



**Avaya™ Operational Analyst**  
Release 6.0  
Troubleshooting Guide

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- Security documents
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#### Acknowledgment

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Troubleshooting Guide**

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# Introduction

Avaya Operational Analyst 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 user interfaces across these systems. Operational Analyst is a required component of Interaction Center 6.0, functioning as its Operational Data Store and Contact Center Performance Analysis system, replacing and significantly upgrading the reporting capabilities of Interaction Center 5.6. Operational Analyst is also an optional, add-on to Avaya Call Management System (CMS) for extended, online historical data storage and multi-site analysis, pulling External Call History data from up to 30 CMS systems representing 240 MultiVantage ACDs.

Operational Analyst has been rigorously tested so encountering difficulties while using the system is unlikely. However, in the event of such an occurrence, this Guide provides hints about ways to troubleshoot the system to determine the exact nature of the difficulty. Many of these steps are valuable in administering your Operational Analyst system during the course of normal operation. Troubleshooting overview for this process.

To expedite location of the information you are looking for, the remainder of this Guide is grouped into chapters and related topics. These chapters relate to major pieces of Operational Analyst functionality and include:

- [OA Administration Client](#)
- [OA Basic Reports](#)
- [OA Features](#)

**Note:**

If you cannot find your problem described in the troubleshooting section, contact Avaya Customer Support.





# Chapter 1: Troubleshooting overview

This chapter presents a suggested map for troubleshooting an Operational Analyst system and information about how Avaya Customer Support can assist your troubleshooting efforts remotely.

Following the troubleshooting map steps in order helps to narrow the point of difficulty from broad, system-related areas to more specific targets like individual processes. The map contains references to other sections of the Troubleshooting Guide for more detailed information. See [Troubleshooting map](#) on page 10 to get started.

The remote access option is available to you if you are running on a Windows platform. See [Remote access](#) on page 12.

**Tip:**

Many sections throughout this manual specify file path names. Generally the MS Windows notation **%PABASE%** and **\** is used when defining path names. If your system is running on a Solaris platform, substitute **\$PABASE** and **/** respectively for **%PABASE%** and **\**.

## Troubleshooting map

For best results, you should follow the map in the order given.

1. Check the Windows **Event Log** or Solaris **CentralErrorLog.log** file for messages that indicate particular problems. See [Error messages](#) on page 139 for details about locating and reading the logs.
2. Verify **Avaya Business Intelligence Service** and **ORBacus Naming Service** are running.
  - On Windows NT: **Settings > Control Panel > Services**.
  - On Windows 2000: **Settings > Control Panel > Administrative Tools > Services**.  
If the services are not running, start them. If they do not start, use the Event Viewer to debug the system.
  - On Solaris: From the command line enter `ps -ef | grep initerv` and `ps -ef | grep namesrv`.  
If the services are not running, as *root* check the `/etc/inittab` settings and verify **initerv** and **namesrv** are set to respawn, write the file, and enter `init q` to restart the services.  
If the services do not start, use the trace files to debug the system. See [Trace files](#) on page 113 for more information.
3. Once **Avaya Business Intelligence Service** and **ORBacus Naming Service** are running, verify Master Operations Manager (MOM) is running.
  - From the command line enter `pa list`.  
If the message returned is a list of processes, MOM is running.  
If the message returned is **mom is not active**, enter `pa start all`.
  - See [Master Operations Manager](#) on page 106 for more information about MOM.
4. When MOM is running, verify other Operational Analyst processes and services are running.
  - Edit `%PABASE%\data\admin\server.properties` to verify which subsystems are installed on this machine. For example, if the historical subsystem is installed, the entry **AOA\_Historical** is set to **true**. If it is set to **false**, then the historical subsystem is not installed.
  - Verify the base Operational Analyst services are running via the `pa` command:
    - **admb**, **adm0**, **ams**, and **aut** for all servers.
    - **schd** for the historical server.
  - Verify other processes are running based on values in the `server.properties` file. For example, the **dm** and **dsvr** processes should be running if the real-time system

is installed. Use the `pa` command to enable a process if it is not running. See [Processes](#) on page 106 for more information on processes and the `pa` command.

- Verify that any previously administered forwarders, recorders, or forwarder-recorders are running (and which server they are running on) using the **Interface Services** screen of the Administration Client. If not running, enable the services through this same screen. See the *Administration Client Help* for information about using the **Interface Services** screen.
  - If a process does not start, check the Windows **Event Log** or Solaris **CentralErrorLog.log** for messages indicating particular problems. You may need to view the trace files to locate the problem. See [Trace files](#) on page 113 for more information.
5. If you cannot find a process that you think should be running, verify the administration of the system through the Administration Client **Subsystems** and **Interface Services** screens. See the *Administration Client Help* for information about using the Administration Client **Subsystems** and **Interface Services** screens.

## Remote access

Avaya Customer Support representatives can access your Operational Analyst system remotely to assist with troubleshooting if you are running on Windows NT or Windows 2000. To enable this service, you must install *pcAnywhere* software, version 10.5 or later, on the systems requiring remote access.

Before installing *pcAnywhere*, install a standard modem and its associated driver. Verify the modem is accessible to the system via the Control Panel. Set the modem parameters according to this table:

Modem parameter	Value
Data Terminal Ready	On
Carrier Detect	On
Auto Answer	On
Display Result Codes	Off

Refer to the modem documentation for details on configuring these parameters.

Refer to the *pcAnywhere* documentation for installation instructions.



## Chapter 2: OA Administration Client

This chapter provides some tips on troubleshooting the Administration Client. Here you can find information about various error messages you may see, and explanations of behaviors you may encounter.

The major topics included here are:

- [General Administration Client Issues](#) on page 14 deals with a variety of problems that you might encounter. It includes “hangs,” long waits and data entry problems.
- [Administration Client Java plug-in and Java console](#) on page 21 concentrates on Java Console configurations that may aid you in resolving Administration Client initialization issues.
- [Administration Client log files](#) on page 23 describes how you can use the log files to identify problems as well as explain the log errors.
- [Administration Client administration screens](#) on page 31 lists problems that you may encounter with a particular administration screen, with corresponding solutions.
- [Administration Client status messages](#) on page 36 explains what the status messages mean.
- [Administration Client error messages](#) on page 39 lists error dialogs that you might encounter and provides suggestions on how you might resolve the errors.

## General Administration Client Issues

This portion of the chapter lists a collection of common problems and their solutions. It focuses on issues that you might encounter while launching the Administration Client or while using it. It deals with any difficulty that is not specific to an Administration Client module or an administration screen.

General Administration Client issues include:

[Client not updated](#) on page 14

[Connectivity](#) on page 14

[Data Entry](#) on page 15

[General Protection Faults](#) on page 16

[Initialization Errors](#) on page 17

[Long wait time](#) on page 18

[Page faults](#) on page 20

[Printing](#) on page 20

[Unresponsive system](#) on page 20

### Client not updated

Operational Analyst does not update the configuration data displayed in the Administration Client automatically. Refresh the administration screen often by clicking **View > Refresh** on the Administration Client menu.

Operational Analyst allows up to five Administration Clients to connect to the server simultaneously. It does not lock any user out and keep him or her from administering the data. If more than one person is administering the Administration Client, the first one to save the configuration settings will have his or her entries saved; the other administrators will have their entries rejected. This is because the update value of the first person matches the value in the database, while the update values of the subsequent users are out of sync with the database (because the first person has already changed the value). This first-person rule prevents other users from destroying the initial changes another user has made. Refresh your administration screen periodically to ascertain that you are working with the latest configuration.

### Connectivity

The Administration Client establishes a CORBA connection when you launch it. The connection may break if you are not using the Administration Client for a while (a “time-

out"). You can re-establish the CORBA connection by clicking **File > Reconnect** in the Administration Client menu.

If the problem persists and an error message notifies you that the server is unavailable, close your Internet Explorer browser, then relaunch the Administration Client.

## Data Entry

Symptom	Description	Resolution
The Administration Client is not recognizing my shortcut keys.	Your entries might be applying to the browser and not the Administration Client.	Click anywhere within the administration screen or a dialog box to activate the shortcut keys and to start entering your configuration.

Symptom	Description	Resolution
The Administration Client is not accepting my input.	Your entries might be applying to the browser and not the Administration Client.	Click anywhere within the administration screen or a dialog box to activate the shortcut keys and to start entering your configuration.
The text boxes are not accepting my input. It accepts the first few digits, but not the succeeding ones.	The text boxes have a defined minimum and maximum range.	<p>If you enter a value larger than the maximum permissible value, the Administration Client will not display the digit where you have exceeded the limit.</p> <p>For example, the <b>Rules per container filter</b> text box in the <b>Container Limits</b> administration screen has a range of 1-100. If you enter <b>101</b> into the text box, the client will only display <b>10</b> no matter how many times you enter the last digit.</p> <p>If you enter a value below the minimum, the client will either not display your entry or convert your entry to the minimum value when you move on to the next field.</p>

## General Protection Faults

General Protection Faults (GPF) happen when an application, such as the Administration Client, attempts to read or write data that is outside its permission rights.

You can track down the GPFs by eliminating suspects one by one.

To isolate the source:

1. Shut down all applications one at a time ending with Internet Explorer.
2. If the GPF persists, re-launch the Administration Client from Internet Explorer. Type in **C:\Program Files\Avaya\BI\AdminPol.html** (if you did not use the default installation, enter the appropriate address) in the Address text box.

An alternative solution is to change your computer's system video mode to use the Windows standard VGA driver (16 color VGA). If this solves your problem, then your original video driver may have problems. Contact your video card vendor for an updated video driver.

## Initialization Errors

If the Administration Client does not seem to be initializing, it might either be not responding or is experiencing initialization errors.

Check the Windows Task Manager to see if the Administration Client has stopped responding. If that is not the issue, close the Administration Client, open the Java Console and open the Administration Client again to see if initialization errors are still occurring.

Initialization errors are most likely caused by problems with the system environment. It might be a security problem (policy files), invalid installation file structure (missing directories or files), invalid file permissions (read only), incomplete environment variable specification (PATH), missing or unregistered libraries, or corrupt jar files.

The **PATH** is set during installation and initial set-up. For more information, see the *Operational Analyst Installation and Maintenance Guide*.

