-click the <code>winSetup.exe</code> file.

Operating System	Procedure
Solaris	<ol style="list-style-type: none"> 1. Log in as <code>root</code>. 2. Place the OA CD-ROM in the drive and wait about 15 seconds. A file manager window is displayed showing the contents of the CD-ROM. <ul style="list-style-type: none"> Note: If the File Manager window does not open, enter the following commands to start the volume manager: <pre>/etc/init.d/volmgt stop /etc/init.d/volmgt start</pre> 3. From a terminal window, enter the following commands: <pre>. /opt/BI/.profile cd /cdrom/cdrom0 ./SolSetup</pre>
AIX	<ol style="list-style-type: none"> 1. Log in as <code>root</code>. 2. To set the monitor display, enter: <pre>export DISPLAY=hostname:0.0</pre> where <i>hostname</i> is the name of the server. 3. If you are adding the Historical subsystem, enter the following commands to set the DB2 environment: <ul style="list-style-type: none"> - As the instance owner, or any member of DB2 SYSADM group: <pre>export EXTSHM=ON db2set DB2ENVLIST=EXTSHM db2stop db2start</pre> - As the user launching the OA Installation (<code>root</code>): <pre># export EXTSHM=ON # ./AixSetup</pre> 4. Place the OA CD-ROM in the drive and wait about 15 seconds. 5. From the terminal window, enter the following commands: <pre>. /opt/BI/.profile mkdir /cdrom (if this directory does not already exist) mount -v cdrfs -r /dev/cd0 /cdrom cd /cdrom ./AixSetup</pre>

Upgrading Avaya OA software

After several seconds, the **Initializing wizard** window is displayed, followed by the **Welcome** dialog box.

Important:

You can stop the installation at any time by clicking **Cancel** before you start the actual installation of files (see Step 29). If you click **Cancel**, you will be asked to confirm your intention to cancel. If you cancel, the installation is terminated and the system is restored to its previous state.

2. Click **Next**.

The **License Key** dialog box is displayed.

3. Enter the provided license key for the components purchased.

4. Click **Next**.

The **License Agreement** dialog box is displayed.

5. Select **I accept the terms in the license agreement**.

6. Click **Next**.

The **User Information** dialog box is displayed.



The screenshot shows a Windows-style dialog box titled "Installer". On the left is a blue graphic with a white square icon containing a stylized 'A'. Below the graphic is the text "InstallShield". On the right, there are four input fields: "User ID:" with the value "oouser", "User Password:" and "Confirm:" (both empty), "Group ID:" with the value "oadmin", and "Domain:" with the value "oalab". At the bottom right are three buttons: "< Back", "Next >", and "Cancel".

Note:

The **Domain** field is only displayed for Windows systems.

7. Enter and confirm the password for the installed user ID.

8. Click **Next**.

One of the following occurs:

- If you are upgrading a Windows or Solaris server, continue with Step 10.
- On AIX only, if the Report subsystem is being upgraded and WebSphere is not running, a warning dialog box is displayed noting that WebSphere must be running. In another command prompt window, start WebSphere by entering the following commands:

```
. /opt/BI/.profile
```

```
pa stop all
```

```
startWebSphere -u userID -p userpassword
```

where *userID* is the user ID administered for Global Security on WebSphere and *userpassword* is the password for that user ID. If a Global Security user ID has not been administered, do not use the user and password options.

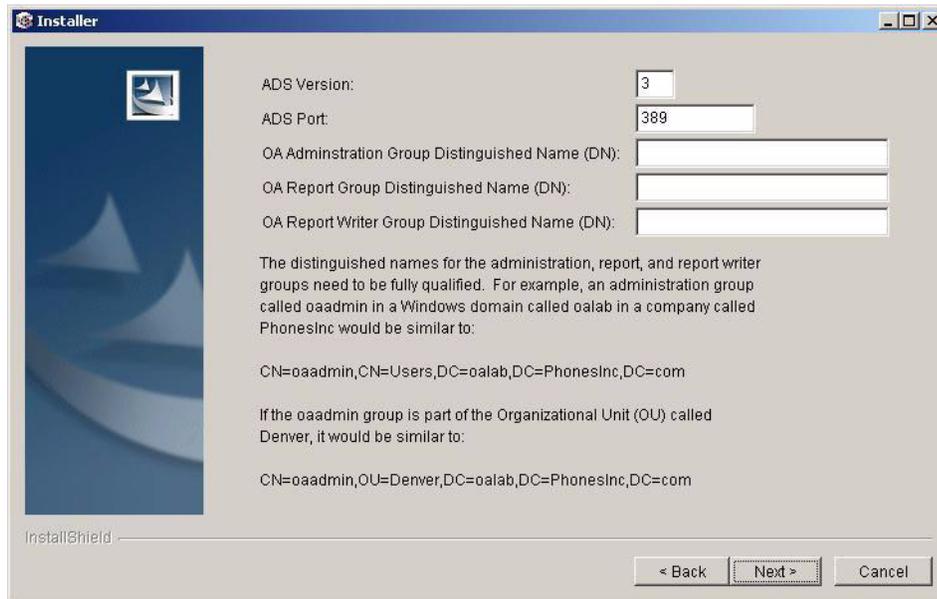
9. Return to the installation warning and click **OK**.

10. One of the following occurs:

- If you are upgrading the Report subsystem on an AIX system, and the Report subsystem was previously installed using a non-default WebSphere Administrative Console user ID, the **Reports Configuration** dialog box is displayed showing the current **WebSphere Admin Console User ID**. The user ID password must be entered and confirmed. Continue with Step 15.
- If the system being upgraded is Windows and has the Historical subsystem, Report subsystem, or Real-time subsystem, continue with Step 12.
- If the system being upgraded is Solaris or AIX and has the Historical subsystem or Real-time subsystem, the Reports Configuration dialog box is displayed, but you cannot change anything. Continue with Step 14.
- If the system being upgraded does not have the Historical subsystem or the Report subsystem, the process continues with Step 18.

11. Click **Next**.

12. The **ADS Configuration** dialog box is displayed:



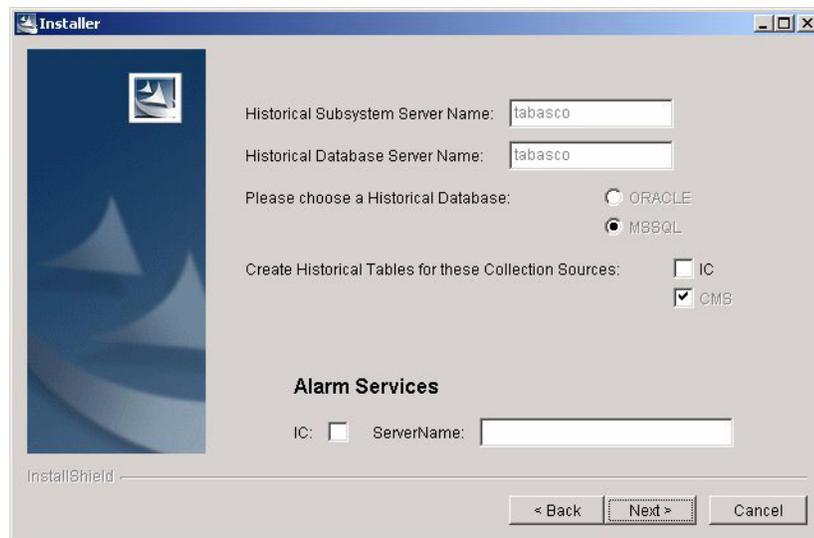
13. Administer the dialog as shown in the following table:

Field	Description
ADS Version	Enter the LDAP version being used on the authentication server. OA supports versions 2 and 3, with the default set to 3.
ADS Port	Enter the port number used for ADS. OA defaults to 389, which is the default when ADS is installed.
OA Administration Group Distinguished Name (DN)	Enter the DN for the administration group. For typical example of ADS setup, if you use the default group named oaadmin, a domain named oalab, and the company name is Telco, you would enter: CN=oaadmin,CN=Users,DC=oalab,DC=telco,DC=com If you are not using ADS, use the following format for the DN: localhost\oaadmin

Field	Description
OA Report Group Distinguished Name (DN)	Enter the DN for the report group. For typical example of ADS setup, if you use the default group named oarpt, a domain named oalab, and the company name is Telco, you would enter: CN=oarpt,CN=Users,DC=oalab,DC=telco,DC=com If you are not using ADS, use the following format for the DN: localhost\oarpt
OA Report Writer Group Distinguished Name (DN)	Enter the DN for the report writer group. For typical example of ADS setup, if you use the default group named oawriter, a domain named oalab, and the company name is Telco, you would enter: CN=oawriter,CN=Users,DC=oalab,DC=telco,DC=com If you are not using ADS, use the following format for the DN: localhost\oawriter

14. Click **Next**.

15. The **Historical Server Configuration** dialog box is displayed.



Note:

The fields that appear on the **Historical Server Configuration** dialog box may vary depending on your component selections.

16. Do the following:

- If you need to add a new data collection source, select that source, either **IC** or **CMS**.
- If you are just upgrading an existing data collection source, do not select a new source.

Upgrading Avaya OA software

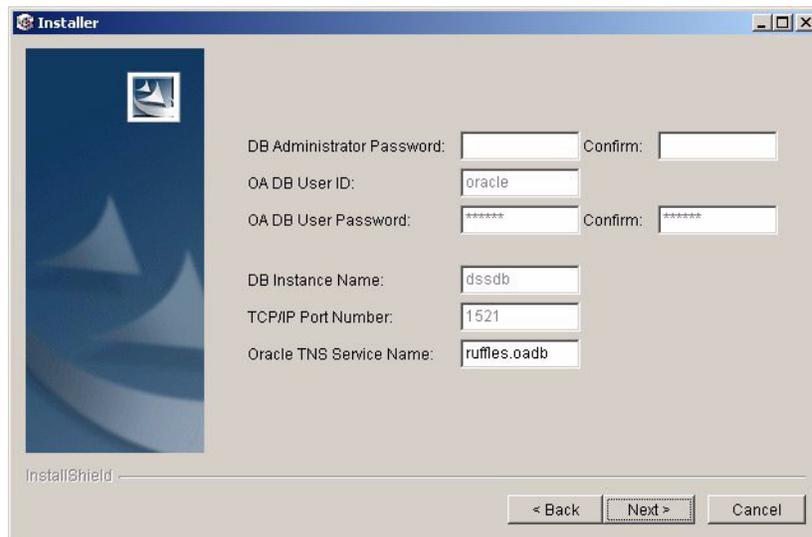
- Complete the **Alarm Services** options as needed. The server name must be the server where the Source-EC subsystem is installed. This information may already be displayed, but can be changed if needed.

17. Click **Next**.

One of the following occurs:

- If you are upgrading the Source-CMS subsystem on a Solaris server, the CMS User ID dialog box is displayed and you must enter and confirm the password for the Informix user ID. Continue with Step 27.
- If you are upgrading the Historical subsystem, continue with Step 18.

18. The **Database Configuration** dialog box is displayed.



The screenshot shows the 'Database Configuration' dialog box within the 'Installer' window. The dialog box has a blue header with the 'Installer' title and standard window controls. On the left, there is a blue graphic with a white shield icon. The main area contains several input fields for database configuration:

- DB Administrator Password: [] Confirm: []
- OA DB User ID: [oracle]
- OA DB User Password: [*****] Confirm: [*****]
- DB Instance Name: [dssdb]
- TCP/IP Port Number: [1521]
- Oracle TNS Service Name: [ruffles.oadb]

At the bottom left, there is a progress indicator labeled 'InstallShield'. At the bottom right, there are three buttons: '< Back', 'Next >', and 'Cancel'.

19. Enter and confirm the administrator password.

20. Click **Next**.

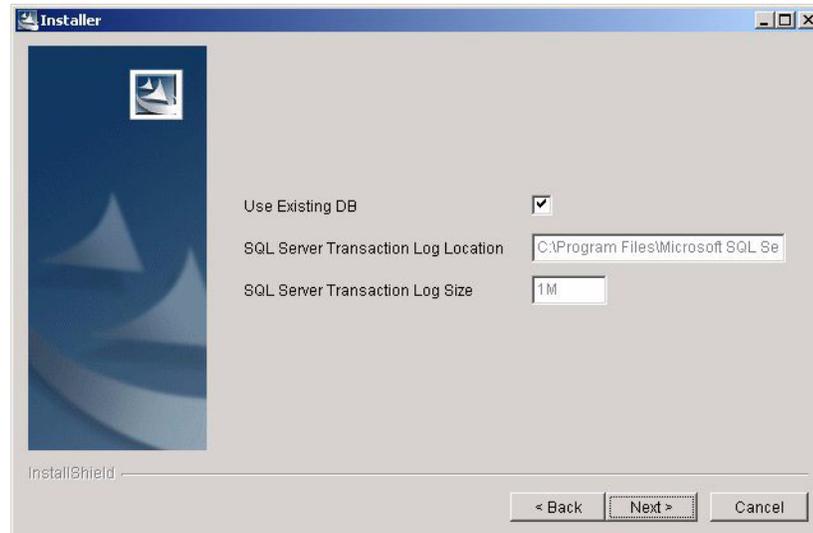
A warning message may be displayed.

21. Click **OK** to acknowledge the warning, if displayed.

Note:

There may be a long delay before the next dialog box is displayed.

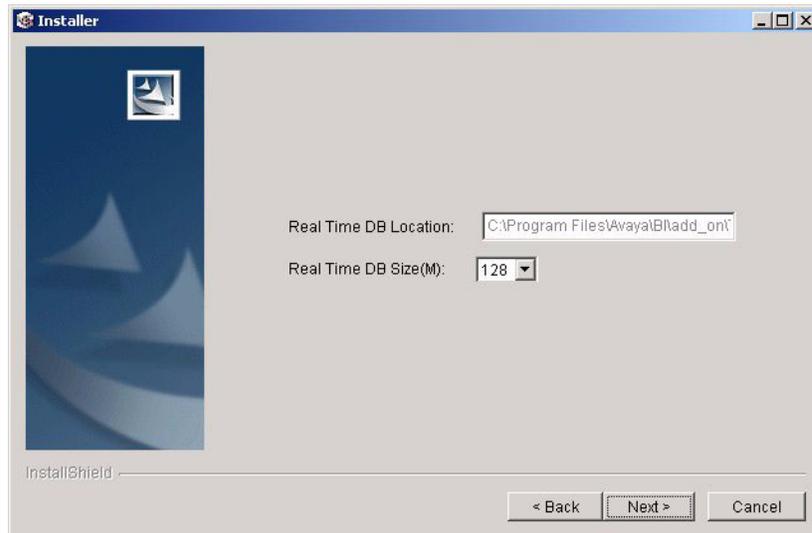
The following dialog box is displayed when using Microsoft SQL Server. If you are not using Microsoft SQL, continue with Step 25.



22. Select **Use Existing DB** if you want to use an existing database.
23. If you choose to not use the existing database, enter the size and location of the Microsoft SQL Server Transaction Log. You can use the default locations if you want.
24. Click **Next**.
25. One of the following occurs:
 - If the system does not have a Real-time subsystem, continue with Step 27.

Upgrading Avaya OA software

- If you are upgrading a system that has a Real-time subsystem, the **Real-time Configuration** dialog box is displayed.



26. Click **Next** (no options can be changed).
27. The **Installation Preview** dialog box is displayed listing the components you have selected.
28. Scroll through the preview dialog box to verify the selected components and configuration data.

CAUTION:

Do *not* close the **Progress** dialog box after you have clicked **Next** in the following step. If you close the **Progress** dialog box after the installation has started, the installation will be disrupted and you must contact Avaya support to do a manual cleanup of the installation.

29. Click **Next** to start the installation.

The **Progress** dialog box is displayed showing the progress of the installation, which will take several minutes. Near the end of the installation, the dialog box will go blank for some time.

When the upgrade is finished, the **Install Complete** dialog box is displayed.

30. Click **Next**.

- On Solaris and AIX, the **Install Complete** dialog closes and the upgrade is finished.
- On Windows, the **Restart System** dialog box is displayed.

Before you reboot the server, make sure that a copy of the `server.properties` file is saved in case it is deleted during the reboot. Do the following:

- i. Open Windows Explorer.