## Long wait time

Symptom	Description	Resolution
The Administration Client takes a long time to load.	The Administration Client does not load.	Re-launch your browser and the Administration Client.
	<p>The Java Console is empty. It may display the following text immediately after the Administration Client initializes:</p> <p><b>Java(TM) Plug-in: Version 1.3.1_01</b></p> <p><b>Using JRE version 1.3.1_01</b></p> <p><b>Java HotSpot(TM) Client VM</b></p> <p><b>User home directory = C:\WINNT\Profiles\...</b></p> <p><b>Proxy Configuration: Manual Configuration</b></p> <p><b>Proxy: co.proxy.avaya.com:8000</b></p> <p><b>Proxy Overrides: *.avaya.com, &lt;local&gt;</b></p> <p><b>Jar cache enabled.</b></p> <p><b>Initializing the OA admin client applet...</b></p>	<p>The Administration Client cannot find the Java Security Plug-in, therefore it tries to download the plug-in from Sun Microsystems. This may take a while to complete.</p> <p>The Administration Client launches as soon as the download is complete and the plug-in is available.</p>

Symptom	Description	Resolution
<p>The Administration Client is taking a long time to load and is not generating error messages.</p>	<p>The Administration Client is responding and is not reporting or logging errors.</p>	<p>This might be an initialization error or an unresponsive system (hang) problem. Close the Administration Client then start the Java Console. Start the Administration Client again and look at the Java Console error log.</p> <p>If it appears to be an initialization error, check the environment.</p> <p>The most likely cause of this error is an improperly set or incomplete environment variable specification (<b>PATH</b>). The PATH is set during installation and initial set-up. For more information, see the <i>Operational Analyst Installation and Maintenance Guide</i>.</p> <p>If this is not the source of the error, you may have a security problem (invalid or missing policy files), invalid installation file structure (missing directories or files), invalid file permissions, missing or unregistered libraries, or corrupt jar files.</p> <p>If the Java Console does not display any output, refer to the solution proposed above.</p> <p>Also refer to <a href="#">Initialization Errors</a> on page 17.</p>

## Page faults

Page faults occur when your computer is low on RAM or swap file space. You must either increase the RAM or the swap file size.

## Printing

You cannot print the Administration Client user interface (UI) by using the **Print** menu in the browser or by pressing the **Ctrl** (Control) and **P** keys.

To print the Administration Client UI, select **File > Print** in the Administration Client menu bar.

## Unresponsive system

Sometimes the Administration Client does not respond to your input. To determine whether the Administration Client is just taking a long time to process input or is not responding, use Windows Task Manager.

This table lists a few things you can do when the Administration Client freezes.

Symptom	Description	Resolution
JRE Plug-in freezes	The Java Console is completely empty. JRE 1.2.2 version 005 and 006 have unresponsive-system issues.	Upgrade to JRE 1.3.1_01.
	The Java Console is completely empty and a download dialog box appears. A Java Console in debug mode may cause this.	Disable debugging. To disable debugging: <ol style="list-style-type: none"> <li>1. Go to the Java Plug-in Control Panel.</li> <li>2. Select the <b>Advanced</b> tab.</li> <li>3. Clear the <b>Enable Debug</b> check box.</li> <li>4. Click <b>Apply</b>.</li> <li>5. Close the Java Plug-in Control Panel.</li> </ol>

---

# Administration Client Java plug-in and Java console

As an additional troubleshooting aid, the Administration Client logs messages in the Java Security Plug-in Java console window. The Java Console helps you diagnose problems that might occur when the applet initializes.

This chapter provides information to help you use the Java Console. Topics in this chapter include:

[Accessing the Java Plug-in Control Panel](#) on page 21

[Enabling the Java Console](#) on page 21

[Recycle Classloader](#) on page 22

## Accessing the Java Plug-in Control Panel

The Java Plug-in Control Panel lets you configure the security plug-in, the Java console, and Jar caching. You need to use the control panel to troubleshoot certain problems.

To access the Java Plug-in Control Panel (JRE 1.3) in Windows:

1. Select **Start > Settings > Control Panel**.
2. Double-click the **Java Plug-in** icon.

The **Java Plug-in Control Panel** launches.

## Enabling the Java Console

You can view the Java Console to troubleshoot initialization errors.

**Tip:**

The Java Console, while useful for diagnosing problems, need not be enabled under normal operations.

To enable the Java Console:

1. Launch the Java Plug-in Control Panel.
2. In the **Basic** tab, select **Show Java Console**.
3. Click **Apply**, then close the window.
4. Re-launch the Administration Client.

The Java Console appears when the Administration Client is starting.

**Tip:**

To disable the Java console, follow the procedure above except to clear the **Show Java Console** check box.

## Recycle Classloader

Enable the Recycle Classloader option so you can launch the Administration Client more than once from one browser.

To recycle the classloader:

1. Launch the Java Plug-in Control Panel.
2. In the **Basic** tab, select **Recycle classloader**.
3. Click **Apply**, then close the window.
4. Restart the Administration Client.

**Tip:**

To disable recycling of classloader, follow the procedure above except to clear the **Recycle classloader** check box.

---

## Administration Client log files

If you are baffled about why the system is not working as it should, you may want to look at the trace files.

The Administration Client trace files are in `%PABASE%\data\log\adminclient\`. If you installed OA in the default directory, that would be `C:\Program Files\Avaya\BI\data\log\adminclient\`.

## Configuring the log files

You can customize your trace files to give more or less information. This level of detail is configured in two places: the **loginfo** file and the **Admin.html** file. The sections below detail how you can modify them to suit your needs

### Loginfo

---

You can change the size and roll-over of the trace file. The file is in `%PABASE%\data\admin\`. (If you selected the default location during installation, that would be: `C:\Program Files\Avaya\BI\data\admin.`)

The entry in the **loginfo** file might look like this:

```
adminClientTrace data/log/adminclient/adminClientTrc 150000 3
```

where:

- `adminClientTrace` is the name of the entry. Do not change this value.
- `data/log/adminclient/adminClientTrc` is the directory location of the trace file. Do not change this value.
- `150000` is the maximum size of the trace file. You may specify this value to be whatever is appropriate for your needs.
- `3` is the roll over count. You specify the value you want.

When a trace file reaches the maximum size, it rolls over. This means that the current trace file is renamed with an `.nn` extension (where `.nn` is a number). For example, `adminClientTrc-1` becomes `adminClientTrc1.01` when it reaches the maximum limit. If there already is an `adminClientTrc1.01`, then that existing file becomes `adminClientTrc1.02`. While the logged messages are rolling over, Operational Analyst continues logging the latest messages on the original file (which in this case is: `adminClientTrc-1`).

**Tip:**

To determine which client trace file is being used, click **View > Trace File Location** in the Administration Client menu bar. The Administration Client displays the name and location of the trace file it is using.

**AdminPol.html**

---

You can change the detail level of your trace file as well as activate the CORBA tracing. If you selected the default location during installation, this file would be in `C:\Program Files\Avaya\BI\`.

Attribute	Description	Default Value	Possible Values
TRACE_LEVEL	Specifies the level of trace information to collect	10	10 - Event level trace.
			20 - Interface level trace.
			30 - Debug level trace. This produces the highest number of trace messages.
CORBA_TRACE	Enables CORBA tracing. Enabling this results in a voluminous trace log. Turn on only when necessary.	No	Yes
			No

**Error types and codes**

Operational Analyst logs an error in the following conditions:

- The Administration Client cannot access required resources, such as the resource bundles for internationalization.
- The Administration Client cannot get a server connection.
- The Administration Client is not in sync with the Operational Analyst server.
- CORBA exceptions are caught.

This table lists error types the Administration Client uses:

<b>ID</b>	<b>Error Type</b>
1050 to 1100	Database error codes
4101 to 4300	Common CORBA error codes
4301 to 4400	Common object error codes
11801 to 11900	Registration error codes
12001 to 12100	Administration Client error codes
12101 to 12200	Administration Client-server error codes
12301 to 12400	Metadata error codes
12701 to 12800	Migration error codes
12801 to 12900	Maximum capacity error codes
13101 to 13200	Scheduling error codes

### **Administration Client error codes**

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This table lists error codes related to the Administration Client.

Error Code	Description	Resolution
AC_INTERNAL_ERROR (12003)	<p>Internal error. This generally indicates one of the following types of errors:</p> <ul style="list-style-type: none"> <li>● The code is out of sync with UI (user interface) files (.gui).</li> <li>● What the Administration Client supports is out of sync with what the server supports.</li> <li>● Page and server access classes are out of sync.</li> <li>● Missing objects within the client (null).</li> <li>● Unknown server error code received by Administration Client.</li> </ul>	<p>Contact Avaya customer support and report the error. The representative will contact the appropriate developers.</p>

Error Code	Description	Resolution
AC_LOST_CONNECTION (12002)	The Administration Client cannot establish connection with the server.	<p>Reconnect by clicking File Reconnect on the Administration Client menu bar.</p> <p>If this error persists, make sure that the server is running and the <b>AdminMgrSrvBase</b> process is executing.</p> <p>If the <b>AdminMgrSrvBase</b> process cannot create <b>AdminMgrSrv</b> processes, the Administration Client will not be able to connect to the server.</p> <p>Check the log file to see if there are other errors, such as ORB initialization failures, which could result from improperly-set <b>classpath</b> or <b>policy</b> files.</p> <p>The <b>classpath</b> is set in <b>Start &gt;Settings &gt; Control Panel &gt; System Environment</b> during installation and initial set-up. For more information, see the <i>Operational Analyst Installation and Maintenance Manual</i>.</p>
AC_MISSING_RESOURCES (12001)	The Administration Client cannot find the language resource bundles needed to execute.	Contact Avaya customer support and report the error. The representative will contact the appropriate developers.

### Administration Client-server error codes

This table lists error codes related to the Administration Client-server issues.

Error Code	Description	Resolution
ADMIN_DATABASE_UNAVAILABLE (12102)	The database is not available.	Investigate the server logs to determine why the database is unavailable. It could be because: <ul style="list-style-type: none"> <li>● The database is down</li> <li>● The JDBC driver is not able to connect</li> <li>● Allowed database connections are exhausted</li> </ul>
ADMIN_INVALID_IDL_VERSION (12106)	The Administration Client and Administration Manager server component use IDL to communicate with each other. The client and server must use compatible versions of the IDL. Incompatible versions result in this error.	Upgrade either the Administration Client or the server—or both.
ADMIN_SERVER_CONFIG_NOT_KNOWN (12158)	The administration client could not get the server configuration from the historical server.	This could be a connectivity problem, or an installation problem.
ADMIN_SVC_DISABLE_OVERRIDE (12160)	The administrator has decided to delete or modify a subsystem that has services in an enabled or unknown state.	Manual cleanup of interface services that were not disabled prior to subsystem modification or deletion may be needed.