- ii. Navigate to `%PABASE%\BI\data\admin`.
- iii. Copy the `server.properties` file onto the Windows clipboard.
- iv. Go to your Windows desktop (or some other location other than the OA installation directory) and paste the `server.properties` file there.

 **Important:**

You must always restart a Windows server at this time for OA to operate properly. If you are not requested to restart the server, you must manually restart the server.

- v. Go back to the **Restart System** dialog box, select the option to restart your system now, and click **Next**.
 - vi. After the system reboots, navigate to `%PABASE%\BI\data\admin`.
 - vii. Verify that the `server.properties` file is in the folder.
 - viii. If the file is not in the folder, go to the location where you saved a copy of `server.properties` and copy the file onto the Windows clipboard.
 - ix. Navigate to `%PABASE%\BI\data\admin`.
 - x. Paste the `server.properties` file into the folder.
31. Do one of the following:
- On Windows, press the eject button on the CD-ROM drive, remove the CD-ROM, and store it in a safe location.
 - On Solaris, close all but one terminal window and enter:


```
cd /
eject cdrom
```
 - On AIX, close all but one terminal window and enter:


```
cd /
umount /cdrom
```
32. Press the eject button on the CD-ROM drive (AIX only), remove the OA CD-ROM, and store it in a safe location.
33. If you upgraded the Report subsystem, uninstall and reinstall the Report client support files (see [Installing and testing the Report client](#) on page 102).

Completing an upgrade for Avaya OA

Depending on the platform you are using, use the procedures in the following sections to complete your upgrade:

- [Updating the naming service port number](#) on page 290

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- [Completing an upgrade to a Windows system](#) on page 290
- [Completing an upgrade to a Solaris system](#) on page 294
- [Completing an upgrade to an AIX system](#) on page 299

Updating the naming service port number

If the naming service port number was assigned to a value other than the default of 10000, you must change it back to its original value. See [Changing the naming service port number](#) on page 239 for more information.

Removing the localhost folder

If your system is configured as a coresident Avaya IC and OA system, after you complete upgrading the Reporting Subsystem you must remove the following folder:

```
%PABASE%\stumbras\tomcat\work\localhost_8080
```

Note:

This folder exists on Windows systems only.

Completing an upgrade to a Windows system

To complete an upgrade to a Windows system:

1. Log in using an OA user ID and password (see [Creating user IDs and group IDs on Windows servers](#) on page 96 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).
2. Open a command prompt window.
3. If Terminal Services is enabled, enter:

```
change user /execute
```

4. In the command prompt window, enter the following command to show what processes are running:

```
pa list
```

A listing similar to the following is displayed.

```

.      system boot  Dec 20 07:54
.      run-level 4  Dec 31 10:23    4      0      @
java   .           Dec 20 07:54    .      292   id=admb
java   .           Dec 20 07:54    .      52    id=adm0
java   .           Jan 02 16:16    .      995   id=ams
java   .           Dec 20 07:54    .      295   id=aut
java   .           Dec 20 07:54    .      296   id=schd
.
.
.
```

Note that:

- There should be several Java entries, and these lines should not have an exit code at the end of the line.
 - If there are any exit codes displayed on the Java entries, that process is not running. Escalate the problem to Avaya Technical Support.
 - The `id=aut` and `id=schd` will only display when the Historical subsystem is installed.
 - The recorder entries are displayed only if you are collecting data from CMS or Avaya IC. Forwarder entries may be displayed on a server that has the Real-time subsystem installed.
5. If you get the message `mom is not active`, enter:
- ```
pa start all
```
6. Repeat Step 4 to verify that OA has started.

## Upgrading Avaya OA software

7. Enter:

```
oalist
```

A message similar to the following is displayed listing what components are installed on this server:

```
Subsystems installed
 Real Time
 Reports
 Data API Utility
 Source-EC

Server Names
 Historical: bigbird
 Alarm Server Type: IC
 Alarm Server: grover

Database information
 Type: DB2
 Instance Name: icoadb
 OA DB Name: icoadb
 DB2 Version: 8.x

User information
 OA User ID: biadmin
 Group ID: oaadmin

Reports information
 WebSphere Root: /usr/IBM/WebSphere/AppServer
 HTTP Root: /usr/IBMIHS
 WebSphere Application Server: server1
 WebSphere Admin Console User: biadmin

OA Software information
 Version Installed: 7.0.0.025
```

8. Select **Start > Programs > Administrative Tools > Services**.

9. Validate that the following services are started and are set to start automatically. If they are not administered to start automatically, administer them as such.
  - If the Historical subsystem is installed, check for the following:
    - Avaya Business Intelligence Service
    - ORBacus Naming Service
  - If the Real-time subsystem is installed, check for the following:
    - Avaya Business Intelligence Service
    - ORBacus Naming Service
    - TimesTen Data Manager 5.0
  - If the Report subsystem is installed, check for the following:
    - Avaya Business Intelligence Service
    - ORBacus Naming Service
    - Stumbras-Tomcat
  - If the Source-EC (Event Collector) subsystem is installed, check for the following:
    - ORBacus Naming Service
10. If you are not successful starting OA, see [Starting and stopping OA-related processes](#) on page 41 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting* for more troubleshooting information.

## Completing an upgrade to a Solaris system

To complete an upgrade to a Solaris system:

1. Log out of the desktop environment.
2. Log in using an OA user ID and password (see [Creating user IDs and group IDs on Solaris servers](#) on page 99 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).

**⚠ CAUTION:**

Do not use any OA commands while logged in as `root`. Using the `root` login ID on these commands will change ownership of files and will make them unusable by the OA user ID.

3. Enter:

```
. /opt/BI/.profile
```

4. Enter the following command to show what processes are running:

```
pa list
```

A listing similar to the following is displayed.

|      |             |              |   |     |         |
|------|-------------|--------------|---|-----|---------|
| .    | system boot | Dec 20 07:54 |   |     |         |
| .    | run-level 4 | Dec 31 10:23 | 4 | 0   | @       |
| java | .           | Dec 20 07:54 | . | 292 | id=admb |
| java | .           | Dec 20 07:54 | . | 52  | id=adm0 |
| java | .           | Jan 02 16:16 | . | 995 | id=ams  |
| java | .           | Dec 20 07:54 | . | 295 | id=aut  |
| java | .           | Dec 20 07:54 | . | 296 | id=schd |
| .    |             |              |   |     |         |
| .    |             |              |   |     |         |
| .    |             |              |   |     |         |

Note that:

- There should be several Java entries, and these lines should not have an exit code at the end of the line.
  - If there are any exit codes displayed on the Java entries, that process is not running. Escalate the problem to Avaya Technical Support.
  - The `id=aut` and `id=schd` will only display when the Historical subsystem is installed.
  - The recorder entries are displayed only if you are collecting data from CMS or Avaya IC. Forwarder entries may be displayed on a server that has the Real-time subsystem installed.
5. If you get the message `mom is not active`, enter:

```
pa start all
```

6. Repeat Step 4 to verify that OA has started.
7. If you are not successful starting OA, see [Starting and stopping OA-related processes](#) on page 41 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting* for more troubleshooting information.
8. Enter:

```
oalist
```

A message similar to the following is displayed:

```
Subsystems installed
 Real Time
 Reports
 Data API Utility
 Source-EC

Server Names
 Historical: bigbird
 Alarm Server Type: IC
 Alarm Server: grover

Database information
 Type: DB2
 Instance Name: icoadb
 OA DB Name: icoadb
 DB2 Version: 8.x

User information
 OA User ID: biadmin
 Group ID: oaadmin

Reports information
 WebSphere Root: /usr/IBM/WebSphere/AppServer
 HTTP Root: /usr/IBMIHS
 WebSphere Application Server: server1
 WebSphere Admin Console User: biadmin

OA Software information
 Version Installed: 7.0.0.025
```

## Upgrading Avaya OA software

9. If the Historical subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

- a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886 1 0 Dec 27 ? 0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229 182 0 10:28:00 pts/11 0:00 grep initsrv
```

- b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885 1 0 Dec 27 ? 38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin 239 182 0 10:32:21 pts/11 0:00 grep nameserv
```

10. If the Real-time subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

- a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886 1 0 Dec 27 ? 0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229 182 0 10:28:00 pts/11 0:00 grep initsrv
```

- b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885 1 0 Dec 27 ? 38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin 239 182 0 10:32:21 pts/11 0:00 grep nameserv
```

c. Enter the following command to see if the TimesTen Data Manager 5.0 is running:

```
ps -ef | grep timesten
```

A message similar to the following should be displayed.

```

root 233 1 0 Dec 23 ? 0:01 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestend
root 234 233 0 Dec 23 ? 0:00 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -id 0
root 235 233 0 Dec 23 ? 0:00 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -id 1
root 236 233 0 Dec 23 ? 0:00 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -id 2
root 237 233 0 Dec 23 ? 0:00 /export/home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -id 3
biadmin 244 182 0 10:34:22 pts/11 0:00 grep timesten

```

11. If the Source-EC subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```

biadmin 2885 1 0 Dec 27 ? 38:41 /opt/BI/bin/nameserv -OApport 10000
-OAnumeric
biadmin 239 182 0 10:32:21 pts/11 0:00 grep nameserv

```

12. If the Report subsystem is installed, enter the following commands to start Stumbras:

```
cd $SUN_WEB_HOME/https-stumbras
```

```
./start
```

The following message is displayed.

```

The OA environment will be set.
.
.
.
Startup: server started successfully

```

## Upgrading Avaya OA software

13. If the Report subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

- a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886 1 0 Dec 27 ? 0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229 182 0 10:28:00 pts/11 0:00 grep initsrv
```

- b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885 1 0 Dec 27 ? 38:41 /opt/BI/bin/nameserv -OApport 10000
-OAnumeric
biadmin 239 182 0 10:32:21 pts/11 0:00 grep nameserv
```

- c. Enter the following command to see if Stumbras-Tomcat is running:

```
ps -ef | grep https-stumbras
```

A message similar to the following should be displayed.

- For Sun Java System Web Server 6.0:

```
biadmin 6141 1 0 Dec 31 ? 0:00 ./uxwdog -d /usr/iplanet/servers/
https-stumbras/config
biadmin 6143 6142 0 Dec 31 ? 1:01 ns-httpd -d /usr/iplanet/servers/
https-stumbras/config
biadmin 6142 6141 0 Dec 31 ? 0:03 ns-httpd -d /usr/iplanet/servers/
https-stumbras/config
biadmin 254 182 0 10:38:51 pts/11 0:00 grep https-stumbras
```

- For Sun Java System Web Server 6.1:

```
biadmin 28604 28603 0 16:38:23 ? 1:58 webservd -r /opt/SUNWwbsvr -d //o
pt/SUNWwbsvr/https-stumbras/config -n https-st
biadmin 28602 1 0 16:38:22 ? 0:00 ./webservd-wdog -r /opt/SUNWwbsvr
-d //opt/SUNWwbsvr/https-stumbras/config -n h
biadmin 28603 28602 0 16:38:22 ? 0:01 webservd -r /opt/SUNWwbsvr -d //o
pt/SUNWwbsvr/https-stumbras/config -n https-st
biadmin 29266 29259 0 18:55:22 pts/22 0:00 grep https-stumbras
```

## Completing an upgrade to an AIX system

To complete an upgrade to an AIX system:

1. Log out of the desktop environment.
2. Log in using an OA user ID and password (see [Creating user IDs and group IDs on AIX servers](#) on page 105 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites*).

### CAUTION:

Do not use any OA commands while logged in as `root`. Using the `root` login ID on these commands will change ownership of files and will make them unusable by the OA user ID.

3. Enter:

```
. /opt/BI/.profile
```

4. Enter the following command to show what processes are running:

```
pa list
```

A listing similar to the following is displayed.

|      |             |              |   |     |         |  |
|------|-------------|--------------|---|-----|---------|--|
| .    | system boot | Dec 20 07:54 |   |     |         |  |
| .    | run-level 4 | Dec 31 10:23 | 4 | 0   | @       |  |
| java | .           | Dec 20 07:54 | . | 292 | id=admb |  |
| java | .           | Dec 20 07:54 | . | 52  | id=adm0 |  |
| java | .           | Jan 02 16:16 | . | 995 | id=ams  |  |
| java | .           | Dec 20 07:54 | . | 295 | id=aut  |  |
| java | .           | Dec 20 07:54 | . | 296 | id=schd |  |
| .    |             |              |   |     |         |  |
| .    |             |              |   |     |         |  |
| .    |             |              |   |     |         |  |

Note that:

- There should be several Java entries, and these lines should not have an exit code at the end of the line.
- If there are any exit codes displayed on the Java entries, that process is not running. Escalate the problem to Avaya Technical Support.
- The `id=aut` and `id=schd` will only display when the Historical subsystem is installed.
- The recorder entries are displayed only if you are collecting data from CMS or Avaya IC. Forwarder entries may be displayed on a server that has the Real-time subsystem installed.

5. If OA is not running (`mom` is not active), enter:

```
pa start all
```

## Upgrading Avaya OA software

6. Repeat Step 4 to verify that OA has started.
7. If you are not successful starting OA, see [Starting and stopping OA-related processes](#) on page 41 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting* for more troubleshooting information.
8. Enter:

**oalist**

A message similar to the following is displayed:

```
Subsystems installed
 Real Time
 Reports
 Data API Utility
 Source-EC

Server Names
 Historical: bigbird
 Alarm Server Type: IC
 Alarm Server: grover

Database information
 Type: DB2
 Instance Name: icoadb
 OA DB Name: icoadb
 DB2 Version: 8.x

User information
 OA User ID: biadmin
 Group ID: oaadmin

Reports information
 WebSphere Root: /usr/IBM/WebSphere/AppServer
 HTTP Root: /usr/IBMIHS
 WebSphere Application Server: server1
 WebSphere Admin Console User: biadmin

OA Software information
 Version Installed: 7.0.0.025
```

9. If the Historical subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886 1 0 Dec 27 ? 0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229 182 0 10:28:00 pts/11 0:00 grep initsrv
```

b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885 1 0 Dec 27 ? 38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin 239 182 0 10:32:21 pts/11 0:00 grep nameserv
```

10. If the Real-time subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886 1 0 Dec 27 ? 0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229 182 0 10:28:00 pts/11 0:00 grep initsrv
```

b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885 1 0 Dec 27 ? 38:41 /opt/BI/bin/nameserv -OAport 10000
-OAnumeric
biadmin 239 182 0 10:32:21 pts/11 0:00 grep nameserv
```

## Upgrading Avaya OA software

- c. Enter the following command to see if the TimesTen Data Manager 5.0 is running:

```
ps -ef | grep timesten
```

A message similar to the following should be displayed.

```
biadmin 20858 48090 0 13:01:34 pts/0 0:00 grep timesten
root 31910 36980 0 Apr 16 - 0:17 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -verbose -id 2 -facility user
root 32664 36980 0 Apr 16 - 0:17 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -verbose -id 1 -facility user
root 36302 36980 0 Apr 16 - 3:35 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -verbose -id 3 -facility user
root 36980 6302 0 Apr 16 - 0:42 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestend -fg
root 40150 36980 0 Apr 16 - 0:18 /home/biadmin/TimesTen5.0.27/
TimesTen/avaya_bi/bin/timestensubd -verbose -id 0 -facility user
```

11. If the Source-EC subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

- a. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885 1 0 Dec 27 ? 38:41 /opt/BI/bin/nameserv -OApport 10000
-OAnumeric
biadmin 239 182 0 10:32:21 pts/11 0:00 grep nameserv
```

12. If the Report subsystem is installed, enter the following commands to stop and restart the WebSphere software:

```
stopWebSphere -w $WEBSPHHERE_HOME -s servername -u userID
-p userpassword
```

```
startWebSphere -w $WEBSPHHERE_HOME -s servername -h HTTP_ROOT -u
userID -p userpassword
```

where *\$WEBSPHHERE\_HOME* is the installation path WebSphere (default is /usr/IBM/WebSphere/AppServer), *servername* is the WebSphere Application Server Name under which OA Reports is deployed (default is server1), *HTTP\_ROOT* is the installation path for the HTTP Server (default is /usr/IBMIHS), *userID* is the user ID administered for Global Security on WebSphere, and *userpassword* is the password for that user ID.

**Note:**

If the default values are used for *\$WEBSPHHERE\_HOME*, *servername*, or *HTTP\_ROOT* then do not use these options. If a Global Security user ID has not been administered, do not use the user and password options.

The following message is displayed.

```
.
. .
. .
ADMU3000I: Server server1 open for e-business; process id is XXXXX
```

## Upgrading Avaya OA software

13. If the Report subsystem is installed, use the following commands and responses to verify that the required services are running. If the services are not running, escalate the problem using the normal channels.

- a. Enter the following command to see if the Avaya Business Intelligence Service is running:

```
ps -ef | grep initsrv
```

A message similar to the following should be displayed.

```
root 2886 1 0 Dec 27 ? 0:06 /opt/BI/bin/initsrv -n oaadmin -v 30
biadmin 229 182 0 10:28:00 pts/11 0:00 grep initsrv
```

- b. Enter the following command to see if the ORBacus Naming Service is running:

```
ps -ef | grep nameserv
```

A message similar to the following should be displayed.

```
biadmin 2885 1 0 Dec 27 ? 38:41 /opt/BI/bin/nameserv -OApport 10000
-OAnumeric
biadmin 239 182 0 10:32:21 pts/11 0:00 grep nameserv
```

- c. Enter the following command to see if WebSphere is running:

```
ps -ef | grep WebSphere
```

A message similar to the following should be displayed.

```

biadmin 28514 1 0 Jun 03 - 4:39 /usr/IBM/WebSphere/AppServer/java/
bin/java -Xbootclasspath/p:/usr/IBM/WebSphere/AppServer/java/jre/lib/ext/
ibmorib.jar:/usr/IBM/WebSphere/AppServer/java/jre/lib/ext/ibmext.jar
-Dwas.status.socket=53964 -classpath /usr/IBM/WebSphere/AppServer/profiles/
default/properties:/usr/IBM/WebSphere/AppServer/properties:/usr/IBM/WebSphere/
AppServer/lib/bootstrap.jar:/usr/IBM/WebSphere/AppServer/lib/j2ee.jar:/usr/IBM/
WebSphere/AppServer/lib/lmproxy.jar:/usr/IBM/WebSphere/AppServer/lib/
urlprotocols.jar:/usr/opt/db2_08_01/java/db2jcc.jar:/usr/opt/db2_08_01/java/
db2jcc_license_cu.jar:/usr/opt/db2_08_01/java/db2jcc_license_cisuz.jar -Xms50m
-Xmx512m -Dws.ext.dirs=/usr/IBM/WebSphere/AppServer/java/lib:/usr/IBM/WebSphere/
AppServer/profiles/default/classes:/usr/IBM/WebSphere/AppServer/classes:/usr/
IBM/WebSphere/AppServer/lib:/usr/IBM/WebSphere/AppServer/installedChannels:/usr/
IBM/WebSphere/AppServer/lib/ext:/usr/IBM/WebSphere/AppServer/web/help:/usr/IBM/
WebSphere/AppServer/deploytool/itp/plugins/com.ibm.etools.ejbdeploy/runtime
-Dcom.ibm.itp.location=/usr/IBM/WebSphere/AppServer/bin
-Djava.util.logging.configureByServer=true -Dibm.websphere.preload.classes=true
-Duser.install.root=/usr/IBM/WebSphere/AppServer/profiles/default
-Dwas.install.root=/usr/IBM/WebSphere/AppServer
-Djava.util.logging.manager=com.ibm.ws.bootstrap.WsLogManager
-Ddb2j.system.home=/usr/IBM/WebSphere/AppServer/cloudscape -Dserver.root=/usr/
IBM/WebSphere/AppServer/profiles/default -Djava.awt.headless=true
-Djava.security.auth.login.config=/usr/IBM/WebSphere/AppServer/profiles/default/
properties/wsjaas.conf -Djava.security.policy=/usr/IBM/WebSphere/AppServer/
profiles/default/properties/server.policy com.ibm.ws.bootstrap.WSLauncher
com.ibm.ws.runtime.WsServer /usr/IBM/WebSphere/AppServer/profiles/default/config
groverNode01Cell groverNode01 server1

```

## Upgrading Avaya OA software

14. To verify that OA reports are running using the WebSphere Administrative Console:

a. In a browser window, enter:

```
http://report_server_FQDN:port_number/reports1
```

where *report\_server\_FQDN* is the fully-qualified domain name of the server where the Report subsystem is installed and *port\_number* is the port number assigned to the WebSphere Administrative Console (for example, 9060).

b. Log in to the WebSphere Administration Console using the Global Security user ID and password (if assigned). Otherwise, enter any user ID.

c. Select **Applications > Enterprise Applications**.

d. If there is a green arrow next to **Default**, select the check box to the left of **Default** and select **Stop**.

e. Verify that there is a green arrow next to **OAReports**. If there is a red X, select the check box to the left of **OAReports** and select **Start**. This should change the status to a green arrow. If not, escalate the problem using the normal channels.

---

## Recovering from a failed upgrade

You can recover the previous software and configuration of OA if the upgrade to a new version of OA fails. This recovery feature applies to the OA software only and does not include data migration.

 **Important:**

If you manually stop an upgrade during file installation by closing the **Progress** dialog box, you cannot recover the upgrade using this procedure. You must contact Avaya technical support.

**Note:**

Recovery of a different version than had been initially installed is not possible.

If a failure occurs during installation of files and a message is displayed indicating that recovery is required:

1. Continue with the failed upgrade, rebooting if requested.

The OA software on the machine at this point is a mixture of the new software that was installed before the failure occurred as well as the old software that had not yet been replaced.

2. Uninstall the OA software. See [Removing Avaya OA components](#) on page 243. Do not remove any files under the %PABASE% or \$PABASE folders or directories.
3. On a Windows server:
  - a. Select **Start > Settings > Control Panel**.
  - b. Double-click **Add or Remove Programs**.
  - c. Scroll through the list of currently-installed programs and find all occurrences of Java 2 Runtime Environment (JRE) software.
  - d. Remove versions 1.3.1\_03 and 1.3.1\_06 of the JRE software, if they are installed.
4. Install the old original version of OA.

A window will indicate that a recovery is being done. The installation dialog boxes will then be displayed with the information that was entered when the software was originally installed. This information cannot be changed. Also, the **Feature Selection** and **Destination** dialog boxes will not be displayed, which prohibits you from changing that information.

5. When the installation is finished, OA will operate as it did before the upgrade attempt.
6. Contact Avaya technical support to determine what must be fixed before trying the upgrade again.





## Incorrect OS and database installation

One of the most common causes of installation failure is improper setup of the operating system environment before attempting to install OA. Be sure to verify that the customer has followed the steps outlined in [Preparing for installation](#) on page 13. It is critical that all the supporting environment software is installed in the proper order.

---

## Diagnosing installation problems

If you encounter difficulties with the OA installation, following these steps may help you pinpoint the cause of the trouble:

1. Access the `OAInstall.log` file.

For Windows, this file can be found in `%TEMP%` during the installation, and in `%PABASE%` after the server has been rebooted.

For Solaris and AIX, this file can be found in `/tmp` during the installation, and in `$PABASE` after the installation.

**Note:**

The location of the `%TEMP%` folder in Windows depends on how Windows was installed.

2. View the `OAInstall.log` file. This log file reports:
  - Installed components
  - Errors encountered during installation
  - Rollbacks due to installation errors

If the log file information does not lead to a resolution of the difficulty, contact your Avaya planning and installation support representative or your Avaya Business Partner.

---

## Installation failure after changing the domain name

If the database software was originally installed on a server using a Windows domain login (not a local administrator login), and the domain name of that server is changed, the database software can no longer authenticate the owner of the database files and directories during OA installation. The installation will fail.

To fix this problem, log in as a local administrator on the database server and reinstall the database software. See [Installing the historical database software](#) on page 57 in *Avaya Operational Analyst Release 7.0 Installation Planning and Prerequisites* for more information.

If you want to preserve your data, you must do a full backup, reinstall the database software, then restore the data. See [Backing up the historical database](#) on page 17 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting* for more information.

After you have reinstalled the database software, reinstall the OA software. See [Installing Avaya OA components on a Windows platform](#) on page 32 for more information.

---

## Processes not running

Use the commands described in [Starting and stopping OA-related processes](#) on page 41 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting* to start processes that may not be running.

---

## Data not transferred or collected

If data is not being transferred from data collection sources, or if data is not getting collected at the historical server, use the `dcstat` command to check the forwarders and recorders. This command is described in [Forwarders and recorders](#) on page 50 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting*.

## Missing files

When attempting to run OA, if a window displays indicating that DLLs or other files are missing, you must repair the OA software. Follow the instructions regarding repair in [Repairing Avaya OA components](#) on page 193.

**Note:**

All of the components previously installed must be selected on the **Feature Selection** dialog box for repair.

---

## Subsystems not installed

When installing subsystems on a Windows server, the Windows Terminal Services feature may block certain subsystems from being installed, in particular, the Source-EC subsystem.

If you have installed the Source-EC subsystem on a server, but later find out the installation failed, reinstall the Source-EC subsystem, making sure that you temporarily change the Terminal Services install option using the `change user /install` command. See [Installing Avaya OA components on a Windows platform](#) on page 32 for more information.

---

## Report client installation fails to work

If you install the Report client files, but you cannot access any reports, do the following:

- Verify that you have not installed the Report client files on a Windows Server 2003 machine. This installation option is not allowed.
- See [Troubleshooting Basic Reports and the report server](#) on page 175 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting*.

---

## Unable to install Report client files

If you are unable to install the OA Report client files and JRE on reporting client machines, this may be caused by the IIS Lockdown tool.

If the IIS Lockdown tool is installed on the server where the Report subsystem is installed and the URLScan option is enabled, remove the IIS Lockdown tool before you attempt to install the Report client files onto the client machines.

After the client machines are all installed, reinstall the IIS Lockdown tool onto the server where the Report subsystem is installed.

---

## Report access failure

If you try to access reports and receive a **Page Not Found, This page cannot be displayed**, or other similar error, it may be that the Report subsystem has not been administered.

To verify that the Report subsystem has been administered:

1. Start the Administration client.
2. Access the Subsystems page.
3. Verify that there is an entry for a Report subsystem on the subsystem where you are attempting to run reports.

If you try to access reports and your login and password are rejected, or you receive a **Forbidden** error, it may be that the Historical subsystem is not operating or cannot be accessed over the network. Confirm that the Historical subsystem is operating correctly and that it can be accessed over the network. Verify that your user ID is a member of the Reports group.

If you are getting Java errors, verify that the JRE and Report client support files have been installed. See [Installing and testing the Report client](#) on page 102.

Refer to [Adding a Report subsystem](#) on page 132 and the *Administration Client Help* for more information on how to administer the Report subsystem and starting the web services.

If you still cannot access reports, see [Troubleshooting Basic Reports and the report server](#) on page 175 in *Avaya Operational Analyst Release 7.0 Maintenance and Troubleshooting*.

## Administration client authorization failures

If you cannot access the OA Administration client due to authorization failures, please refer to *Avaya Operational Analyst Release 6.1 Security Guide* on the Avaya OA installation CD-ROM for details on user ID and group creation and guidelines.

---

## Password changes

If you change database passwords external to OA, you may need to repair OA to reset the passwords. See [Repairing Avaya OA components](#) on page 193 for more information.

---

## Display problems with AIX

When installing on AIX, you may have problems displaying the installation dialog boxes if you do not set the monitor's display environment. Before you begin the install, enter:

```
export DISPLAY=hostname:0.0
```

where *hostname* is the name of the server (`uname -n`) or the IP address of the server.

---

## Corruption in AIX terminal windows

During installation of OA on an AIX server, you may see intermittent errors when creating logical table spaces. These errors may note that tablespaces are too small, even though you have set up the tablespaces to be much larger than the minimum sizes.

If this continues to happen, cancel the install, close the AIX terminal window, and restart the installation in a new terminal window.

---

## Domain controller loses connection

When adding, repairing, or upgrading OA components on a Windows system, you receive a message saying you are using an invalid user ID or invalid group ID. This may be caused by the system or domain server losing track of the system on where you are installing OA.

To work around this problem on Windows 2000:

1. From the Windows Desktop, right-click **My Computer** and select **Properties**.
2. Select the **Network Identification** tab.
3. Select **Properties**.
4. Under **Identification Changes**, select **Workgroup**.
5. Enter the new work group.
6. Select **OK**.
7. Select **Apply**.
8. Choose a domain.
9. Select **Apply**.
10. Reboot the computer.

To work around this problem on Windows 2003:

1. From the Windows Desktop, right-click **My Computer** and select **Properties**.
2. Select the **Computer Name** tab.
3. Select **Change**.
4. Under **Computer Name Changes**, select **Workgroup**.
5. Enter the new work group.
6. Select **OK**.
7. Select **Apply**.
8. Choose a domain.
9. Select **Apply**.
10. Reboot the computer.

## Microsoft SQL Server 2000 installation troubleshooting

If you encounter difficulty installing the OA software due to Microsoft SQL Server 2000 database issues, it is possible the initial Microsoft SQL configuration is incorrect.

This section includes the following topics:

- [Port number](#) on page 316
- [Microsoft SQL server services](#) on page 316
- [Memory usage](#) on page 317
- [Authentication](#) on page 317

---

### Port number

The port number, which is usually **1433**, must match the entry in the file `%PABASE%\data\admin\db.properties`. To verify the port number:

1. Select **Start > Program Files > Microsoft SQL Server > Server Network Utility**.
2. Select the **General** tab.
3. Select **TCP/IP**.
4. Click **Properties**.
5. Adjust the port number if necessary.

---

### Microsoft SQL server services

The Microsoft SQL server services must be running and set to start automatically.

1. Select **Start > Programs > Administrative Tools > Services**.
2. Verify that these services are running and are set to start automatically. Adjust as necessary:
  - `SQLAgent$instance name` (not automatic by default)
  - `MSSQL$instance name`

---

## Memory usage

You should limit the amount of memory Microsoft SQL Server can use. To verify this:

1. Open Enterprise Manager.
2. Click the **SQL Server Group**.
3. Right-click *local host\instance name*.
4. Select **Properties**.
5. Select the **Memory** tab.
6. Select **Dynamically configure SQL Server memory**.
7. Set **Minimum** to be 1/4 of available memory.
8. Set **Maximum** to be 1/2 of available memory.

---

## Authentication

If OA refuses the password you enter during installation, make sure the password is correct. To verify the password:

1. Use the Microsoft SQL Query Analyzer tool.
2. Try to log in using the `sa` login ID and password in question.
3. If your password is blank, change it to a non-blank value.

If this still does not fix the problem, you may need to install the latest Microsoft SQL service pack.

## Troubleshooting an installation



# Appendix A: Port assignments

The OA servers require several ports to communicate with other OA servers, Avaya IC servers, and third-party servers and applications. Whenever possible, use the default ports and locations in the configuration to reduce potential conflict.

Avaya IC servers use TCP/IP ports for communication with the other Avaya IC servers. These ports start at 9001 and increment from there. Before you install these servers, verify with your network administrator that no other network applications use the same ports.

If a server uses a port that is already assigned to a network application or another server, either the server or the application may not function.

This section describes the guidelines for assigning ports and the default port assignments in Avaya IC and Avaya OA. This section includes the following topics:

- [Guidelines for assigning ports](#) on page 320
- [Ports used by Avaya OA components](#) on page 322
- [Ports used by Avaya IC servers](#) on page 323
- [Ports used for Business Advocate](#) on page 328
- [Ports used for third party servers](#) on page 329
- [Ports used for connections between Avaya OA and CMS](#) on page 330
- [Ephemeral ports](#) on page 334

 **CAUTION:**

To avoid potential port conflicts, for an Avaya IC deployment that includes Avaya IC and Avaya OA components on the same machine, always start the Avaya IC components first, then start the Avaya OA components.

---

## Guidelines for assigning ports

This section includes the following topics:

- [Allowable values](#) on page 320.
- [Multiple server instances](#) on page 320.
- [Automatic settings for Avaya IC core servers](#) on page 320.
- [Primary and secondary Avaya IC servers](#) on page 321.
- [Port verification](#) on page 321.
- [Changing default port assignments](#) on page 321.