## CORBA error codes

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This table lists error codes related to CORBA issues.

Error Code	Description	Resolution
CORBA_EXCEPTION (4201)	ORB initialization failure. The server connection could not be established.	Reconnect by clicking <b>File &gt; Reconnect</b> in the menu bar. This will not work until the underlying problem is fixed. The most likely cause of this error is an improperly set <b>CLASSPATH</b> environment variable. It is set in <b>Start &gt; Settings &gt; Control Panel &gt; System Environment</b> during installation and initial set-up. For more information, see the <i>Operational Analyst Installation and Maintenance Manual</i> .
ORBIX_NARROW (4108)	The Administration Client cannot establish a connection because it is unable to get the right version of server object to connect.	The <b>AdminMgrSrv</b> process could not be created. This may either be a server problem or a CORBA problem. Investigate the Administration Client and server trace files to determine the cause.
ORBIX_NS_BIND (4104)	The Administration Client is unable to bind to the <b>AdminMgrSrvBase</b> server process while attempting to connect.	The Administration Client attempt this operation three times before failing. Connection failure may be because of a <b>AdminMgrSrvBase</b> server process that is not running or a CORBA problem. Investigate the Administration Client and server trace files to determine the cause.

### Common objects error codes

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This table lists error codes related to common objects.

Error Codes	Description	Resolution
OBJ_INVALID_STATE (4301) OBJ_INVALID_VALUE (4302)	The server returned an invalid value to the Administration Client.	Contact Avaya customer support and report the error. The representative will contact the appropriate developers.

### Registration error codes

This table lists error codes related to registration.

Error Codes	Description	Resolution
REG_INVALID_SUBSYSTEM (11817)	Internal error. The Administration Client received an unknown subsystem type.	Contact Avaya customer support and report the error. The representative will contact the appropriate developers.

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## Administration Client administration screens

This chapter addresses some of the common problems you might encounter while managing your data in the administration screen.

### Container Profiles

Problem	Description	Resolution
The Administration Client does not allow you to enable or disable a container.	You can only have a limited number of enabled or disabled containers. This restriction is configured in the Container Limits administration screen.	Change the configuration in Container Limits. If you have already reached the maximum number of enabled and disabled containers permitted by Operational Analyst and cannot add more, then you must delete some containers. You must disable containers first before you can delete them.

### Interface Services

Problem	Description	Resolution
Changes to interface services are not recognized.	Another administrator might have saved changes and your administration screen is not reflecting the latest configuration settings.	Refresh the screen by clicking <b>View &gt; Refresh</b> on the Administration Client menu.

Problem	Description	Resolution
<p>Interface services are not synchronized.</p>	<p>When the server and the Administration Client hold different information about a service, they are not synchronized. Synchronization has failed. You can monitor the synchronization status of your interface services in the <b>Synchronized</b> column of the <b>Interface Services</b> results screen.</p>	<p>Disable then re-enable the service.</p> <p>If this does not clear the problem because the service is unreachable (the service state is displayed in the <b>Status</b> column of the <b>Interface Services</b> screen), you must manually disable and enable the service in the command line:</p> <ol style="list-style-type: none"> <li>1. Navigate to the <b>Interface Services</b> administration screen.</li> <li>2. Look up the interface service name in the <b>Name</b> column.</li> <li>3. Log into the subsystem host where the wayward service is located.</li> <li>4. Disable the service with this command: <code>pa disable &lt;name&gt;</code>.</li> <li>5. Re-enable the service with this command: <code>pa enable &lt;name&gt;</code>.</li> </ol>
<p>What is the interface service name?</p>	<p>You need to know the interface service name if you wish to do something with an interface service over the command line. The interface service name is an internally assigned name the server uses to identify the service. You cannot modify the name.</p>	<p>To find the interface service name, Navigate to the <b>Interface Services</b> administration screen and look up the interface service name in the <b>Name</b> column. Use the name to troubleshoot the interface service.</p>

Problem	Description	Resolution
Cannot modify, enable, or disable a service (buttons are grayed out)	Modify/enable/disable are not allowed until the status of the service is known.	Select services from table (highlight them) and select <b>View status</b> .
Cannot select all services to get status.	Services can only be selected one at a time.	Select <b>Edit &gt; Select All</b> or <b>Edit &gt; Select None</b> to select or deselect all services.

## Subsystems

Problem	Description	Resolution
The Administration Client does not accept the subsystem configuration.	The subsystem name must be unique.	Enter a unique name.
Cannot add a report subsystem.	Operational Analyst supports no more than two report subsystems total, and no more than one report subsystem on any server.	Do not exceed these constraints.
Cannot add a real-time subsystem.	Operational Analyst supports no more than two real-time subsystems on a server. A real-time subsystem cannot reside on a server where a CMS subsystem is already installed.	Do not exceed these constraints.
Cannot add a historical subsystem.	Operational Analyst allows only 1 historical subsystem, which is created during the OA installation process.	

Problem	Description	Resolution
Cannot add a CMS subsystem.	<p>CMS subsystems are subject to these constraints:</p> <ul style="list-style-type: none"> <li>● Only one CMS subsystem per server.</li> <li>● CMS subsystems cannot be added to servers where a historical subsystem is already assigned.</li> <li>● CMS subsystems cannot be added to servers where a real-time subsystem is already assigned.</li> </ul>	
Cannot add an IC source subsystem.	Only one IC source subsystem is allowed per real-time subsystem.	Add a new real-time subsystem to support the new IC source subsystem, then add the IC source subsystem.
Cannot add an ACD source subsystem.	A CMS subsystem supports a maximum of eight ACD source subsystems.	Add a new CMS subsystem, then add the ACD source subsystem.
Cannot delete an ACD source subsystem.	The system scheduled job cannot be deleted, so the subsystem cannot be deleted.	Disable the system scheduled job.
Cannot delete or modify a subsystem.	There are services associated with the subsystem in an enabled or unknown state. These services will be deleted from the OA database, leaving them inaccessible from the Administration Client.	Disable all associated services before deleting the subsystem. If you choose not to disable the services, they may become inaccessible from the client and remain in an executing status on the server.

Problem	Description	Resolution
Cannot delete a CMS or real-time subsystem.	The subsystem has associated source subsystems.	Delete or reassign the source subsystems to a new CMS or real-time subsystem.
Cannot delete a historical subsystem.	Operational Analyst does not allow the historical subsystem to be deleted.	

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## Administration Client status messages

This chapter describes and explains some status messages you might receive while using the Operational Analyst Administration Client.

### Interface services

Status Message	Description
<b>Change(s) cancelled. Ready.</b>	Your changes have been removed and are not going to be sent to the server.
<b>Disabling services may result in the loss of data.</b>	Disabling the interface service stops it from running and might result in lost data. Some interface services have pre-administered buffer space that mitigates data loss for brief periods of time.
<b>Modifying this service may result in the loss of data.</b>	Because you need to disable an interface service when you modify it, data might be lost.
<b>One or more changes failed. Ready.</b>	One or more changes failed on the server.
<b>Pressing the Cancel button causes all unsaved administration changes to be deleted.</b>	All the changes you made since the last save will be discarded.
<b>Retrieving data from server.</b>	The Administration Client is waiting for the server to send it requested data.
<b>Sending change(s) to the server.</b>	The Administration Client is sending your changes to the server.
<b>There are unsaved administration changes for this screen.</b>	You have not saved your changes.

## Schemas

Status Message	Description
<b>A migration has started. The schema can't be accessed at this time.</b>	Operational Analyst is migrating data from one table to another, therefore you cannot view the schema. Wait until he migration is done.
<b>Could not get requested data from the server. Please try again later.</b>	The server data is not available. Try your request again later.
<b>Change(s) cancelled. Ready.</b>	Your changes have been removed and not sent to the server.
<b>Change failed. Ready.</b>	Your change request failed. try again.
<b>Change(s) succeeded. Ready.</b>	Your change request is successfully being sent to the server. You may now make more changes.
<b>Current and Pending schemas exist. Current schema can only be viewed.</b>	When both current and pending schemas for a historical store exist, you can only view the current schema and not modify it. If you want to modify your schema, make your changes to the pending schema.
<b>Migration in progress. Current schema can only be viewed until the migration completes.</b>	Operational Analyst is migrating data from one table to another, therefore you cannot view the schema. Wait until he migration is done.
<b>Retrieving data from server.</b>	The Administration Client is waiting for the server to send it the requested data.
<b>Save cancelled at user's request.</b>	The changes were not sent to the server at your request.

## OA Administration Client

<b>Status Message</b>	<b>Description</b>
<b>Sending change(s) to the server.</b>	The Administration Client is sending your changes to the server.
<b>There are unsaved administration changes for this screen.</b>	You have not saved your changes.

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## Administration Client error messages

This chapter describes and explains some error messages you might receive while using the Operational Analyst Administration Client.

**Note:**

Some of the descriptions and resolutions proposed are vague because the problems arise out of third-party software or defective hardware. You may need to look at the other vendors' troubleshooting documentation or contact their technical support department.

### Connection

Error Message	Description	Resolution
<b>A connection to the server database can't be created. Administration can't be done without a database connection.</b>	Operational Analyst could not establish a database connection. The Administration Client needs a database connection to send your administration requests.	Try again. If the problem persists, contact your support organization to troubleshoot the database connection error.
<b>Administration Client couldn't connect to server.</b>	The Administration Client cannot establish a connection with the server	See <a href="#">Connectivity</a> on page 14.
<b>Administration Client received unexpected exception.</b>	The Administration Client caught an unexpected exception during construction. This is generally an exception generated by the server when it encounters problems while the Administration Client is connected to it.	Try again. If this problem persists, contact customer support.