---

### Allowable values

All ports must be numeric and in the range of 1024-65535.

---

### Multiple server instances

Multiple instances of a server that run on the same machine require different port numbers for each instance.

---

### Automatic settings for Avaya IC core servers

Port numbers for the Avaya IC core servers are sequential. Avaya IC assigns port numbers to all core servers according to the port assigned to the ORB server. For example, Avaya IC automatically assigns the ports in the following table to the servers that are added when you configure the primary server environment. When you configure the other servers, IC Manager assigns port numbers sequentially, starting with 9005.

| Server           | Default Port |
|------------------|--------------|
| ORB server       | 9001         |
| Directory server | 9002         |
| Alarm server     | 9003         |
| License server   | 9004         |

---

## Primary and secondary Avaya IC servers

If you install primary and secondary servers, use the default port number of 9001 for the primary port. You can use the same number for the secondary servers on another machine. If you select a different port, Avaya IC assigns ports sequentially from that port number.

---

## Port verification

Review the current port numbers in IC Manager to verify that there are no conflicts when you assign ports.

---

## Changing default port assignments

You can change the default port numbers:

- When you configure Avaya IC servers
- In IC Manager

For more information, see the section "Configuring core servers" in *Avaya Interaction Center Release 7.0 Installation and Configuration*.

---

## Ports used by Avaya OA components

The following table lists the default ports used by Avaya OA components. For information about ports used by the various IC and third party servers, see [Ports used by Avaya IC servers](#) on page 323.

| Component                       | Default port | Assigned port | Notes                                                                                                                                                                     |
|---------------------------------|--------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Avaya OA Event Collector server | Sequential   |               | Sequential from the previous server created in IC Manager.                                                                                                                |
| Orbacus                         | 10000        |               | Orbacus naming service                                                                                                                                                    |
| OA services                     | 1521         |               | Used by connection to Oracle database.                                                                                                                                    |
| OA services                     | 1433         |               | Used by connection to Microsoft SQL Server database.                                                                                                                      |
| OA services                     | 50000        |               | Used by connection to IBM DB2 database.<br>This listen port is the default for the first DB2 instance that is created. Any additional instances will use a different port |

Avaya OA does use some other ports. However, the CORBA third party product (ORBACUS) does not allow you to specify a range for those ports. ORBACUS dynamically gets whatever port the operating system provides. You can tell the operating system what range of port it can assign to applications. For more information, see [Ephemeral ports](#) on page 334.

## Ports used by Avaya IC servers

The following table contains default port assignments for the Avaya IC servers and some third-party servers. To make sure that you assign unique ports to each server, write your port assignments in the empty cells of the Assigned Port column.

**⚠ CAUTION:**

By default, Solaris runs the HTT Input Method Server (htt\_server) on port 9010. On non-English Solaris machines, this port assignment creates a conflict with any Avaya IC server that you configure to run on port 9010. To avoid the conflict, you can update htt\_server to use a different port, or not assign an Avaya IC server to port 9010. In a typical installation, with the primary ORB server on port 9001, IC Manager automatically assigns port 9010 to the Report server.

| Server           | Default port | Assigned port | Notes                                                                                                                                                                                                                                                                                                                                                                      |
|------------------|--------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ORB server       | 9001         |               | Default port assignment.                                                                                                                                                                                                                                                                                                                                                   |
| Directory server | 9002         |               | Sequential from ORB server.                                                                                                                                                                                                                                                                                                                                                |
| Alarm server     | 9003         |               | Sequential from Directory server.                                                                                                                                                                                                                                                                                                                                          |
| License server   | 9004         |               | Sequential from Alarm server                                                                                                                                                                                                                                                                                                                                               |
| Blender server   | Sequential   |               | Sequential from the previous server created in IC Manager.                                                                                                                                                                                                                                                                                                                 |
| Workflow server  | Sequential   |               | Sequential from the previous server created in IC Manager.                                                                                                                                                                                                                                                                                                                 |
| ADU server       | Sequential   |               | Sequential from the previous server created in IC Manager.                                                                                                                                                                                                                                                                                                                 |
| Data server      | Sequential   |               | Connects to the following ports: <ul style="list-style-type: none"> <li>● Oracle database on 1521</li> <li>● SQL Server database on 1433</li> <li>● DB2 database on 50000</li> </ul> For DB2, this port is the default for the first DB2 instance that is created. Additional instances use a different port<br>Sequential from the previous server created in IC Manager. |
| EDU server       | Sequential   |               | Sequential from the previous server created in IC Manager.                                                                                                                                                                                                                                                                                                                 |

## Port assignments

| Server                     | Default port | Assigned port | Notes                                                                                                                                                                                           |
|----------------------------|--------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Report server              | Sequential   |               | Sequential from the previous server created in IC Manager.                                                                                                                                      |
| HTTP Connector server      | Sequential   |               | Connects to HTTP protocol on port 80.<br>Sequential from the previous server created in IC Manager.                                                                                             |
| Notification server        | Sequential   |               | Sequential from the previous server created in IC Manager.                                                                                                                                      |
| WebACD server              | Sequential   |               | Sequential from the previous server created in IC Manager.                                                                                                                                      |
| ComHub server              | Sequential   |               | Sequential from the previous server created in IC Manager.                                                                                                                                      |
| Paging server              | Sequential   |               | Sequential from the previous server created in IC Manager.                                                                                                                                      |
| Attribute server           | Sequential   |               | Sequential from the previous server created in IC Manager.                                                                                                                                      |
| IC Email server            | Sequential   |               | Connects to the following ports: <ul style="list-style-type: none"> <li>● POP3 server on 110</li> <li>● SMTP server on 25</li> </ul> Sequential from the previous server created in IC Manager. |
| DUStore server             | Sequential   |               | Sequential from the previous server created in IC Manager.                                                                                                                                      |
| Telephony server           | Sequential   |               | Sequential from the previous server created in IC Manager.<br><b>Note:</b> Some switch interfaces require additional ports. For more information, see the documentation for your switch.        |
| TS Queue Statistics server | Sequential   |               | Sequential from the previous server created in IC Manager.                                                                                                                                      |
| VOX server                 | Sequential   |               | Connects to the IVR through default port 3000. You can change this port assignment in the IVR.<br>Sequential from the previous server created in IC Manager.                                    |
| Dialing Kernel server      | Sequential   |               | Sequential from the previous server created in IC Manager.                                                                                                                                      |

| Server                                                              | Default port | Assigned port | Notes                                                                                                          |
|---------------------------------------------------------------------|--------------|---------------|----------------------------------------------------------------------------------------------------------------|
| Softdialer server                                                   | Sequential   |               | Sequential from the previous server created in IC Manager.                                                     |
| Content Analyzer Administration server                              | Sequential   |               | Sequential from the previous server created in IC Manager.                                                     |
| Content Analyzer Operation server                                   | Sequential   |               | Sequential from the previous server created in IC Manager.                                                     |
| WebACD server - Service port (Legacy services)                      | 4010         |               | If you must change this port, see <i>Avaya Interaction Center Release 7.0 Installation and Configuration</i> . |
| ComHub server - Service port (Legacy services)                      | 4001         |               | If you must change this port, see <i>Avaya Interaction Center Release 7.0 Installation and Configuration</i> . |
| Paging server - Service port (Legacy services)                      | 4200         |               | If you must change this port, see <i>Avaya Interaction Center Release 7.0 Installation and Configuration</i> . |
| Attribute server - Service port (Legacy services)                   | 2300         |               | If you must change this port, see <i>Avaya Interaction Center Release 7.0 Installation and Configuration</i> . |
| HTTP Connector server - HTTP request port                           | 9170         |               | Can change default if required.                                                                                |
| WebQ                                                                | 9180         |               | Can change default if required.                                                                                |
| WebQ Router                                                         | 9190         |               | Can change default if required.                                                                                |
| Ports reserved for ICM and CIRS                                     | 9500 to 9520 |               | See cells below for details.                                                                                   |
| Internet Call Manager service - ICM agent                           | 9501         |               | Change this port in the ICM Directory server table through Configuration tab of IC Manager.                    |
| Internet Call Manager service - ICM caller                          | 9502         |               | Change this port in the ICM Directory server table through Configuration tab of IC Manager.                    |
| Internet Call Manager service - ICM bridge in Attribute server port | 9503         |               | Change this port in the ICM Directory server table through Configuration tab of IC Manager.                    |

## Port assignments

| Server                                                         | Default port | Assigned port | Notes                                                                                                                                      |
|----------------------------------------------------------------|--------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Internet Call Manager service - ICM administration (Util port) | 9504         |               | Change this port in the ICM Directory server table through Configuration tab of IC Manager.                                                |
| Internet Call Manager service - ICM tunnel                     | 9505         |               | If you must change this port, see <i>Avaya Interaction Center Release 7.0 Installation and Configuration</i> .                             |
| CIRS service - CIRS servlet port                               | 9506         |               | If you must change this port, see <i>Avaya Interaction Center Release 7.0 Installation and Configuration</i> .                             |
| CIRS service - CIRS administration (Util port)                 | 9507         |               | Change this port in the CIRS Directory server table through Configuration tab of IC Manager. This port is used to monitor the CIRS server. |
| CIRS service - CIRS caller                                     | 9508         |               | Change this port in the CIRS Directory server table through Configuration tab of IC Manager.                                               |
| VMM server - VOIP caller port                                  | 8120         |               | Used for Voice Chat.                                                                                                                       |
| Dialing Kernel server - serverport                             | 7800         |               | Used for outbound voice contacts.                                                                                                          |
| IC Email server - Email provider port                          | 19113        |               | Used by Web Agent to retrieve email contacts from the IC Email server.                                                                     |
| IC Email server - HTTP port for administration interface       | 19114        |               | Used by Email Template Administration to send changes to the IC Email server.                                                              |

| Server                                                                                                   | Default port             | Assigned port | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------|--------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Website, Email Template Administration, QKnowledge, Letter Generator, Agent Installer, and ICM tunneling | Http - 80<br>Https - 443 |               | HTTP and HTTPS connections for web applications.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Tomcat servlet                                                                                           | 9600                     |               | <p>HTTP port.<br/>Change through the Configuration Tool.</p> <p>If you configure multiple Web applications on one machine, the Configuration Tool uses the following sequential ports:</p> <ul style="list-style-type: none"> <li>● baseport+1 for Web License Manager</li> <li>● baseport+2 for Website</li> <li>● baseport+3 for Email Template Administration</li> <li>● baseport+4 for QKnowledge</li> <li>● baseport+5 for Letter Generator</li> <li>● baseport+6 for IC Test</li> </ul> |

---

## Ports used for Business Advocate

The following table lists the ports used for Business Advocate, plus additional information on how to control those ports:

| Component                                                 | Default port              | Assigned port | Notes                                                                                                                                                                                      |
|-----------------------------------------------------------|---------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Business Advocate Resource Manager server                 | Sequential                |               | Sequential from the previous server created in IC Manager.                                                                                                                                 |
| Business Advocate Telephony Services Adaptor server       | Sequential                |               | Sequential from the previous server created in IC Manager.                                                                                                                                 |
| Web Advocate Adaptor server                               | Sequential                |               | Sequential from the previous server created in IC Manager.                                                                                                                                 |
| Advocate Services                                         | 1521                      |               | Use by connection to Oracle database.                                                                                                                                                      |
| DCOM                                                      | 5000 to 5050              |               | Business Advocate servers that use DCOM, limit to 5000-5050. See Microsoft Knowledge Base article 154596 and the article entitled "Using Distributed COM with Firewalls" by Michael Nelson |
| Active Directory and MSMQ                                 | per Windows configuration |               | See Microsoft Knowledge Base article 179442.                                                                                                                                               |
| Windows network share to primary Resource Manager server. | per Windows configuration |               | See Microsoft Knowledge Base article 179442.                                                                                                                                               |

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## Ports used for Siebel Integration

The following table lists the ports used for Siebel integration servers and components, plus additional information on how to control those ports:

| Component          | Default port | Assigned port | Notes                                                                                                                                                                                                   |
|--------------------|--------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Siebel AED server  | Sequential   |               | Sequential from the previous server created in IC Manager.                                                                                                                                              |
| Siebel AICD server | Sequential   |               | Sequential from the previous server created in IC Manager.                                                                                                                                              |
| Siebel EAI server  | Sequential   |               | Communicates with Siebel on HTTP port 80.<br>You can configure this port by setting hostname:port on the Configuration tab of the server.<br>Sequential from the previous server created in IC Manager. |

---

## Ports used for third party servers

Avaya IC and Avaya OA also use third party servers which are accessed through TCP/IP. These third party servers include, but are not limited, to those listed in the following table.

| Default port | Protocol or component | Avaya IC components                                                                 |
|--------------|-----------------------|-------------------------------------------------------------------------------------|
| 25           | SMTP                  | IC Email server and Web Management website                                          |
| 110          | POP                   | IC Email server and POP3 email servers                                              |
| 1433         | SQL Server database   | Data server, Web Management website, and ICM connection for SQL Server installation |
| 1521         | Oracle database       | Data server, Web Management website, and ICM connection for Oracle installation     |
| 50000        | DB2 database          | Data server, Web Management website, and ICM connection for DB2 installation        |

---

## Ports used for connections between Avaya OA and CMS

This section describes the port usage for communication between an OA host and a CMS host.

This section includes the following topics:

- [Inbound ports required for a CMS host](#) on page 330
- [Outbound ports required for a CMS host](#) on page 330
- [Inbound ports required for an OA host](#) on page 331
- [Outbound ports required for an OA host](#) on page 331
- [Formulas for port usage](#) on page 332
- [Port usage example](#) on page 332

---

### Inbound ports required for a CMS host

- 1 port (port 10000, configurable) - All inbound CORBA processes to Naming Service from other host(s)
- 2x ports - Connection monitoring from recorders [1..X] to forwarders [1..X]
- 2 ports - adm0 to admb
- 2 ports - Connection monitoring adm0 to admb
- 2t ports at a time - Command-line tools that can be run across machines, such as AMUI to AMS and dcstat to recorders. They only run on demand and release ports when completed. Therefore only 2 ports at a time are needed. You can open more ports if you want to be able to run more than one command-line tool at a time

---

### Outbound ports required for a CMS host

- 2x ports - Forwarder [1..X] to recorder [1..X]
- 2x ports - Connection monitoring from forwarders [1..X] to recorders [1..X]
- 2 ports - adm0 to admb
- 2 ports - Connection monitoring adm0 to admb

- $1p$  port per CORBA client for Outbound Transient connection to the Naming Service, where  $p$  is the number of CORBA client processes connecting to a CORBA server on another host
- $2t$  ports at a time - Command-line tools that can be run across machines, such as AMUI to AMS and dcstat to recorders. They only run on demand and release ports when completed. Therefore only 2 ports at a time are needed. You can open more ports if you want to be able to run more than one command-line tool at a time.

---

## Inbound ports required for an OA host

- 1 ports (port 10000, configurable) - All inbound CORBA process to Naming Service from other host(s)
- $2x$  ports - Forwarder [1..X] to recorder [1..X]
- $2x$  ports - Connection monitoring from forwarders [1..X] to recorders [1..X]
- 2 ports - adm0 to admb
- 2 ports - Connection monitoring adm0 to admb
- $2t$  ports at a time - Command-line tools that can be run across machines, such as AMUI to AMS and dcstat to recorders. They only run on demand and release ports when completed. Therefore only 2 ports at a time are needed. You can open more ports if you want to be able to run more than one command-line tool at a time.

---

## Outbound ports required for an OA host

- $2x$  ports - Connection monitoring from recorders [1..X] to forwarders [1..X]
- 2 ports - adm0 to admb
- 2 ports - Connection monitoring adm0 to admb
- $1p$  port per CORBA client for Outbound Transient connection to the Naming Service
- $2t$  Command-line tools that can be run across machines, such as AMUI to AMS and dcstat to recorders. They only run on demand and release ports when completed. Therefore only 2 ports at a time are needed. You can open more ports if you want to be able to run more than one command-line tool at a time.

## Formulas for port usage

The following formulas show how to determine port usage on a CMS host and an OA host:

- Ports needed on the CMS host:

$$\text{Outbound} = 4 + 1p + 2t + 4x$$

$$\text{Inbound} = 5 + 2t + 2x$$

$$\text{Total ports} = 9 + 1p + 4t + 6x$$

- Ports needed on the OA host:

$$\text{Outbound} = 4 + 1p + 2t + 2x$$

$$\text{Inbound} = 5 + 2t + 4x$$

$$\text{Total ports} = 9 + 1p + 4t + 6x$$

Note the following about these formulas:

- CORBA connections require 2 ports, one for sending the CORBA request, one for receiving the CORBA response.
- CORBA connections across hosts require both the CORBA server's host to have 2 available ports (inbound connections) and the CORBA's client host to have two available ports (outbound connections).
- $t$  is the number of transient applications you want to run at one time.
- $p$  is the number of CORBA clients that use the Naming Service on the host where the corresponding CORBA server is running. I am calculating that all CORBA clients may try to connect to the Naming Service at the same time so I'm counting one port for each. Those connections are transient so they will be freed automatically after use.
- $x$  is the number of forwarders used for the given configuration.

---

## Port usage example

In this example, if:

- A CMS host runs 6 forwarders ( $x = 6$ )
- You allow only one command-line tool to run at a time, which is a typical scenario ( $t = 1$ )
- The list processes that connect to the Naming Service on the OA box ( $p = 8$ )
- There are 6 forwarders
- There is 1 admin servers
- There is 1 command-line tool

## Ports used for connections between Avaya OA and CMS

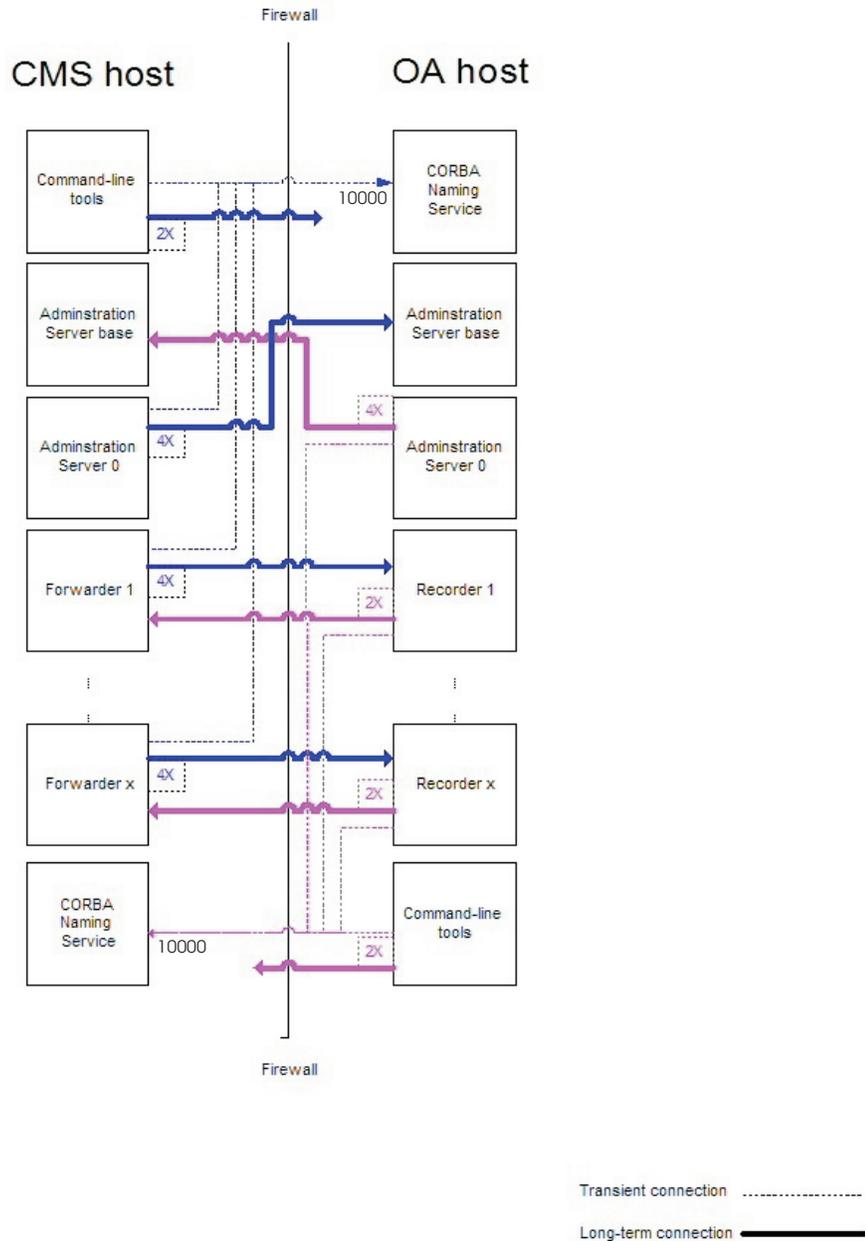
The number of ports needed on the CMS box is:

$$9 + 8 + 4 + 36 = 57$$

The number of ports needed on the OA box is:

$$9 + 8 + 4 + 36 = 57$$

The following figure illustrates the transient and long-term connections that occur between OA and CMS:



## Ephemeral ports

A TCP/IPv4 connection consists of two endpoints, and each endpoint consists of an IP address and a port number. When a client user connects to a server computer, an established connection can be thought of as the combination of server IP, server port, client IP, client port. Usually, three of the four are readily known: the client machine uses its own IP address, and when connecting to a remote service, the server machine's IP address and service port number are required.

What is not immediately evident is that when a connection is established, the client side of the connection uses a port number. Unless a client program explicitly requests a specific port number, the port number used is an ephemeral port number. Ephemeral ports are temporary ports assigned by a machine's IP stack, and are assigned from a designated range of ports for this purpose. When the connection terminates, the ephemeral port is available for reuse, although most IP stacks won't reuse that port number until the entire pool of ephemeral ports have been used. So, if the client program reconnects, it will be assigned a different ephemeral port number for its side of the new connection.

This section includes the following topics:

- [Limits implied by the ephemeral port range](#) on page 334
- [Traditional configuration of the ephemeral port range](#) on page 335
- [Firewalling the ephemeral port range](#) on page 335
- [Changing the ephemeral port range](#) on page 336

---

## Limits implied by the ephemeral port range

Another important ramification of the ephemeral port range is that it limits the maximum number of connections from one machine to a specific service on a remote machine. The TCP/IP protocol uses the connection's combination of server IP, server port, client IP, and client port to distinguish between connections, so if the ephemeral port range is only 4000 ports wide, that means that there can only be 4000 unique connections from a client machine to a remote service at one time.

A port range of 4000 may seem large, but it is actually small for current computing demands when you consider that a TCP connection must expire through the TIME\_WAIT state before it is really completed. For example, even if both sides of a connection properly close their ends of the connection, due to TCP's error control, each side must wait until the TIME\_WAIT state is expired before the connection's resources can really be disposed. The TIME\_WAIT state is twice the maximum segment lifetime (MSL) which, depending on the IP stack, is usually configured to be 240 seconds total. That means that you could have only 4000 connections per 240 second window, and in practice this can be exhausted.

---

## Traditional configuration of the ephemeral port range

The BSD Sockets TCP/IP stack used ports 1024 through 4999 as ephemeral ports. Additionally, ports 1 through 1023 were intended for systems services running as the superuser, so those ports are called reserved ports.

As discussed earlier, BSD's choice of the ephemeral port range is unfortunate because of its relatively small size (3975 ports) and its low numbered position. Many feel that the default range should be 49152 through 65535, which is both much larger (16383 ports) and is at the very top of the full port range.

---

## Firewalling the ephemeral port range

For firewalls, administrators often choose to restrict access to as many port numbers as possible. For cases where inbound connections to the ephemeral ports is required, an entire range of ports must be opened. It is imperative that when opening a range of ports on the firewall that no system services are listening on ports in the open range. Administrators will often want to open a specific range on the firewall, and then for each machine on the internal network, make sure that the ephemeral port range on the machine coincides with the open range on the firewall.

It must be made clear that the ephemeral port range on machines on the internal network often do not coincide with each other since different operating systems may use different ranges. That is why it can be time consuming to manually configure each machine's ephemeral port range so it coincides with the open range on the firewall. As a result, administrators often end up changing to a policy of allowing all incoming ports and deny access to specific ports when needed.

It may not be necessary to open the ephemeral port range. It is usually only necessary when FTP is being served to the outside world (Passive "PASV" data connections use inbound ephemeral ports), or when FTP client access must work in non-passive mode ("PORT" connections from the server are inbound to clients using ephemeral ports).

---

## Changing the ephemeral port range

It is desirable to change which port numbers are used for the ephemeral port range for any of the following:

- To use a larger range so that more simultaneous connections are possible.
- To shift the range to the higher numbered ports. The higher numbered ports should be used as ephemeral ports because they are less likely to be used as port numbers for system services. Well known service ports have traditionally been assigned to lower port numbers.
- To change the range to coincide with other systems for purposes of firewalling and automatic network address translation.

When changing the range, we suggest you change it to 49152 through 65535. If you need a larger range, continue downward from 49152, but leave 65535 as your upper bound. The following sections describe how to change the ephemeral port range on the OA operating systems:

- [Microsoft Windows](#) on page 336
- [Solaris](#) on page 337
- [AIX](#) on page 339

As noted in these sections, some systems already use the preferred range and will not need to be changed. Some operating systems also use two or more ranges, and to use the other ranges an application will have to be explicitly coded to choose the other range.

### Microsoft Windows

Windows uses the traditional BSD range of 1024 through 4999 for its ephemeral port range. You can only set the upper bound of the ephemeral port range. Here is information excerpted from Microsoft Knowledgebase Article Q196271:

To set the upper boundary of the ephemeral port range on Windows:

1. Start the registry editor (`Regedt32.exe`).
2. Locate the following key in the registry:

```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\
Parameters
```

3. On the **Edit** menu, click **Add Value**, and then add the following registry value:

```
Value Name: MaxUserPort Data Type: REG_DWORD Value: 65534
Valid Range: 5000-65534 (decimal) Default: 0x1388 (5000 decimal)
Description: This parameter controls the maximum port number
used when an application requests any available user port from
```

the system. Normally, ephemeral (that is, short-lived) ports are allocated between the values of 1024 and 5000 inclusive.

4. Quit the registry editor.

## Solaris

Solaris uses the `ndd` utility program to change tunable IP stack parameters. The ephemeral ports on Solaris can be tuned individually for both TCP and UDP, so there are really two separate ephemeral port ranges. Solaris also provides options to change the privileged port range (ports only processes running with superuser privileges can use).

Solaris, by default, provides a large range at the end of the port range (32768 through 65535, or the upper 50%) so it is unlikely you will need to change the range from the default values.

The example below shows how to query the existing range for the TCP ephemeral ports and change the range to 49152 through 61000:

1. Enter:

```
/usr/sbin/ndd /dev/tcp tcp_smallest_anon_port
tcp_largest_anon_port
```

The current range (by default, 32768 to 65535) is displayed.

2. Enter the following commands to change the ephemeral port range to 49152 through 61000:

```
/usr/sbin/ndd -set /dev/tcp tcp_smallest_anon_port 49152
/usr/sbin/ndd -set /dev/tcp tcp_largest_anon_port 61000
```

3. Enter the following command to display the new range:

```
/usr/sbin/ndd /dev/tcp tcp_smallest_anon_port
tcp_largest_anon_port
```

The new range, 49152 through 61000, is displayed.

### Note:

If you change the range values, you must do it each time the system boots. Although we recommend that you just use the default range which is sufficient, here is a sample script you can use to change the port range to be 32768 to 33678 at startup:

```
#
copy me to /etc/init.d/ephemports
"ln -s /etc/init.d/ephemports /etc/rc2.d/S99ephemports"
#
/usr/sbin/ndd -set /dev/tcp tcp_smallest_anon_port 32768
/usr/sbin/ndd -set /dev/udp udp_smallest_anon_port 32768
/usr/sbin/ndd -set /dev/tcp tcp_largest_anon_port 33678
/usr/sbin/ndd -set /dev/udp udp_largest_anon_port 33678
```

## Port assignments

For more information about tuning Solaris, refer to the *Solaris Tunable Parameters Reference Manual*.

## AIX

AIX uses the `no` command to set network options. AIX uses two separate ephemeral port ranges, one for TCP and UDP, and both default to the values 32768 through 65535.

To display the current port range, enter:

```
/usr/sbin/no -a | fgrep ephemeral
```

The port range is displayed:

```
tcp_ephemeral_low = 32768
tcp_ephemeral_high = 65535
udp_ephemeral_low = 32768
udp_ephemeral_high = 65535
```

The default range is sufficient, but you can change it using the `no` command.

For example, to set the TCP ephemeral port range to 49152 through 65535, enter:

```
/usr/sbin/no -o tcp_ephemeral_low=49152 -o
tcp_ephemeral_high=65535
```

The options you set with `no` must be done each time the system starts up. One way to do that is to edit `/etc/rc.tcpip` and insert the `no` commands just before the script starts running the server daemons.

## Port assignments

# ■ ■ ■ ■ ■ ■

## Appendix B: Changing the Cognos installation

Normally, the Advanced Reports subsystem can only be installed on the C: drive of a Windows server. This is also true for the Cognos software that is used with Advanced Reports.

This section describes a way to modify the standard installation of Cognos so that the cubes can be moved to a drive other than the C: drive on a Windows server. Please consult your Avaya services representative for support doing this procedure.

This section includes the following topics:

- [Prerequisites](#) on page 341
- [Changing the Cognos installation](#) on page 342

---

### Prerequisites

Before you begin this procedure, verify that the following has been done:

- The Cognos software has been installed in the standard location on the C: drive.
- The Advanced Reports subsystem has been installed on the same server. See [Installing Avaya OA components on a Windows platform](#) on page 32 for more information.
- The reports folder and all that is under it is copied to the new location. In the example in this section, drive **R** is being used.