Error Message	Description	Resolution
<p><b>Administration Client couldn't connect to server due to ORB initialize failure.</b></p>	<p>The Administration Client could not initialize the Object Request Broker.</p>	<p>The most likely cause of this error is an improperly set CLASSPATH environment variable. It is set in <b>Start &gt; Settings &gt; Control Panel &gt; System Environment</b> during installation and initial set-up. For more information, see the <i>Operational Analyst Installation and Maintenance Manual</i>.</p> <p>See also <a href="#">Initialization Errors</a> on page 17.</p>
<p><b>Server connection has been lost due to a CORBA failure. To continue, please reconnect.</b></p>	<p>CORBA failure occurred during initialization.</p>	<p>Reconnect to the server by clicking <b>File &gt; Reconnect</b> in the Administration Client menu bar.</p>
<p><b>The maximum number of allowed client/server connections are currently in use. This client can't connect to the server until another client exists. Please try again later.</b></p>	<p>Operational Analyst allows a maximum of 10 Administration Clients to connect to the server.</p>	<p>Try again later, when there are not as many Administration Client users.</p>

Error Message	Description	Resolution
<p><b>There is a problem with the server connection. Please exit this dialog.</b></p>	<p>The server connection has been lost.</p>	<p>Reconnect to the server by clicking <b>File &gt; Reconnect</b> in the Administration Client menu bar.</p>
<p><b>Use File &gt; Reconnect to reconnect. If this problem persists contact your support organization.</b></p>	<p>The client-server connection is lost or could not be established. This might be a temporary problem or a CORBA problem.</p>	<p>Reconnect to the server by clicking <b>File &gt; Reconnect</b> in the Administration Client menu bar.</p> <p>If this does not work, check the system environment to make sure that the problem is not due to an improperly set <b>CLASSPATH</b> environment variable.</p> <p>The <b>CLASSPATH</b> is set in <b>Start &gt; Settings &gt; Control Panel &gt; System &gt; Environment</b> during installation and initial set-up. For more information, see the <i>Operational Analyst Installation and Maintenance Manual</i>.</p> <p>See also <a href="#">Initialization Errors</a> on page 17.</p>

## Containers

Error Message	Description	Resolution
<p><b>Containers are currently defined which have more entities than the proposed limit allows.</b></p>	<p>You have reached the maximum number of containers allowed in the Operational Analyst system.</p>	<p>Operational Analyst limits the number of containers you can have for each historical store. This limit is set in the <b>Container Limits</b> administration screen. You can either change the container limit or delete some containers.</p>
<p><b>Container name contains illegal character: \ / { ' " or Esc.</b></p>	<p>The container name contains one or more illegal characters.</p>	<p>Do not use \ / { ' " or <b>Esc</b> when you name your container.</p>
<p><b>Container name exceeds maximum length of 40 characters.</b></p>	<p>The container name is too long. The Administration Client allows a maximum of 40 characters</p>	<p>Give the container a shorter name.</p>
<p><b>The following container name is not unique:</b></p>	<p>The container name is not unique.</p>	<p>Give the container a unique name.</p>

Error Message	Description	Resolution
<b>There are currently more disabled containers than the proposed limit allows.</b>	You have reached the maximum number of disabled containers allowed in the Operational Analyst system.	Operational Analyst limits the number of disabled containers you can have for each historical store. This limit is set in the <b>Container Limits</b> administration screen. You can either change the disabled container limit or delete some containers.
<b>There are currently more enabled containers than the proposed limit allows.</b>	You have reached the maximum number of enabled containers allowed in the Operational Analyst system.	Operational Analyst limits the number of enabled containers you can have for each historical store. This limit is set in the <b>Container Limits</b> administration screen. You can either change the enabled container limit, disable some containers or delete them.

## Container Limits

Some of the descriptions and resolutions proposed here are vague because the problems arise out of third-party software or defective hardware. You may need to look at the other vendors' troubleshooting documentation or contact their technical support department.

Error Message	Description	Resolution
<b>An external user has corrupted the data for the historical subsystem.</b>	Another user might have corrupted the historical subsystem.	Determine the damage and repair it.

Error Message	Description	Resolution
<p><b>Containers are currently defined which have more entities than the proposed limit allows.</b></p>	<p>You have reached the maximum number of containers allowed in the Operational Analyst system.</p>	<p>Operational Analyst limits the number of containers you can have for each historical store.</p> <p>This limit is set in the <b>Container Limits</b> administration screen. Either change the container limit or delete some containers.</p>
<p><b>Internal server error or client and server are out of sync. Contact your support organization.</b></p>	<p>Either an internal server error occurred or the Administration Client and the server are out of sync. The asynchronism is most likely caused by differing client and server software versions.</p>	<p>Upgrade the software version in your client or server.</p>
<p><b>Server error occurred, please try again. If this error continues, contact your support organization.</b></p>	<p>A server error occurred.</p>	<p>Try again.</p> <p>If the problem persists, contact your support organization to troubleshoot the server error.</p>
<p><b>There are currently more disabled containers than the proposed limit allows.</b></p>	<p>You have reached the maximum number of disabled containers allowed in the Operational Analyst system</p>	<p>Operational Analyst limits the number of disabled containers you can have for each historical store.</p> <p>This limit is set in the <b>Container Limits</b> administration screen. Either change the disabled container limit or delete some containers.</p>

Error Message	Description	Resolution
<b>There are currently more enabled containers than the proposed limit allows.</b>	You have reached the maximum number of enabled containers allowed in the Operational Analyst system.	Operational Analyst limits the number of enabled containers you can have for each historical store.  This limit is set in the <b>Container Limits</b> administration screen. Either change the enabled container limit, disable some containers or delete them.
<b>This request is inconsistent with the server database. Please refresh and try again.</b>	Operational Analyst allows multiple Administration Clients to connect to the server simultaneously but does not automatically update the administration data.  Someone else has changed the configuration settings and your Administration Client is not reflecting the latest administration data.	Refresh your administration screen by clicking <b>View &gt; Refresh</b> on the Administration Client menu. For more details, see <a href="#">Client not updated</a> on page 14.
<b>Unknown error received from server, error index number: xxxxx</b>	The Administration Client and the administration server components are out of sync.	Try again, if problem persists, contact Avaya customer support.

## Daily Intervals

Some of the descriptions and resolutions proposed here are vague because the problems arise out of third-party software or defective hardware. You may need to look at the other vendors' troubleshooting documentation or contact their technical support department.

Error Message	Description	Resolution
<b>Fixed Interval name specified is not unique. Specify a unique name.</b>	The daily interval name is not unique.	Give the daily interval a unique name.

Error Message	Description	Resolution
<b>Fixed Interval start time specified has already been used. Specify an unused start time.</b>	You have already defined a daily interval with the same start time.	Specify a different start time or not create a duplicate daily interval.
<b>Internal server error or client and server are out of sync. Contact support.</b>	Either an internal server error occurred or the Administration Client and the server are out of sync. The asynchronism is most likely caused by differing client and server software versions.	Upgrade the software version in your client or server.
<b>This request is inconsistent with the server database. Please refresh and try again.</b>	Operational Analyst allows multiple Administration Clients to connect to the server simultaneously but does not automatically update the administration data.  Someone else has changed the configuration settings and your Administration Client is not reflecting the latest administration data.	Refresh your administration screen by clicking <b>View &gt; Refresh</b> on the Administration Client menu. For more details, see <a href="#">Client not updated</a> on page 14.
<b>Unknown error received from server, error index number: xxxxx</b>	The Administration Client and the administration server components are out of sync.	Try again, if problem persists, contact Avaya customer support.

## Database and data access

Persistent database problems might be generated by third-party applications, flawed configuration, or faulty hardware. Consult the appropriate troubleshooting documentation.

Error Message	Description	Resolution
<b>A connection to the server database can't be created. Administration can't be done without a database connection.</b>	Operational Analyst could not establish a database connection. The Administration Client must have a database connection to send your administration requests.	Try again. If the problem persists, contact your support organization to troubleshoot the database connection error.
<b>Can't access the database at this time. Please try again later.</b>	Operational Analyst could not access the database.	Try again later. If the problem persists, contact your support organization to troubleshoot the database connection error.
<b>Data could not be accessed on the server. If this condition persists, contact your support organization.</b>	Operational Analyst could not access the database.	Reconnect by clicking <b>File &gt; Reconnect</b> in the Administration Client menu. See also <a href="#">Connectivity</a> on page 14.
<b>Database SQL error occurred. If this error continues, contact your support organization.</b>	An SQL error occurred on the server.	Contact your support organization to troubleshoot the SQL error.
<b>Database update failed, please try again. If this error continues, contact your support organization.</b>	The database update failed.	Try again. If the problem persists, contact your support organization to troubleshoot the database connection error.

Error Message	Description	Resolution
<b>Server connection has been lost due to a CORBA failure.</b>	CORBA failure occurred during initialization.	Contact Avaya customer support.
<b>This request is inconsistent with the server database. Please refresh and try again.</b>	Operational Analyst allows multiple Administration Clients to connect to the server simultaneously but does not automatically update the administration data.  Someone else has changed the configuration settings and your Administration Client is not reflecting the latest administration data.	Refresh your administration screen by clicking <b>View &gt; Refresh</b> on the Administration Client menu. For more details, see <a href="#">Client not updated</a> on page 14.

## General

This section pertains to error messages that you might encounter while using any of the Operational Analyst administration screens.

Error Message	Description	Resolution
<b>Client could not start. Unable to load presentation widgets.</b>	The Administration Client applet could not start because it could not load the presentation widgets.	Make sure the image directory is available and contains <b>.gui</b> and <b>.gif</b> files.
<b>Host name contains illegal characters: \ / { ' " or Esc.</b>	Your host name has illegal characters.	Do not use \ / { ' " or <b>Esc</b> when you name your host machine.
<b>Host name exceeds maximum length of 20 characters.</b>	The host machine name is too long. The maximum is 20 characters.	Give your host machine a shorter name.