---

## Changing the Cognos installation

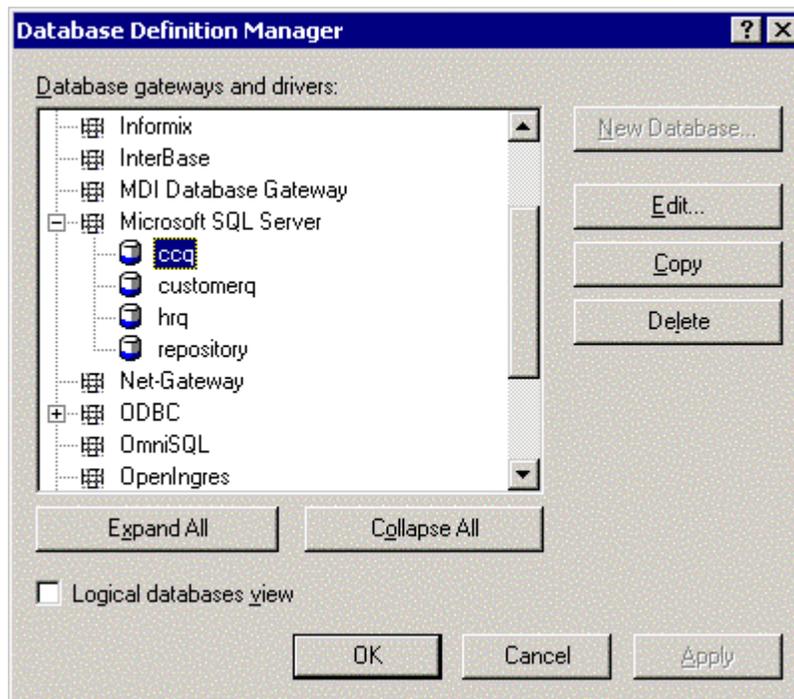
This procedure is used for modifying the Advanced reports that *do not* have a different database name other than the default database names. In this example, the drive being used for Cognos is named **D** and the drive used for the cubes is named **R**. This procedure sets up the OA Advanced Reports for Cognos to the following network directory:

`R:\oa advanced reports\reports\.....`

To change the Cognos installation:

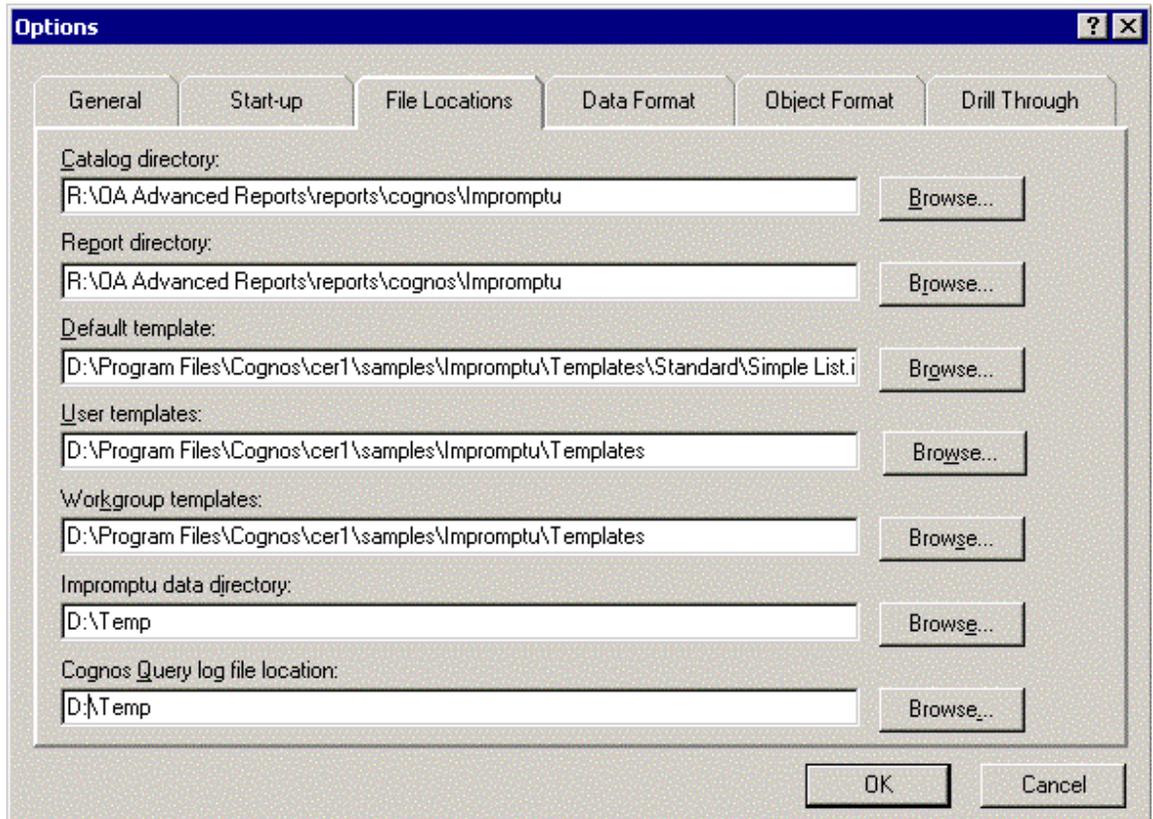
1. Open Impromptu Administrator.
2. Select **Catalog > Databases**.

The **Database Definition Manager** dialog box is displayed.



3. Edit the database parameters to be able to connect to the databases.
4. Select **OK**.

5. Select **Tools > Options** and select the **File Locations** tab.



6. Set the above paths as needed.

7. Click **OK** when done setting the paths.

8. Using **Catalog > Open**, open the Catalog file (.cat file) for each of the following:

R:\OA Advanced Reports\reports\cognos\Impromptu\CallCenterQ

R:\OA Advanced Reports\reports\cognos\Impromptu\qrepository

R:\OA Advanced Reports\reports\cognos\Impromptu\CustQ

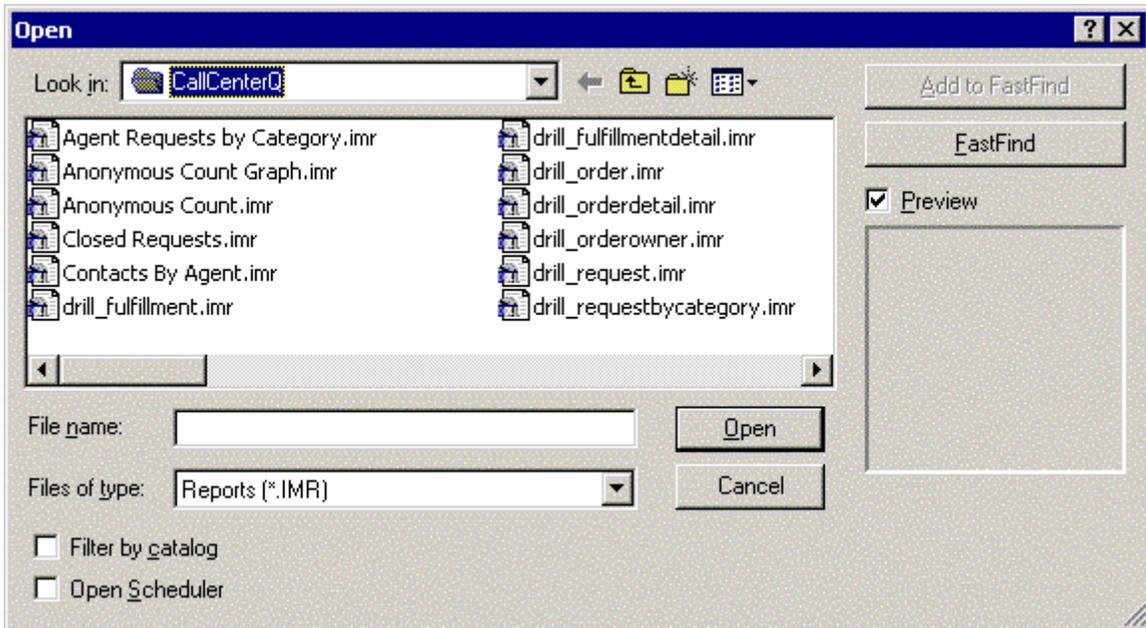
R:\OA Advanced Reports\reports\cognos\Impromptu\HRQ

R:\OA Advanced Reports\reports\cognos\Impromptu\oadb

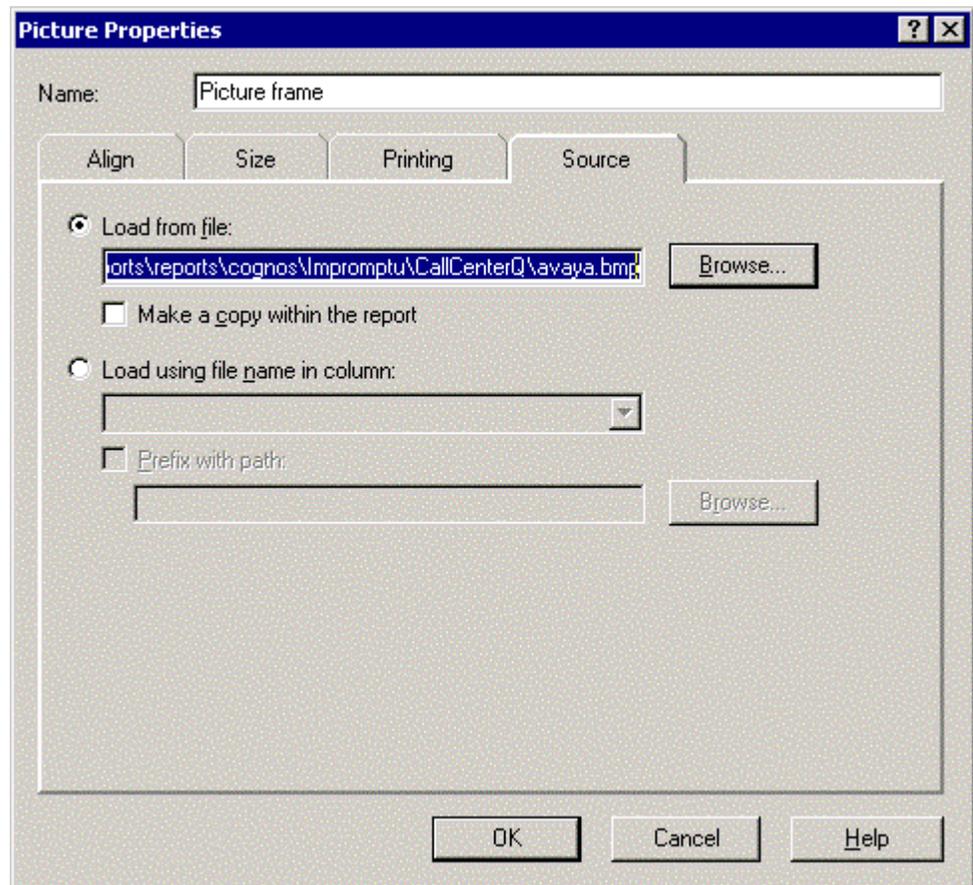
9. Connect to the database with the user ID and password.

## Changing the Cognos installation

10. Open each `.imr` file in the related application folder. For example, if the `ccq.cat` file was opened, open each `.imr` file in the CallCenterQ directory and cancel out of any parameter prompts. See the following dialog box as an example:



11. Select the bitmap on each report, right click the report, and select **Properties**.  
The **Picture Properties** dialog box is displayed.

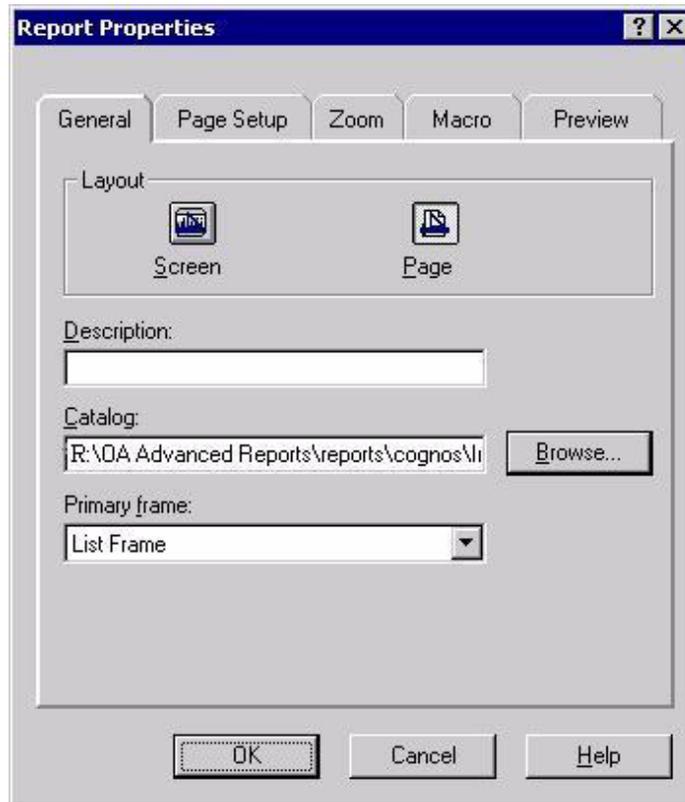


12. Modify the source path and select **OK**.

## Changing the Cognos installation

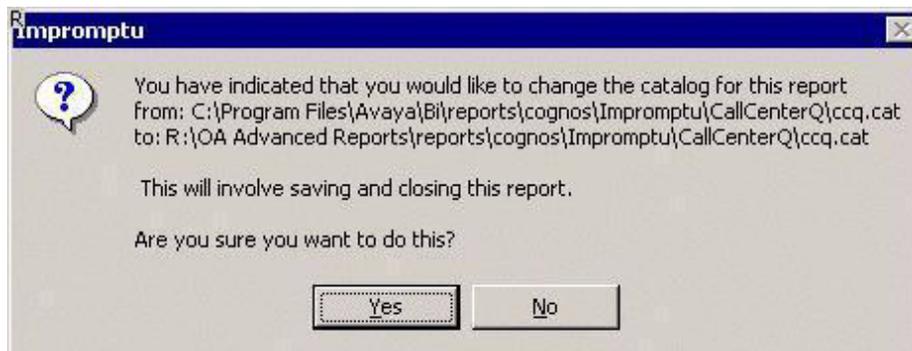
13. Select **Report > General**.

The **Report Properties** dialog box is displayed.



14. Modify the Catalog path and select **OK**.

The following Impromptu message dialog box is displayed:



15. Select Yes.

The following Impromptu message dialog box is displayed:



16. Select Yes.

17. Repeat Steps 10 through 16 for each `.imr` file in the appropriate directory. You may also open each `.imr` file in the directory and the appropriate `.cat` file will be opened.

18. For Impromptu files under `cubes/xxx` subdirectories, do one of the following:

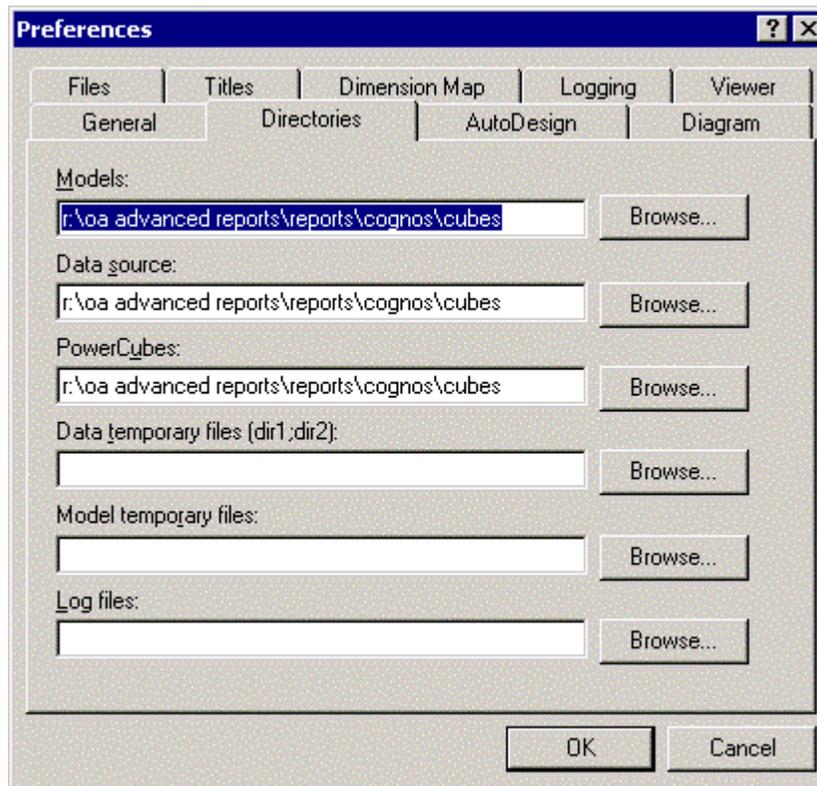
- Open all `.imr` files with Impromptu Administrator and do a **Save as** to save each `.imr` file as a `*.iqd` file, overwriting the existing file.
- Use a text editor to edit the file paths in all `*.iqd` files.