Error Message	Description	Resolution
<b>Internal parameter syntax error. Client and server are out of sync. Contact your support organization.</b>	Administration parameter validation failed due to a syntax error. The Administration Client and the server are out of sync.	Contact your support organization.
<b>Mandatory entry was left blank. Please enter a value in field: field name.</b>	You skipped a mandatory data entry field.	Go back and enter a valid entry on the mandatory field.
<b>Paste failed. The clipboard may be empty or a type mismatch occurred. Make sure non-numeric characters aren't being pasted into a field allowing only numeric values.</b>	Your paste attempt failed.	Try again.
<b>This request is inconsistent with the server database. Please refresh and try again.</b>	Operational Analyst allows multiple Administration Clients to connect to the server simultaneously but does not automatically update the administration data. Someone else has changed the configuration settings and your Administration Client is not reflecting the latest administration data.	Refresh your administration screen by clicking <b>View &gt; Refresh</b> on the Administration Client menu. For more details, see <a href="#">Client not updated</a> on page 14.
<b>Unknown error received from server, error index number: xxxxx</b>	The Administration Client and the administration server components are out of sync.	Try again, if problem persists, contact Avaya customer support.

## Interface Services

Error Message	Description	Resolution
<b>A service can't be found. Please refresh the screen and try again.</b>	The Administration Client could not find the service.	Refresh your administration screen by clicking <b>View &gt; Refresh</b> on the Administration Client menu.
<b>An error occurred obtaining data from server. Please try again later.</b>	The Administration Client encountered an error while retrieving data from the server.	Try again later.
<b>Host could not be contacted.</b>	The Administration Client could not reach the host machine of the interface service	Make sure that the server where the interface service resides in is not down.
<b>Initialization server could not be contacted.</b>	<b>InitSrv</b> process couldn't be contacted.	Try again later.
<b>Internal server error or client and server are out of sync. Contact your support organization.</b>	Either an internal server error occurred or the Administration Client and the server are out of sync. The asynchronism is most likely caused by differing client and server software versions.	Upgrade the software version in your client or server.
<b>One or more changes failed. Ready.</b>	One or more changes failed on the server.	Try again later.
<b>Server connection has been lost due to an ORBacus failure.</b>	CORBA failure occurred during initialization.	Contact Avaya customer support.
<b>Services of this type cannot be modified. Changes to this service's configuration are equivalent to a delete.</b>	You can not modify recorders.	Do not attempt to modify recorders.

Error Message	Description	Resolution
<b>The client encountered network failure. Please try this operation again later.</b>	Network error.	Contact your support organization.
<b>This &lt;interface service type&gt; could not be disabled. Unable to contact Initialization Server.</b>	The Administration Client could not disable the interface service because it could not reach the <b>InitSrv</b> process.	Try again later.
<b>Unknown error received from server, error index number: xxxxx</b>	The Administration Client and the administration server components are out of sync.	Try again. If the problem persists, contact Avaya customer support.

## Retention Periods

Error Message	Description	Resolution
<b>Internal server error or client and server are out of sync. Contact support.</b>	Either an internal server error occurred or the Administration Client and the server are out of sync. The asynchronism is most likely caused by differing client and server software versions.	Upgrade the software version in your client or server.
<b>The historical subsystem must be administered to access this page.</b>	You need to configure the historical subsystem first before you can do anything with this administration screen.	Add a historical subsystem.
<b>Unknown error received from server, error index number: xxxxx</b>	The Administration Client and the administration server components are out of sync.	Try again. If the problem persists, contact Avaya customer support.

## Scheduled Jobs

Error Message	Description	Resolution
<b>Can't aggregate data prior to the container creation date.</b>	You entered an invalid date range. Operational Analyst cannot aggregate data that does not exist.	Enter a valid date range.
<b>Job name contains illegal character: \ / { ' " or Esc.</b>	Your scheduled job name has illegal characters.	Do not use \ / { ' " or <b>Esc</b> when you name your host machine.
<b>Scheduled job name exceeds maximum length of 40 characters.</b>	The scheduled job name is too long. The maximum is 40 characters.	Give your scheduled job a shorter name.
<b>The Recurrence specifies date which do not exist.</b>	You may not configure an external job to recur every 30 if your recurrence cycle includes February, which does not have 30 days.	You must enter a valid day for the months.

## Schemas

Error Message	Description	Resolution
<b>A schema field can't be found. Please refresh the screen and try again.</b>	The Administration Client is not synchronized with the server.	Refresh your administration screen by clicking <b>View &gt; Refresh</b> on the Administration Client menu.
<b>An error occurred validating the schema change request. Please try the change again. Contact your support organization if the problem persists.</b>	Operational Analyst could not validate the schema change requests.	Try your request again later. If the problem persists, contact your support organization.

Error Message	Description	Resolution
<b>Custom schema field name is not unique.</b>	The custom schema field name is not unique.	Enter a unique name.
<b>Execution date and time are not in the future.</b>	You have entered a date and time that has already transpired, that is, the time you specified is in the past.	Since time travel is out of the question, you should enter a future date.
<b>Inconsistent data found in data schema tables. Contact your support organization.</b>	The data schema tables are inconsistent. Your tables might contain data types that Operational Analyst does not support.	Contact your database administrator. If you are the database administrator, investigate your database and refer to the database vendor's documentation.
<b>Internal server error occurred for data schema request. Contact your support organization.</b>	You have an internal server error.	Contact your support organization.
<b>Internal server error or client and server are out of sync. Contact your support organization.</b>	You either have an internal server error or the Administration Client and the server are out of sync. The asynchronism is most likely caused by differing client and server software versions.	Upgrade the software version in your client or server.
<b>Internal parameter syntax error: client and server are out of sync. Contact your support organization.</b>	The Administration Client parameter validation failed due to a syntax error.	Contact your support organization.
<b>Invalid date field entry for: &lt;field name&gt;. Please enter time as mm-dd-yyyy.</b>	You did not enter a valid date format.	You must use the mm-dd-yyyy format. The month and the day must have two digits, and the year must have four. July 4, 2001 should be entered as 07/04/2001.

Error Message	Description	Resolution
<b>Invalid time field entry for: &lt;field name&gt;. Please enter time as hh:mm.</b>	You did not enter a valid time format.	You must use the hh:mm format. You must use two digits for the hour and the minutes. 3:02 a.m. must be entered as 03:02.
<b>More than one schema field is selected. Please select one schema field and try again.</b>	You tried to select two schemas.	Modify only one field at a time.
<b>Numeric field contains non-numeric character(s).</b>	You have entered characters that are inconsistent with the field data type, that is you entered non-numeric characters.	Remove the non-numeric characters and enter valid characters. Enter numbers only.
<b>Only custom fields in the Available Fields table can be deleted.</b>	You are trying to delete a field that is required. It can not be deleted.	You just can not delete that field.
<b>Request failed. There isn't enough disk space to complete associated migration.</b>	You do not have sufficient disk space to accommodate the new schema. The migration can not be completed because of this limitation.	Be less ambitious with your additions or increase your disk space
<b>Required schema fields can't be modified.</b>	You can not modify required schema fields.	You just have to leave the field alone.
<b>Server couldn't get required resources. Please try again later.</b>	The Administration Client and the server may be out of sync. Or the server components may not be able to get needed resources, such as logging components.	Try again later. If this problem persists, contact your support organization. See also <a href="#">General Administration Client Issues</a> on page 14.

Error Message	Description	Resolution
<b>The default time is not correct. Please enter time as hh:mm:ss.</b>	Time was entered incorrectly.	You must use the hh:mm:ss format. You must use two digits for the hour minutes, and seconds. 3:02:05 a.m. must be entered as 03:02:05.
<b>The default value is not within the specified precision.</b>	You have entered a default value that is not within the precision.	Enter a value that is within the specified precision.
<b>The following schema field name is not unique:</b>	Another field has the specified name.	Give this field name a different name.
<b>This request is inconsistent with the server database. Please refresh and try again.</b>	Operational Analyst allows multiple Administration Clients to connect to the server simultaneously but does not automatically update the administration data.  Someone else has changed the configuration settings and your Administration Client is not reflecting the latest administration data.	Refresh your administration screen by clicking <b>View &gt; Refresh</b> on the Administration Client menu. For more details, see <a href="#">Client not updated</a> .
<b>Unknown error received from server, error index number: xxxxx</b>	The Administration Client and the administration server components are out of sync.	Try again, if problem persists, contact Avaya customer support.

## Subsystems

Error Message	Description	Resolution
<b>A non-unique site id has been specified: nnn</b>	The site ID you entered is not unique.	You must have a unique site ID.
<b>An invalid IP Address was specified. Please enter an address in the format: n.n.n.n, where each n is from 0 to 255.</b>	You entered an invalid IP address.	Enter an IP address in a format n.n.n.n format, where each "n" is a value from 0-255.
<b>Client and server out of sync of server components can't be accessed. Contact your support organization.</b>	The Administration Client and the server are not in sync. This is most likely caused by differing client and server software versions.	Upgrade the software version in your client or server.
<b>Corrupt data has been found in the database for the historical subsystem.</b>	There is invalid data in your database. This could occur if someone manually alters the database.	Check to see if someone altered the database and if so, investigate the first day of week, first hour of day and the archive operations. Reverse the changes.
<b>Database contains corrupt subsystem information. Contact your support organization.</b>	The database has no information about the subsystem, the historical subsystem is not in the database, or someone manually altered the database.	Check to see if someone altered the database.
<b>Host name contains illegal characters: \ / { ' " or Esc.</b>	The host name has illegal characters.	Do not use \ / { ' " or <b>Esc</b> when you name your host machine.
<b>Internal server error or client and server are out of sync. Contact your support organization.</b>	The Administration Client and the server are not in sync. This is most likely caused by differing client and server software versions.	Upgrade the software version in your client or server.

Error Message	Description	Resolution
<b>IP Address could not be derived from Host Name. Please enter a valid Host Name or IP Address.</b>	Operational Analyst could not look up the IP address using the provided host name. You have either provided a non-existent host name or your host does not have a DNS/hosts entry.	Enter a valid host name.
<b>Server connection has been lost due to a CORBA failure. Please reconnect.</b>	CORBA failure occurred during initialization.	Reconnect to the server by clicking <b>File &gt; Reconnect</b> in the Administration Client menu bar.
<b>The following subsystem could not be deleted, one or more containers include its site id: xxxxx</b>	Operational Analyst cannot delete the event subsystem because it still contains containers.	You must delete the containers first before you can remove the subsystem.
<b>The following subsystem name is not unique: xxxxx</b>	You have entered a subsystem name that already exists.	Enter a different name.
<b>The historical subsystem can not be deleted.</b>	You can not delete the historical subsystem.	Do not try to delete the historical subsystem.
<b>Unable to lock the database tables needed to make this change. Please try again later.</b>	Someone else is working on the database. The tables are locked and unavailable.	Try again later.
<b>Unknown error received from server, error index number: xxxxx</b>	The Administration Client and the administration server components are out of sync.	Try again. If the problem persists, contact Avaya customer support.





## Chapter 3: OA Basic Reports

This chapter presents information about Basic Reports operation and the sources that provide the data Basic Reports utilize. The information in this chapter is designed to help you identify possible Basic Report trouble situations and associated corrective actions, and to provide you with details about the various database elements involved in the calculations required by each report.

If you desire higher-level descriptions of Basic Report calculations or behavior, refer to the *Calculations and data formats* section in the *Basic Reports* chapter of *Avaya Reporting Tools Guide*

The main topics in this chapter are:

[Historical report size limit](#)

[Trouble situations and solutions](#)

[Report calculations](#)

## Historical report size limit

By default, historical reports (including Work Item Detail) return no more than 500 rows. This limit is imposed to prevent extremely large query jobs reports that could immobilize the report and historical database servers.

If a historical report reaches the 500 row limit, an information page is displayed requesting that the input criteria be adjusted to reduce the number of rows returned. In certain circumstances, the 500 limit may be too low.

To increase the row limit:

1. Edit **\$OADIR/stumbras/webapp/WEB-INF/config/Reports/DBTypeInfo/DBTypeInfo.properties**.

**Note:**

Avoid using a file editor such as Windows Notepad that can corrupt the file content by changing the encoding format. Use an editor that guarantees the UTF-8 encoding format.

2. Set **ID\_MAX\_ROWNUM** to a value greater than 500.
3. Save the file.
4. Restart the **Stumbras** service for the change to take effect.

**Note:**

Changing this limit can affect report and database server performance.

## Trouble situations and solutions

Basic Reports depends on many Operational Analyst components and services being present, correctly administered (configured), and running. The table below describes several possible trouble situations and actions you can take to resolve the problems.

Problem	Possible Cause	Solution
<p>An error is displayed when clicking the <i>localhost/reports</i> link.</p>	<p>Services not running.</p>	<ul style="list-style-type: none"> <li>● Verify the www publishing service is running and automatic.</li> <li>● If you restarted the service, then restart the Data Manager from a command prompt:                             <pre style="margin-left: 40px;">pa disable dm                             pa enable dm</pre> </li> <li>● Verify the network is functional.</li> <li>● Verify the Report Framework subsystem is administered and running.</li> <li>● Verify Data Manager is administered and running.</li> </ul> <p>Refer to the <i>Operational Analyst Administration Client Online Help</i> for information about how to verify the status of the services and subsystems.</p>
<p>Basic reports do not run on a report client.</p>	<ol style="list-style-type: none"> <li>1. Report client files are not installed.</li> <li>2. Insufficient swap space.</li> </ol>	<ol style="list-style-type: none"> <li>1. Install the report client files by clicking <b>Install Reporting Support Files</b> in the tree-view.</li> <li>2. Be sure to configure at least 700 MB of swap space on the reporting server and each client running reports.</li> </ol>
<p>Report client installer does not launch. The error message may indicate JVM is not found.</p>	<p>JRE is not installed on the report client machine.</p>	<ol style="list-style-type: none"> <li>1. Install the correct JRE by clicking on <b>Install Reporting Support Files</b> in the tree-view.</li> <li>2. Install the report client files.</li> </ol>

Problem	Possible Cause	Solution
Basic reports do not run after an upgrade.	The correct report client files are not installed.	<ol style="list-style-type: none"> <li>1. Uninstall the current report client files by executing <b>C:\ Program Files\Avaya\BI\_uninst\uninstall.jar</b>.</li> <li>2. Install the report client files by clicking <b>Install Reporting Support Files</b> in the tree-view.</li> </ol>
Table-based basic reports run, but no graphical reports run.	Report client is not installed.	Download the client installation program from the tree-view, and install the client.
Report client is installed, but the applet is gray and no graphical reports appear.	Missing or incompatible Java Runtime Environment (JRE) or Java plug-in version.	<p>Download and install JRE patch from <a href="http://java.sun.com">http://java.sun.com</a>, or uninstall the current JRE or Java plug-in and launch the applet. This prompts you to download the correct plug-in.</p> <p>Alternatively, install the JRE on the report client machine from the installation CD.</p>
Cannot run reports for multiple servers.	The same Internet Explorer session is pointing to multiple report servers. This is a Java limitation.	Launch a new Internet Explorer session for each report server by selecting the IE desktop icon or through the <b>Start &gt; Programs</b> menu.
Date-time information does not reflect my time zone.	User's time zone setting is incorrectly specified. (Each user must do this.)	<ol style="list-style-type: none"> <li>1. Select <b>User Settings</b> from the tree-view.</li> <li>2. Select the desired time zone from the menu.</li> <li>3. Select <b>Save</b> to permanently set the time zone.</li> </ol>
Negative duration values appear in any real-time reports.	IC and OA server clocks are not synchronized.	Follow the instructions in the <i>Time Synchronization</i> section of the <i>Platform Requirements</i> chapter of <i>Avaya Operational Analyst Release 6.0 Installation and Maintenance Guide</i> to set server clock synchronization.

Problem	Possible Cause	Solution
<p>Aggregation selection box is empty on historical report input pages.</p>	<p>No containers defined.</p>	<p>Verify that containers are properly administered and enabled.                      Allow time for new data to aggregate.                      Refer to the <i>Operational Analyst Administration Client Online Help</i> for details about administering containers and scheduling jobs.</p>
<p>Graphical reports response is slow or reports do not appear.</p>	<p>Temporary directories are full.</p>	<p>As reports are accessed, associated Java JAR files are copied to the <b>C:\temp</b> or <b>C:\winnt\temp</b> directories. These files are not removed programmatically, and over time can consume a significant amount of memory. Delete these files on a regular basis to eliminate this problem.</p>
<p>Unable to run graphical reports, but table-based reports do run.</p>	<p>Video card and/or the associated driver do not support OpenGL acceleration.</p>	<p>Upgrade your video card or video driver to the latest version supporting OpenGL acceleration.</p>
<p>Either a Dr. Watson error appears or Internet Explorer displays an error message, then the associated window is killed.</p>	<p>Video card and/or associated driver are incompatible with the graphics library (Visual Insights) used by Basic Reports.</p>	<p>1. Verify that the graphics card and its driver meet the OpenGL capability requirement specified in the <i>Client hardware and software requirements</i> section of the <i>Platform requirements</i> chapter in the <i>Avaya Operational Analyst Release 6.0 Installation and Maintenance Guide</i>.                      2. Upgrade the video driver to the newest version available.                      Refer to the release letter on the distribution CD for information about compatible drivers and updating your video driver.</p>

## OA Basic Reports

Problem	Possible Cause	Solution
Stumbras is running, but all reports show “Null PointerExceptions.”	Communication between the Admin Manager and Stumbras may be down, resulting in missing database configuration information.	<ol style="list-style-type: none"><li>1. Run the <code>diag</code> command to verify the communications link from the report server. See <a href="#">The CORBA interface</a> on page 145 for more information.</li><li>2. Review the <b>ConfigService.properties</b> file in <b>\$OADIR/Stumbras/webapp/WEB-INF/config/ConfigService</b> for configuration information. If this file does not exist, the report server and the Admin Manager are not communicating.</li></ol>

Problem	Possible Cause	Solution
<p>No Agent data in reports or some Agent data is missing</p>	<p>Agents are not properly configured with the role of "Agent" in IC Manager.</p>	<p>Verify that the role of <b>Agent</b> is selected in the agent's <b>Security</b> tab properties in the IC Manager.</p>
	<p>Agent not administered for the correct domain in IC Manager.</p>	<p>Verify that the domain specified in the agent's <b>General</b> tab is a domain that contains an OA Event Collector for the OA real-time system where the reports are being run.</p>
	<p>IC Agent ADU servers are not running.</p>	<p>Verify the status the IC agent domain ADU servers. They should be up and running.</p>
	<p>IC Agent ADU failover strategy is not correct.</p>	<p>Verify the IC system failover strategy for agent domain ADUs. The agent ADU server for the agent data in question may have failed over to an ADU server in another domain. Agent ADU servers must not be allowed to failover to ADU servers in domains that are not monitored by OA Event Collectors.</p>
	<p>The agent may have failed over to an agent ADU domain that feeds a different OA Event Collector.</p>	<p>Verify that the agents in question have not failed over to another agent ADU domain. If multiple Event Collectors and OA real-time systems are configured, the agent's data may be appearing on a different OA real-time system's report.</p>

## Report calculations

This section presents the database items used in the calculations for the Basic Reports. If you are interested in a more high-level discussion of the generic values used in the calculations, please see the *Calculations and data formats* section in the *Basic Reports* chapter of *Avaya Reporting Tools Guide*. The reports represented here are:

- [Agent Performance - Historical](#)
- [Agent Performance - Historical - CMS Version](#)
- [Agent Performance - Real-time](#)
- [Agent Performance by Service Class and Queue - Historical](#)
- [Agent Performance by Service Class and Queue - Real-time](#)
- [Agent Performance by Skill - Historical](#)
- [Agent Time in State - Real-time](#)
- [Service Class and Queue Performance - Historical](#)
- [Service Class and Queue Performance - Real-time](#)
- [Service Class and Queue Status - Real-time](#)
- [Service Class and Queue Volume - Historical](#)
- [Skill Performance - Historical](#)
- [Work Item Detail](#)

### Agent Performance - Historical

The OA database items used to determine administered agents for the input screen are:

Input parameter	Database table	Database item
<b>Agents</b>	AgentInfo	AgentName (<AgentLogin>)

The OA database items and calculations used to populate the report floor are:

Statistic	Database table	Database item or calculation
Number of Work Items Completed	AgentSvcClass	WkForwardedCnt
Number of Work Items Opened	AgentSvcClass	WkOpenedCnt
Average Work Duration	AgentSvcClass	(WkWorkDur summed across all records in AgentSvcClass for this agent) / (WkForwardedCnt summed across all records in AgentSvcClass for this agent)
Average Wrap-Up Duration	AgentSvcClass	(WkWrapUpDur summed across all records in AgentSvcClass for this agent) / (WkForwardedCnt summed across all records in AgentSvcClass for this agent)

The OA database items and calculations used to populate the left and right walls are:

Floor statistic	Database item or calculation
<ul style="list-style-type: none"> <li>● Number of Work Items Forwarded</li> <li>● Number of Work Items Opened</li> </ul>	When the selected statistic for the wall is <b>Total of Floor Data:</b> $(b_1 + b_2 + b_3 + \dots + b_n)$ where $b$ = the value a floor column for this service class or queue, and where $n$ = the number of columns on the floor for this service class/queue or date as appropriate
<ul style="list-style-type: none"> <li>● Number of Work Items Forwarded</li> <li>● Number of Work Items Opened</li> <li>● Average Work Duration</li> <li>● Average Wrap-Up Duration</li> </ul>	When the selected statistic for the wall is <b>Average of Floor Data:</b> $[(c_1 + c_2 + c_3 + \dots + c_n) / (b_1 + b_2 + b_3 + \dots + b_n)]$ where $c$ = is the numerator used to calculate the height of the floor column and where $b$ = the denominator used to calculate the height of the floor column and where $n$ = the number of columns on the floor for this service class/queue or date as appropriate.