19. Open Power Play Transformer.

20. Select **Files > Preferences**.

## Changing the Cognos installation

21. Select the **Directories** tab.



22. Set the above paths as needed.

23. Click **OK** when done setting the paths.

24. Open each MDL at the following locations:

R:\OA Advanced Reports\reports\cognos\cubes\CallCenterQ

R:\OA Advanced Reports\reports\cognos\cubes\contacts

R:\OA Advanced Reports\reports\cognos\cubes\tasks

R:\OA Advanced Reports\reports\cognos\cubes\CMS

R:\OA Advanced Reports\reports\cognos\cubes\MMA

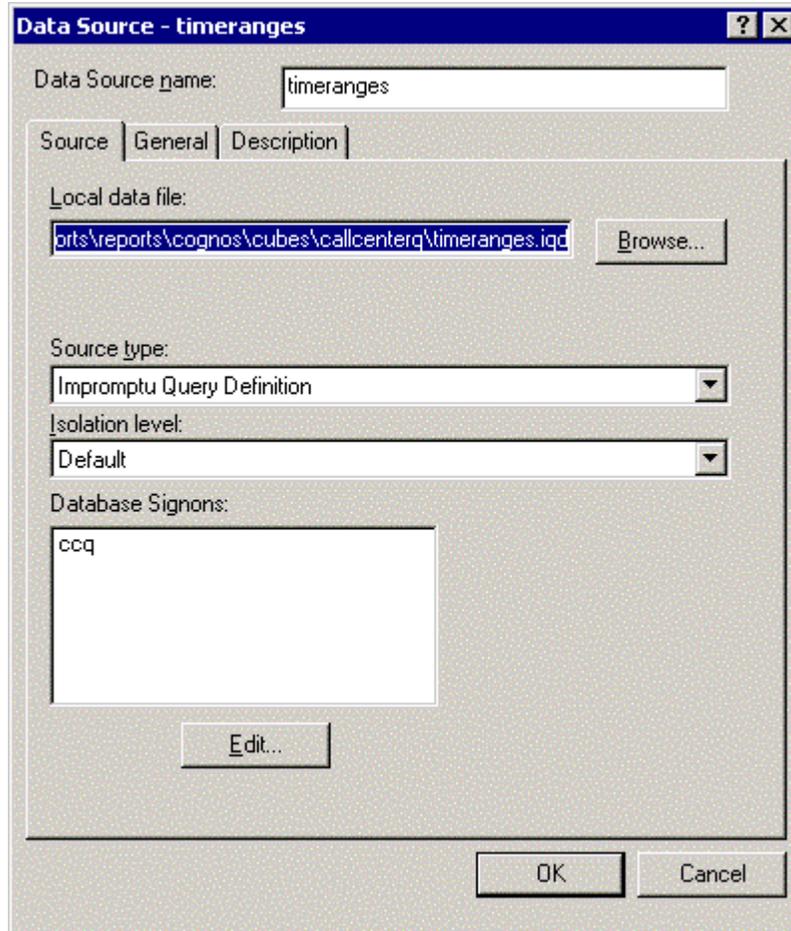
The following is an example of the **Data Sources** dialog box:



## Changing the Cognos installation

25. For each MDL file, change Data Sources by right clicking on the first one and selecting **Properties**.

The **Data Source - MDL\_file** dialog box is displayed:



26. Set the local data file parameter to the correct directory path, for example:

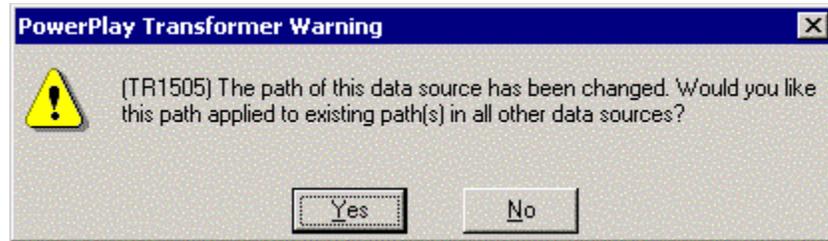
```
r:\oa advanced reports\reports\cognos\cubes\callcenterq\
timeranges.iqd
```

For multibyte (localized) versions of cubes, this example will be:

```
r:\oa advanced reports\reports\cognos\cubes\callcenterq\
timeranges.csv
```

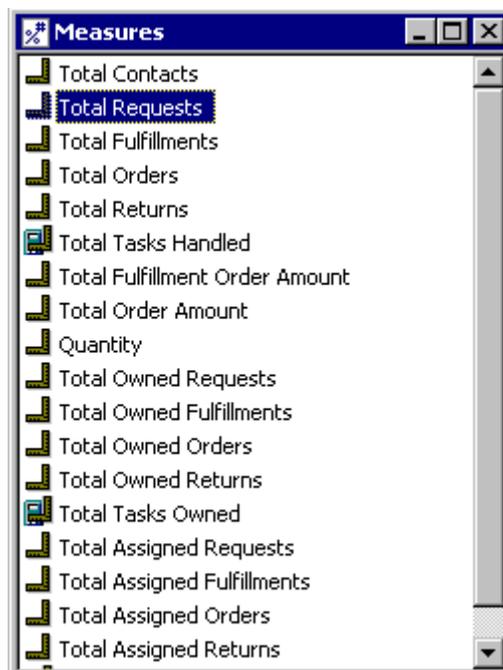
27. Select **OK**.

The following warning dialog box is displayed:



28. Select **Yes**.

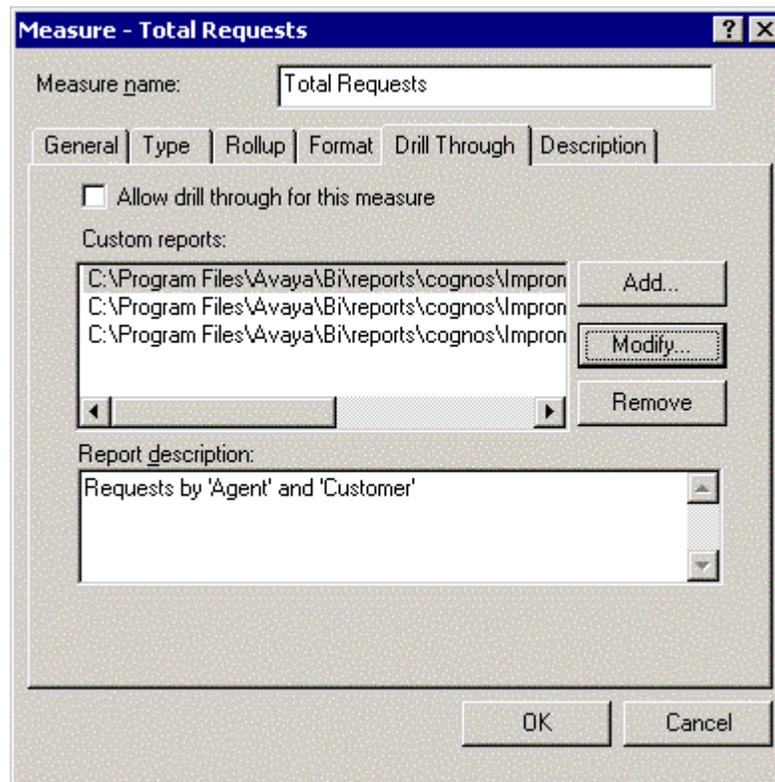
29. Save the MDL file.



## Changing the Cognos installation

30. Right click on each Measure in each MDL file and select **Properties**.

The properties dialog box is displayed.



31. If the **Drill Through** tab has an entry, you need to modify the path for each entry for every measure listed. Some may not have any entries in the **Drill Through** tab. For example, change to:

**R:\OA Advanced Reports\reports\cognos\Impromptu\CallCenterQ**

### **Note:**

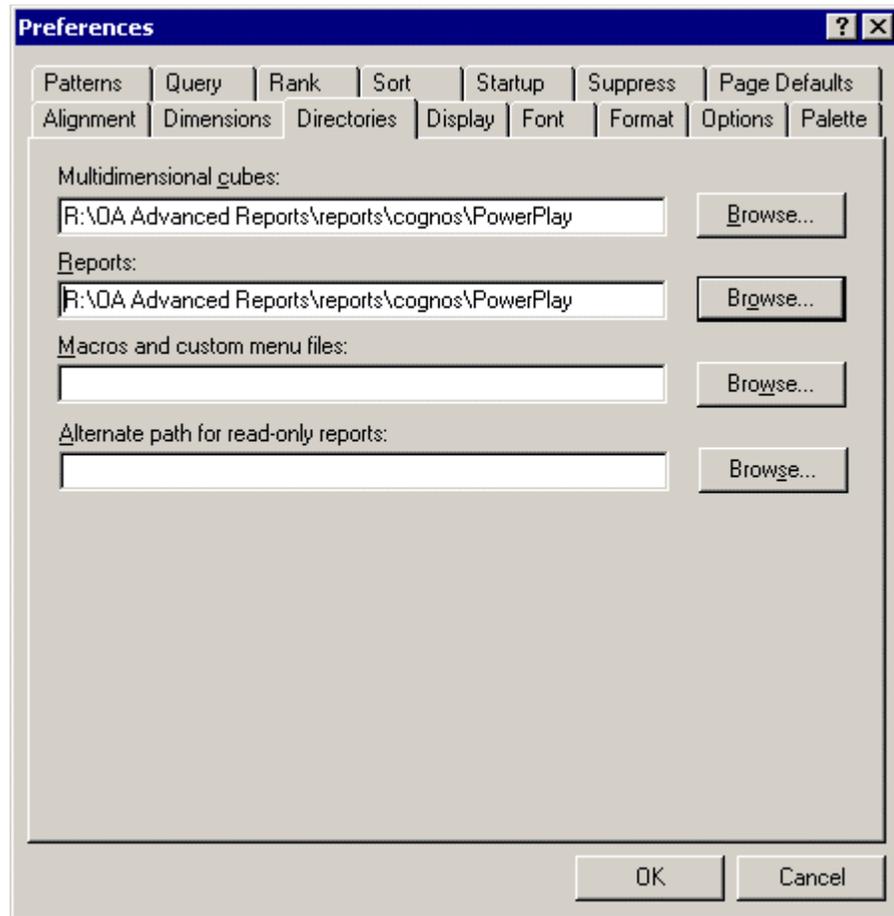
There are several entries in the MDL file that will have to be changed manually as they are not user editable from the application. Use a text editor, such as Text Pad, to make these changes.

32. Open the MDL file in Powerplay Transformer.

33. Under the **Run** menu, run **Generate Categories** and **Update PowerCubes**.

34. Open PowerPlay

35. Go to **File > Preferences** and select the **Directories** tab.



36. Set the paths as appropriate for the reports on which you will be working. For example,

`R:\OA Advanced Reports\reports\cognos\PowerPlay\CallCenterQ`

`R:\OA Advanced Reports\reports\cognos\PowerPlay\qrepository`

`R:\OA Advanced Reports\reports\cognos\PowerPlay\tasks`

37. Click **OK** when finished.

## Changing the Cognos installation

## Appendix C: Remote installation of CMS data collection software

It is common for contact center configurations to include many CMS systems in geographically dispersed locations. This appendix describes a process that allows you to remotely install the CMS data collection software from a central location where OA is installed.

Follow these steps:

1. Log in as root to the CDE on the local CMS machine.
2. Telnet (or rlogin) to the remote CMS machine.
3. Create a temporary user account on the remote machine, for example **oainstall**.
4. Assign a home directory (for example: **/export/home/oainstall**) or simply create a temporary directory where the OA setup files will be copied.
5. Open an xterm window on the local CMS machine.
6. Use FTP to connect to the remote CMS machine.
7. Copy the **SolSetup** and **setup.jar** files from the OA installation CD to the desired directory on the remote machine.
8. Terminate the FTP session.
9. On the local machine, execute **xhost +remote-CMS** where **remote-CMS** is either a host name as defined in **/etc/hosts**, or the IP address of the remote CMS machine.
10. On the local machine, execute **rlogin remote-CMS** where **remote-CMS** is either a host name as defined in **/etc/hosts**, or the IP address of the remote CMS machine.
11. Enter the commands:

```
DISPLAY=local-machine:0.0
export DISPLAY
```

where **local-machine** is either a host name of the local CMS machine as defined in **/etc/hosts**, or the IP address of the local CMS machine.
12. Use **cd** to move to the directory where SolSetup and setup.jar were copied.
13. Enter the command **./SolSetup**
14. The Java virtual machine initializes and the OA Welcome dialog box appears.
15. Click **Next**.

## Remote installation of CMS data collection software

16. Continue with Step 4 of [Installing Avaya OA components on a CMS server](#) on page 92.

# Glossary

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Administration screen</b>    | Screen on the right side of the OA Client interface that contains information about configuration settings which are selected in the navigation tree.                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>ADU</b>                      | Agent data unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Agent</b>                    | A customer service representative (CSR). An agent is a person qualified to handle customer requests. He or she may deal with customers directly or just process customer requests.                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Aggregated data</b>          | <p>Data that OA has aggregated or summarized. Aggregated data has the minimum value (least), maximum value (greatest), sum, or a combination of those values, for each data period. Each column in the schema can be set to a different aggregation behavior, as long as it contains numeric data.</p> <p>Aggregation occurs at an offset after the end of each base interval. The default offset is 10 minutes, but the offset can be set from 10 to 25 minutes by modifying the system scheduled aggregation job.</p>                                                                      |
| <b>Aggregation</b>              | OA aggregates or summarizes data by selecting the minimum value (least), maximum value (greatest), or sum of a numerical measure for a particular data period. A data period involves one base interval.                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Aggregation job</b>          | <p>Job that aggregates data. An aggregation job summarizes data by selecting the minimum value (least), maximum value (greatest), sum of each data period, or a combination of those options.</p> <p>A system scheduled aggregation job runs at an offset after the end of a base interval. The default offset is 10 minutes, but the offset can be set from 10 to 25 minutes by modifying the system scheduled aggregation job. This job aggregates data for that interval only.</p> <p>An on-demand aggregation job can aggregate data for multiple intervals, up to 24 hours of data.</p> |
| <b>Aggregation recovery job</b> | Job that re-aggregates and archives container data that was not successfully aggregated in the past 30 hours. If enabled, the aggregation recovery job runs every six hours and aggregates data that was not successfully aggregated in previous attempts.                                                                                                                                                                                                                                                                                                                                   |

|                                                  |                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>API</b>                                       |                                                                                                                                                                                                                                                                                                                              |
| <b>API</b>                                       | Application Program Interface. An API is a set of routines that allows an application program to gain access to the operating system or application program. A developer who wants to build a program that makes requests to the operating system or application must use the prescribed method.                             |
| <b>Archive</b>                                   | The act of compressing and summarizing aggregated data into the historical database. While aggregation occurs for every base interval, archiving occurs on a daily, weekly or monthly basis, with the frequency determined by your configuration, which is specified in the <b>Container Archives</b> administration screen. |
| <b>Archived data</b>                             | Aggregated data that has been stored in the historical database. The data is categorized into daily, weekly and monthly archives.                                                                                                                                                                                            |
| <b>Avaya CMS Analytical license</b>              | This license is used for configurations that allow only Avaya CMS as a data source to Avaya OA (no Avaya IC data source). With this license, you get both Basic Reports and Advanced Reports.                                                                                                                                |
| <b>Avaya IC and Avaya CMS Analytical license</b> | This license is used for configurations that allow Avaya IC and Avaya CMS as data sources to Avaya OA. With this license, you get both Basic Reports and Advanced Reports.                                                                                                                                                   |
| <b>back-end database</b>                         | A database that is located on a different machine than where the Historical subsystem software is installed.                                                                                                                                                                                                                 |
| <b>Base interval</b>                             | OA lumps IC real-time data into 30-minute intervals in the Historical subsystem.<br>Also called intervals.<br>See also base interval data.                                                                                                                                                                                   |
| <b>Base interval data</b>                        | Real-time data that OA has lumped into 30-minute intervals. The Real-time subsystem summarizes IC data into 30-minute intervals and transfers it to the Historical subsystem, which proceeds to aggregate the base interval data into containers.                                                                            |
| <b>CDE</b>                                       | Common Desktop Environment, a windows-like desktop environment used with Solaris.                                                                                                                                                                                                                                            |
| <b>Container</b>                                 | Metadata that defines how data should be sifted and stored in the historical database. The term "container" can represent both the table definition as well as the data contained in the table.                                                                                                                              |

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Container aggregation job</b>  | Scheduled job that aggregates selected containers. You specify the aggregation period and select the containers in the <b>Scheduled Jobs</b> administration screen.                                                                                                                                                                                                                                                                      |
| <b>Container data purge job</b>   | Scheduled job that purge aggregated and archived data. You specify which data in the containers and archives to delete in the <b>Scheduled Jobs</b> administration screen.                                                                                                                                                                                                                                                               |
| <b>Container filter</b>           | Container definitions that you customize. A filter determines which fields of the base interval data are aggregated into a container. It specifies the name, data fields and default values for each container.                                                                                                                                                                                                                          |
| <b>Container limit</b>            | Limit or constraint that you set on your containers. This enhances data calculation performance and disk usage. You can configure the maximum number of containers and rules in the <b>Container Archives</b> administration screen.                                                                                                                                                                                                     |
| <b>Container profile</b>          | Includes the definition and the name of a container. Container profiles contain rules that detail what fields a container should have and what sort of data it should collect. Each container has a profile which has a filter that may contain from one to 100 rules.                                                                                                                                                                   |
| <b>Container rule</b>             | Defines which rows of data in the historical store should be collected. Each container has a profile and a profile may have from one to 100 rules.<br>Also called filter rules or rules.                                                                                                                                                                                                                                                 |
| <b>Coordinated Universal Time</b> | Coordinated Universal Time (UTC). Formerly called Greenwich Mean Time (GMT). UTC reflects the time in the prime meridian and uses a 24-hour format. For example, it uses 14:00 to represent 2:00 p.m.<br>OA stores data in UTC but converts the time to the local time of the client.                                                                                                                                                    |
| <b>CORBA</b>                      | Common Object Request Broker Architecture. CORBA is a way to create and manage distributed program objects in a network. It lets programs developed by different vendors or programs scattered throughout different servers communicate. A program in a client can request services from a program in a server without having to understand where the server is in a distributed network or what the interface to the server program is. |
| <b>Current schema</b>             | The existing schema that is being used. The current schema is the pre-migration schema.                                                                                                                                                                                                                                                                                                                                                  |
| <b>Daemon</b>                     | A program that runs continuously in the background and handles periodic service requests. The daemon forwards the requests to other programs or processes them as appropriate.                                                                                                                                                                                                                                                           |

**Daily interval****Daily interval**

A 24-hour shift that OA uses for real-time statistical reporting.