## Agent Performance - Historical - CMS Version

The OA database items used to determine administered agents for the input screen are:

Input parameter	Database table	Database item
Agents	CMSAgentInfo	LogName (LogID)

The OA database items and calculations used to populate the report floor are:

Statistic	Database table	Database item or calculation
<b>Number of ACD Calls</b>	CmsAgent	acdcalls + da_acdcalls summed across all skills for this agent
<b>Average ACD Duration</b>	CmsAgent	$(acvertime + da_acvertime) / (acdcalls + da_acdcalls)$ the numerator and denominator are separately summed across all records for this agent
<b>Average ACW Duration</b>	CmsAgent	$(acvertime + da_acvertime) / (acdcalls + da_acdcalls)$ the numerator and denominator are separately summed across all records for this agent

The OA database items and calculations used to populate the left and right walls are:

Floor statistic	Database item or calculation
<p><b>Number of ACD Calls</b></p>	<p>When the selected statistic for the wall is <b>Total of Floor Data</b>:  <math>(b_1 + b_2 + b_3 + \dots + b_n)</math> where <math>b</math> = the value a floor column for this Skill, and where <math>n</math> = the number of columns on the floor for this Skill or date as appropriate</p>
<ul style="list-style-type: none"> <li>● <b>Number of ACD Calls</b></li> <li>● <b>Average ACD Duration</b></li> <li>● <b>Average ACW Duration</b></li> </ul>	<p>When the selected statistic for the wall is <b>Average of Floor Data</b>:  <math>[(c_1 + c_2 + c_3 + \dots + c_n) / (b_1 + b_2 + b_3 + \dots + b_n)]</math> where <math>c</math> = is the numerator used to calculate the height of the floor column and where <math>b</math> = the denominator used to calculate the height of the floor column and where <math>n</math> = the number of columns on the floor for this Skill or date as appropriate.</p>

## Agent Performance - Real-time

The OA database items used to determine administered agents for the input screen are:

Input parameter	Database table	Database item
<b>Agents</b>	AgentState	AgentName (<AgentLogin>)

The OA database items and calculations used to populate the report floor are:

Statistic	Database table	Database item or calculation
<b>Number of Work Items Open</b>	AgentState	WkOpenCnt
<b>Average Work Duration</b>	AgentSvcClass	(WkWorkDur summed across all records in AgentSvcClass for this agent) / (WkForwardedCnt summed across all records in AgentSvcClass for this agent)
<b>Average Wrap-Up Duration</b>	AgentSvcClass	(WkWrapUpDur summed across all records in AgentSvcClass for this agent) / (WkForwardedCnt summed across all records in AgentSvcClass for this agent)
<b>Idle Available Duration</b>	AgentState	If AgentState = Idle and Availability = Available, then Idle Available Duration = IdleAvailDur + ((Current_Time_of_Day) – MAX(AgentState.StateStartTime, start of current base interval)) else Idle Available Duration = IdleAvailDur
<b>On Break Duration</b>	AgentState	If AgentState = On Break, then On Break Duration = OnBreakDur + ((Current_Time_of_Day) – MAX(AgentState.StateStartTime, start of current base interval)) else On Break Duration = OnBreakDur

The data base items used to determine the contents of the screen tip are:

Screen tip label text	Database table	Database item or calculation
<b>Agent</b>	AgentState	AgentName
<i>name of statistic being displayed</i>	N/A	Value of respective column.

Screen tip label text	Database table	Database item or calculation
<b>Agent State</b>	AgentState	AgentStateName
<b>Current Channel Type</b>	AgentState SvcClassQualInfo QualCategoryInfo QualChoiceInfo	QualChoiceInfo.ChoiceName where: AgentState.SvcClassID = SvcClassQualInfo.SvcClassID and SvcClassQualInfo.CategoryID = QualCategoryInfo.CategoryID and QualCategoryInfo.Qualifier = "_Channel" and QualCategoryInfo.CategoryID = QualChoiceInfo.CategoryID and QualChoiceInfo.ChoiceID = SvcClassQualInfo.ChoiceID

## Agent Performance by Service Class and Queue - Historical

The OA database items used to determine the entities on the report floor are:

Statistic	Database table	Database item or calculation
<b>Average Work Duration</b>	AgentSvcClass	WkWorkDur / WkForwardedCnt
<b>Average Wrap-Up Duration</b>	AgentSvcClass	WkWrapUpDur / WkForwardedCnt
<b>Number of Work Items Opened</b>	AgentSvcClass	WkOpenedCnt
<b>Number of Work Items Completed</b>	AgentSvcClass	WkForwardedCnt
<b>Average Customer Hold Duration</b>	AgentSvcClass	CustomerHeldDur / CustomerHeldCnt
<b>Average Deferred Duration</b>	AgentSvcClass	WkHeldDur / WkHeldCnt

## OA Basic Reports

The OA database items used to determine drop-down box values for the report input screen are:

<b>Input parameter</b>	<b>Database table</b>	<b>Database item</b>
<b>Agent(s)</b>	Agent Info	AgentName (<AgentLogin>)
<b>Service Class(es) and/or Queue(s)</b>	SvcClassState	SvcClassName (<Data Source Name>)

The OA database items used to determine the entities on the report floor are:

<b>Statistic</b>	<b>Database table</b>	<b>Database item or calculation</b>
<b>Average Work Duration</b>	AgentSvcClass	WkWorkDur / WkForwardedCnt
<b>Average Wrap-Up Duration</b>	AgentSvcClass	WkWrapUpDur / WkForwardedCnt
<b>Number of Work Items Opened</b>	AgentSvcClass	WkOpenedCnt
<b>Number of Work Items Completed</b>	AgentSvcClass	WkForwardedCnt
<b>Average Customer Hold Duration</b>	AgentSvcClass	CustomerHeldDur / CustomerHeldCnt
<b>Average Deferred Duration</b>	AgentSvcClass	WkHeldDur / WkHeldCnt

The OA database items and calculations used to populate the left and right walls are:

Floor statistic	Database item or calculation
<ul style="list-style-type: none"> <li>● Number of Work Items Opened</li> <li>● Number of Work Items Completed</li> </ul>	<p>When the selected statistic for the wall is <b>Total of Floor Data</b>:</p> <p><math>(b_1 + b_2 + b_3 + \dots + b_n)</math> where <math>b</math> = the value of a floor column for this service class/queue/agent/date, and where <math>n</math> = the number of columns on the floor for this service class/queue/agent or date as appropriate</p>
<ul style="list-style-type: none"> <li>● Average Work Duration</li> <li>● Average Wrap-Up Duration</li> <li>● Number of Work Items Opened</li> <li>● Number of Work Items Completed</li> <li>● Average Customer Hold Duration</li> <li>● Average Deferred Duration</li> </ul>	<p>When the selected statistic for the wall is <b>Average of Floor Data</b>:</p> <p><math>[(c_1 + c_2 + c_3 + \dots + c_n) / (b_1 + b_2 + b_3 + \dots + b_n)]</math> where <math>c</math> = is the numerator used to calculate the height of the floor column and where <math>b</math> = the denominator used to calculate the height of the floor column and where <math>n</math> = the number of columns on the floor for this service class/queue/agent or date as appropriate</p>

## Agent Performance by Service Class and Queue - Real-time

The OA database items used to determine drop-down box values for the input screen are:

Input parameter	Database table	Database item
Agents	Agent State	AgentName (AgentLogin)
Service Classes and Queues	SvcClassInfo	SvcClassName (<Data Source Name>)

The OA database items used to determine the entities on the report floor are:

<b>Statistic</b>	<b>Database table</b>	<b>Database item or calculation</b>
<b>Average Work Duration</b>	AgentSvcClass	WkWorkDur / WkForwardedCnt
<b>Average Wrap-Up Duration</b>	AgentSvcClass	WkWrapUpDur / WkForwardedCnt
<b>Number of Work Items Opened</b>	AgentSvcClass	WkOpenedCnt
<b>Number of Work Items Completed</b>	AgentSvcClass	WkForwardedCnt
<b>Average Customer Hold Duration</b>	AgentSvcClass	CustomerHeldDur / CustomerHeldCnt
<b>Average Deferred Duration</b>	AgentSvcClass	WkHeldDur / WkHeldCnt
<b>For Service Classes:</b> <Column Color>	AgentCapSetInfo	Map AgentRole for this AgentLogin and SvcClassID to the specified color for this role.