**Data dictionary**

A database about data and databases. The data dictionary holds the name, type, range of values, source, and authorization for access for each data element in the contact center's files and databases.

**Data manager**

An interface service that resides on a server where a Real-time subsystem is installed. The data manager receives events, maintains real-time status information, summarizes data into fixed thirty-minute intervals, and forwards the data to the forwarders, a set of Real-time subsystem services.

**Data type**

Category of data. Each type is a set of data with values that have predefined characteristics and has a specified range of values and a specific way of being processed by the computer and stored by the database.

**Database check job**

A job that inspects the overall state of the historical database. A database check job fine-tunes the database by scanning the database and its error logs, as well as updating the statistics on tables. It also reports inconsistent metadata and rolls over the error log file to prevent it from growing unbounded. It runs daily if enabled.

**Default schema**

Schema that is pre-configured in OA. You can revert back to the pre-configured default schema if you decide to discard your changes. You need to migrate your data, however.

**Detail data**

Historical data that cannot be aggregated.

Detail data contains information about the work item, such as the customer ID, work item ID and the origination.

**Detail data purge job**

Scheduled job that purges selected detail data. You select which detail data to purge in the **Scheduled Jobs** administration screen.

**Disabled container**

Container that is not collecting or aggregating data.

**Disabled interface service**

Data collection service that is not running.

**Disabled job**

A job that has been configured but is not activated to run.

**Display name**

A meaningful name associated with a value in the database. For example, instead of displaying the agent ID, OA Administration Client displays the agent name; so it will display "**John Smith**" instead of "**1021454540554**."

**EDU**

Electronic Data Unit

|                                  |                                                                                                                                                                                                                                                                               |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Enabled container</b>         | Container that is collecting or aggregating data.                                                                                                                                                                                                                             |
| <b>Enabled interface service</b> | Data collection service that is running.                                                                                                                                                                                                                                      |
| <b>Enabled job</b>               | A job that will execute at scheduled times. See also disabled job.                                                                                                                                                                                                            |
| <b>Event</b>                     | An activity or change of state that occurs in a contact center. Examples include: a change in port state, an agent logging in, or a call transfer.                                                                                                                            |
| <b>Execution frequency</b>       | See recurrence.                                                                                                                                                                                                                                                               |
| <b>External job</b>              | Custom-designed instruction set that specifies when certain processes should be executed. You can add an external job, whose scripts reside in the historical server, into OA Administration Client and schedule its execution.                                               |
| <b>Failed</b>                    | Data collection status that indicates database errors.                                                                                                                                                                                                                        |
| <b>Filter</b>                    | See container filter.                                                                                                                                                                                                                                                         |
| <b>Filter rule</b>               | See container rule.                                                                                                                                                                                                                                                           |
| <b>Forwarder</b>                 | An interface service that resides on CMS or Real-time subsystems. The forwarder transfers the data it receives to its corresponding recorder. When the recorder is not available, the forwarder buffers the detailed data until the recorder is on-line again.                |
| <b>FQDN</b>                      | Fully-qualified domain name                                                                                                                                                                                                                                                   |
| <b>GMT</b>                       | Greenwich Mean Time. Also known as UTC (Coordinated Universal Time). GMT reflects the time at the prime meridian and uses a 24-hour format. For example, it uses 14:00 to represent 2:00 p.m.<br>OA stores data in UTC but converts the time to the local time of the client. |
| <b>historical database</b>       | Where historical data about your contact center is collected and stored.                                                                                                                                                                                                      |
| <b>historical server</b>         | The server where the Historical subsystem is installed.                                                                                                                                                                                                                       |

## Historical store

### Historical store

Storage location where historical or long-term contact center performance information is stored in a database. Each historical store consists of a database table or a group of database tables. OA has 11 stores that accumulate a variety of report-related data from IC or ACD systems.

The IC historical stores are:

- Agent service class
- Agent state
- Agent outcome code
- Agent job
- Agent reason code
- Job summary
- Reason code summary
- Service class summary
- Service class state
- System completion code
- Display names

The ACD historical stores are:

- CMS agent summary
- CMS call work codes
- CMS skill summary
- CMS VDN summary
- CMS call history
- CMS display names

### Historical subsystem

Along with the source subsystem, Real-time subsystem, Report subsystem, and CMS subsystem, the Historical subsystem constitutes the OA data collection system. The Historical subsystem pertains to all OA components and services that involve historical data.

### IC

Avaya Interaction Center.

### IDL

See *Interface Definition language*.

### IIS

Internet Information Service, the Web server software for Windows.

|                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Incomplete</b>                    | Data collection status that indicates there is missing data and the container or archive is missing the data for at least one base interval.                                                                                                                                                                                                                                                                                                                     |
| <b>Info store</b>                    | Historical store with a group of database tables that keeps track of the display names for the data fields.                                                                                                                                                                                                                                                                                                                                                      |
| <b>Interface definition language</b> | A language used to communicate with various software components in a CORBA network.                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Interface service</b>             | <p>Process that automatically collects data in the background while the system is up. An interface service handles periodic service requests and forwards the requests to other programs or processes as appropriate. The OA interface services include:</p> <ul style="list-style-type: none"><li>● Data manager</li><li>● Report data server</li><li>● Report Subsystem</li><li>● The respective forwarders and recorders for each historical store.</li></ul> |
| <b>Interface service name</b>        | The internal name that the OA Administration client uses to identify, enable and disable the services. You cannot change the names of the services.                                                                                                                                                                                                                                                                                                              |
| <b>Interval data</b>                 | See base interval data.                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Java database connectivity</b>    | Java Database Connectivity. An application program interface (API) specification for connecting Java programs to a database. The API lets you request statements in Structured Query Language (SQL) which are then sent to the program that manages the database.                                                                                                                                                                                                |
| <b>JDBC</b>                          | See Java database connectivity.                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>JDK</b>                           | Java Developer's Toolkit                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Job</b>                           | Instruction set that specifies when certain processes should be executed. The <b>Scheduled Jobs</b> administration screen enables you to automate certain tasks such as data purges and aggregation.                                                                                                                                                                                                                                                             |
| <b>JRE</b>                           | Java RunTime Environment                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Migration</b>                     | The process by which OA alters the database tables to conform to a new schema and moves the data to the new tables.                                                                                                                                                                                                                                                                                                                                              |
| <b>MSMQ</b>                          | Microsoft Message Queue. MSMQ is a software program that allows programs to send messages to other programs.                                                                                                                                                                                                                                                                                                                                                     |

## Navigation tree

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation tree</b> | Tree that appears on the left side of your OA Administration client interface, and contains various configuration tools for customizing and managing data collection.                                                                                                                                                                                                                                                                                 |
| <b>No data</b>         | Data collection status that indicates no data exists. OA did not find matching records.                                                                                                                                                                                                                                                                                                                                                               |
| <b>Not null</b>        | Clause in a column or field that specifies that the column or field cannot contain a null value. You must define a default value.                                                                                                                                                                                                                                                                                                                     |
| <b>Null</b>            | Special value in the database which represents an unknown value. A null value is not the same as blank (which is a valid character), zero (which is a valid number), or a zero length string.                                                                                                                                                                                                                                                         |
| <b>On-demand job</b>   | <p>A scheduled job you define to execute tasks on specific data only once at a particular time or regularly on a recurring basis. An on-demand job is different from a system scheduled job in that it is limited in scope and applies to selected data. On-demand job types include:</p> <ul style="list-style-type: none"><li>● Aggregation</li><li>● Container purge</li><li>● Detail purge</li><li>● Data collection</li><li>● External</li></ul> |
| <b>ORB</b>             | In distributed computing, an Object Request Broker (ORB) is an agent that dispatches requests to other agents.                                                                                                                                                                                                                                                                                                                                        |
| <b>Parameter</b>       | A piece of information, such as a file name, a coordinate, or a range of values, that is passed to a program by a user or another program.                                                                                                                                                                                                                                                                                                            |
| <b>Pending schema</b>  | A custom-defined schema that is not implemented until migration.                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>pid</b>             | See <i>Process ID</i> .                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Process ID</b>      | Identification name or number for an OA process.                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Purge</b>           | The deletion of selected container data or detail data.                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Purge job</b>       | A job that deletes selected containers and detail data from the historical database. A purge job is different from a system-scheduled purge job in that it is more focused and deletes only particular pieces of data you specify in the <b>Scheduled Jobs</b> administration screen.                                                                                                                                                                 |

|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>RAID</b>                               | Redundant Array of Inexpensive Disks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Real-time subsystem</b>                | Along with the source subsystem, Historical subsystem, Report subsystem, and CMS subsystem, the Real-time subsystem constitutes the OA data collection system. The Real-time subsystem pertains to all OA components and services that involve real-time data.                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Recorder</b>                           | <p>An interface service that resides in the Historical subsystem. The recorder time stamps the data it receives from the forwarder and inserts the data into the historical database.</p> <p>There are up to 11 recorders, one for each historical store.</p>                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Report subsystem</b>                   | The self-contained OA reporting subsystem application programming interface (API) that provides an environment to create reports based on the OA real-time data. It is a subsystem that lets you develop servlet-based applications for Web-based reporting and monitoring for your contact center.                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Reporting Framework (Stumbras) API</b> | Provides a programming interface for report writers with useful functionality such as RTPA Service for the real-time data access and DB Pool Service for connecting the historical database.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Retention period</b>                   | The length of time OA retains data.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Rule</b>                               | See container rule.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Schema</b>                             | The overall structure of the database tables that store information: user profile data, content metadata, or pure structured information. In the simplest case, a database schema has a single database table of user information. Each record (row) within this table might represent a unique customer, with each field (column) representing relevant customer information (address, city, phone number, and so on.). More complex schema would involve multiple database tables related to one another through a common unique identifier. Such relational database tables are necessary for more complex data schemas for performance and easier administration. |
| <b>Select</b>                             | To select an item, click the item's name or icon. Selected items appear highlighted on the screen.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Service</b>                            | See <i>interface service</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Service class</b>                      | A logical category used to measure service levels and define goals for that work. A particular service class can consist of any combination of interaction source (such as call, fax, or email), customer class (such as Platinum, Gold, or Silver), or activity (such as new loan or account inquiry).                                                                                                                                                                                                                                                                                                                                                               |

## Source-CMS subsystem

### Source-CMS subsystem

OA subsystem that collects CMS historical data.

### Source-EC subsystem

OA subsystem that collects data from Avaya IC.

### Source-EC Bridge subsystem

OA subsystem that collects data from Business Advocate.

### SQL

See *Structured Query Language*.

### Status window

Window on the results screen that lets you view the status of elements such as your schemas or interface services that you have set up.

### Store

See historical store.

### String

A data type of a column in a table which is composed of a sequence of characters usually representing human-readable text. The column must be a contiguous set of alphanumeric characters that does not contain numbers used for calculations. Names, addresses and error messages are examples of strings.

### Structured Query Language

Structured Query Language. The standard programming language for getting information from and updating a database. Queries let you select, insert, update, find out the location of data, etc.

### Subsystem

A major component that constitutes the OA data collection system. The available subsystems are:

- Historical
- Real-time
- Report
- Source (CMS, EC, and EC-Bridge)

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Summary data</b>                     | <p>Data that pertains to the performance of the contact center. While detail data tracks work items, summary data tracks agents and IVR systems. Summary data is also aggregated and, if configured, stored in containers and archives.</p> <p>These historical stores contain summary data:</p> <ul style="list-style-type: none"> <li>● Agent service class</li> <li>● Agent state</li> <li>● Service class summary</li> <li>● Service class state</li> <li>● CMS agent summary</li> <li>● CMS call work codes</li> <li>● CMS skill summary</li> <li>● CMS VDN summary</li> </ul> |
| <b>Summary historical store</b>         | <p>A historical store that contains aggregated data. Available summary historical stores are:</p> <ul style="list-style-type: none"> <li>● Agent service class</li> <li>● Agent state</li> <li>● Service class summary</li> <li>● Service class state</li> <li>● CMS agent summary</li> <li>● CMS call work codes</li> <li>● CMS skill summary</li> <li>● CMS VDN summary</li> </ul>                                                                                                                                                                                                |
| <b>Sun Java System Web Server</b>       | <p>The new product name for the Solaris Web Server, formerly Sun ONE Web Server, and before that, iPlanet.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>System scheduled aggregation job</b> | <p>A job that aggregates base interval data. This job executes on every base interval, that is, in 30-minute increments, if enabled.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>System scheduled job</b>             | <p>A job that is executed on a system-wide level. This job applies to all the containers and data in the system. The following types of jobs are system scheduled jobs: aggregation, aggregation recovery, ACD display name collection, database check and database purge.</p> <p>See also on-demand jobs.</p>                                                                                                                                                                                                                                                                      |

## System scheduled purge job

|                                   |                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>System scheduled purge job</b> | A job that deletes container and detail data from the historical database according to the data retention limits defined in the <b>Retention Periods</b> administration screen. A system-scheduled purge job is different from on-demand purge jobs in that it executes on the entire system and not just on a particular set of data. This executes daily, if enabled. |
| <b>TNS</b>                        | Transparent Network Substrate                                                                                                                                                                                                                                                                                                                                           |
| <b>Tree</b>                       | A way of structuring information, where sublevels are shown as branches of a higher level. The navigation tree in OA Administration client contains a tree of configuration tools. Items on a tree are also referred to as nodes.                                                                                                                                       |
| <b>Unicode</b>                    | A character set that can accommodate the alphabet of most of the world's languages. Unicode can accommodate 65,536 different characters rather than just 256, and uses two bytes for each character rather than one.                                                                                                                                                    |
| <b>UTC</b>                        | Coordinated Universal Time. Formerly called Greenwich Mean Time (GMT). UTC reflects the time in the prime meridian and uses a 24-hour format. For example, it uses 14:00 to represent 2:00 p.m.<br>OA stores data in UTC but converts the time to the local time of the client.                                                                                         |
| <b>Widget</b>                     | A graphical user interface element that lets you interact with the application. Examples of widgets include drop-down lists, buttons, text boxes, and radio buttons.                                                                                                                                                                                                    |
| <b>Work item</b>                  | Data that describes the flow of work through a business process. This data may include details about the agents involved with the work, the amount of time the item spent in various queues, and any followup calls.                                                                                                                                                    |
| <b>Workflow</b>                   | The flow of work in a business process; work travels from one point to another so that necessary tasks can be completed on that piece of work.                                                                                                                                                                                                                          |
| <b>x-axis</b>                     | On graphical reports, the x-axis applies to the left-to-right labels of the report floors, left walls, and right walls.                                                                                                                                                                                                                                                 |
| <b>y-axis</b>                     | On graphical reports, the y-axis applies to: <ul style="list-style-type: none"><li>● the front-to-back labels on the report floor.</li><li>● the bottom-to-top labels on the report left walls and right walls.</li></ul>                                                                                                                                               |

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