The OA database items and calculations used to populate the left and right walls are:

Floor Statistic	Data Base Item or Calculation
<ul style="list-style-type: none"> <li>● <b>Number of Work Items Opened</b></li> <li>● <b>Number of Work Items Completed</b></li> </ul>	<p>When the selected statistic for the wall is <b>Total of Floor Data</b>:</p> <p><math>(b_1 + b_2 + b_3 + \dots + b_n)</math> where <math>b</math> = the value a floor column for this service class or queue, and where <math>n</math> = the number of columns on the floor for this service class/queue or agent as appropriate.</p>
<ul style="list-style-type: none"> <li>● <b>Average Work Duration</b></li> <li>● <b>Average Wrap-Up Duration</b></li> <li>● <b>Number of Work Items Opened</b></li> <li>● <b>Number of Work Items Completed</b></li> <li>● <b>Average Customer Hold Duration</b></li> <li>● <b>Average Deferred Duration</b></li> </ul>	<p>When the selected statistic for the wall is <b>Average of Floor Data</b>:</p> <p><math>[(c_1 + c_2 + c_3 + \dots + c_n) / (b_1 + b_2 + b_3 + \dots + b_n)]</math> where <math>c</math> = is the numerator used to calculate the height of the floor column and where <math>b</math> = the denominator used to calculate the height of the floor column and where <math>n</math> = the number of columns on the floor for this service class/queue or agent as appropriate.</p>

## Agent Performance by Skill - Historical

The OA database items used to determine drop-down box values for the input screen are:

Input parameter	Database table	Database item
<b>Agents</b>	CmsAgentInfo	LogName (CmsAgentInfo.logid)
<b>Skills</b>	CmsSkillInfo	SplitName (<Data Source Name>)

The OA database items and calculations used to populate the report floor are:

Statistic	Database table	Database item or calculation
<b>Number of ACD Calls</b>	CmsAgent	acdcalls + da_acdcalls
<b>Average ACD Duration</b>	CmsAgent	$(acvertime + da_acvertime) / (acdcalls + da_acdcalls)$
<b>Average ACW Duration</b>	CmsAgent	$(acwtime + da_acwtime) / (acdcalls + da_acdcalls)$

The OA database items and calculations used to populate the left and right walls are:

Floor statistic	Database item or calculation
<b>Number of ACD Calls</b>	When the selected statistic for the wall is <b>Total of Floor Data</b> : $(b_1 + b_2 + b_3 + \dots + b_n)$ where b = the value a floor column for this Skill, and where n = the number of columns on the floor for this Skill/agent or date as appropriate.
<ul style="list-style-type: none"> <li>● <b>Number of ACD Calls</b></li> <li>● <b>Average ACD Duration</b></li> <li>● <b>Average ACW Duration</b></li> </ul>	When the selected statistic for the wall is <b>Average of Floor Data</b> : $[(c_1 + c_2 + c_3 + \dots + c_n) / (b_1 + b_2 + b_3 + \dots + b_n)]$ where c = is the numerator used to calculate the height of the floor column and where b = the denominator used to calculate the height of the floor column and where n = the number of columns on the floor for this Skill/Agent or date as appropriate.

## Agent Time in State - Real-time

The OA database items used to determine the content of drop-down boxes are:

Drop-down box	Database table	Database item or calculation
<b>Agents</b>	AgentState	AgentName (<AgentLogin>)
<b>Agent States</b>	N/A	<ul style="list-style-type: none"> <li>● Busy This Service Class or Queue</li> <li>● Busy Other Service Class or Queue</li> <li>● Idle</li> <li>● On Break</li> </ul>
<b>Service Classes and Queues</b>	SvcClassState	SvcClassName

The OA database items and calculations used to populate the **Agent Time in State** table are:

Visual representation	Database table	Database value or calculation
<b>Number of Agents Found</b>		The number of records that comprise the table
<b>Agent</b>	AgentState	AgentName
<b>State</b> (displayed only if multiple states are selected or if either of the "Busy" states is selected)	AgentState	AgentStateName
<b>Time in State</b>	AgentState	Now – StateStartTime

Visual representation	Database table	Database value or calculation
<b>Service Class or Queue</b> (displayed only if multiple service classes and/or queues are selected or if the state <b>Busy Other Service Class or Queue</b> has been selected)	AgentState SvcClassState	Display SvcClassState.SvcClassName where AgentState.SvcClassID = SvcClassState.SvcClassID
<b>Role</b> (displayed only if a single service class is selected. Not displayed if multiple service classes and/or queues are selected nor if a single queue is selected)	AgentState AgentCapSetInfo StaticNameInfo	Display StaticNameInfo.DisplayName where StaticNameInfo.IDType = "AgentRole" and where StaticNameInfo.ID = AgentCapSetInfo.AgentRole (where AgentState.AgentLogin = AgentCapSetInfo.AgentLogin and <the ID of the selected service class> = AgentCapSetInfo.SvcClassID)  If there is no record in AgentCapSetInfo for this combination of AgentLogin and SvcClassID, display Blank  Exception: the Not Administered and Unknown roles always appear in the table as long as the other input parameters are met.

## Service Class and Queue Performance - Historical

The OA database items used to determine drop-down box items for the input screen are:

Input parameter	Database table	Database Item
<b>Service Classes and Queues</b>	SvcClassInfo	SvcClassName (<Data Source Name>)

The OA database items and calculations used to populate the report floor are:

Statistic selected	Database table	Database item or calculation
<b>Percentage of Work Items Handled Within Service Level</b>	SvcClassSummary	If UpperThreshold != Null $(WkOpenOnTargetCnt) / (WkOpenOnTargetCnt + WkOpenBehindCnt + WkOpenCriticalCnt + WkOpenAheadCnt + WkOpenNoGoalCnt) * 100\%$ else blank
<b>Number of Work Items Offered</b>	SvcClassSummary	WkArrivedCnt
<b>Number of Work Items Completed</b>	SvcClassSummary	WkForwardedCnt
<b>Number of Abandoned Work Items</b>	SvcClassSummary	AbandBehindCnt + AbandOnTargetCnt + AbandNoGoalCnt + AbandAheadCnt + AbandCriticalCnt
<b>Average Wait Time</b>	SvcClassSummary	WkInQueueDur / (WkOpenBehindCnt + WkOpenOnTargetCnt + WkOpenNoGoalCnt + WkOpenCriticalCnt + WkOpenAheadCnt)
<b>Average Time to Abandon</b>	SvcClassSummary	AbandDur / (AbandBehindCnt + AbandOnTargetCnt + AbandNoGoalCnt + AbandAheadCnt + AbandCriticalCnt)

The OA database items and calculations used to populate the left and right walls are:

Floor statistic	Database item or calculation
<ul style="list-style-type: none"> <li>● <b>Number of Work Items Offered</b></li> <li>● <b>Number of Work Items Completed</b></li> <li>● <b>Number of Abandoned Work Items</b></li> </ul>	<p>When the selected statistic for the wall is <b>Total of Floor Data</b>:</p> <p><math>(b_1 + b_2 + b_3 + \dots + b_n)</math> where <math>b</math> = the value a floor column for this service class or queue, and where <math>n</math> = the number of columns on the floor for this service class/queue or date as appropriate.</p>
<ul style="list-style-type: none"> <li>● <b>Percentage of Work Items Handled Within Service Level</b></li> <li>● <b>Number of Work Items Offered</b></li> <li>● <b>Number of Work Items Completed</b></li> <li>● <b>Number of Abandoned Work Items</b></li> <li>● <b>Average Wait Time</b></li> <li>● <b>Average Time to Abandon</b></li> </ul>	<p>When the selected statistic for the wall is <b>Average of Floor Data</b>:</p> <p><math>[(c_1 + c_2 + c_3 + \dots + c_n) / (b_1 + b_2 + b_3 + \dots + b_n)]</math> where <math>c</math> = is the numerator used to calculate the height of the floor column and where <math>b</math> = the denominator used to calculate the height of the floor column and where <math>n</math> = the number of columns on the floor for this service class/queue or date as appropriate.</p>

## Service Class and Queue Performance - Real-time

The OA database items used to determine drop-down box items for the input screen are:

Input parameter	Database table	Database item
<b>Service Classes and Queues</b>	SvcClassState	SvcClassName (<Data Source Name>)

The OA database items and calculations used to populate the report floor are:

Statistic	Database table	Database item or calculation
<b>Percentage of Work Items Handled Within Service Level</b>	SvcClassSummary	If SvcGoalID != "1" $\frac{\text{WkOpenOnTargetCnt}}{\text{WkOpenCriticalCnt} + \text{WkOpenOnTargetCnt} + \text{WkOpenBehindCnt} + \text{WkOpenAheadCnt} + \text{WkOpenNoGoalCnt}} * 100\%$ else blank
<b>Number of Work Items in Queue</b>	SvcClassState	QueueSizeCnt
<b>Number of Work Items Offered</b>	SvcClassSummary	WkArrivedCnt
<b>Number of Work Items Completed</b>	SvcClassSummary	WkForwardedCnt

Statistic	Database table	Database item or calculation
<b>Number of Abandoned Work Items</b>	SvcClassSummary	AbandBehindCnt + AbandOnTargetCnt + AbandNoGoalCnt + AbandAheadCnt + AbandCriticalCnt
<b>Latest Average Wait Time</b>	SvcClassSummary	<p>Given that:</p> $X = \text{WkOpenCriticalCnt} + \text{WkOpenAheadCnt} + \text{WkOpenBehindCnt} + \text{WkOpenOnTargetCnt} + \text{WkOpenNoGoalCnt}$ <p>And “n” represents the current database values and “n-1” represents the database values at the time of the previous report update,</p> <p>When “n” is the first update of the report (i.e., where there is no “n-1”) or where “n” is the first update of the report for the current interval then:</p> <p style="padding-left: 40px;">If <math>X(n) &gt; 0</math> Then Average Wait Time = <math>\text{WkInQueueDur}(n) / X(n)</math></p> <p style="padding-left: 40px;">If <math>X(n) = 0</math> Then display no column at all</p> <p>And when “n” is not the first update of the report (i.e., where there is an “n-1”) then</p> <p style="padding-left: 40px;">If <math>X(n) - X(n-1) &gt; 0</math> Then Average Wait Time = <math>[\text{WkInQueueDur}(n) - \text{WkInQueueDur}(n-1)] / [X(n) - X(n-1)]</math></p> <p style="padding-left: 40px;">If <math>X(n) - X(n-1) = 0</math> then display no column at all</p>

The OA database items used to determine the content of the screen tip are:

Screen tip label text	Database table	Database item or calculation
For Service Classes: <b>Service Class</b> For Queues: <b>Queue</b>	SvcClassState	SvcClassName
For Service Classes: <b>Service Class State</b>	SvcClassState	SvcClassStateName
For Service Classes and Queues: <b>Channel Type</b>	SvcClassState SvcClassQualInfo QualCategoryInfo QualChoiceInfo	QualChoiceInfo.ChoiceName where: SvcClassState.SvcClassID = SvcClassQualInfo.SvcClassID and SvcClassQualInfo.CategoryID = QualCategoryInfo.CategoryID and QualCategoryInfo.Qualifier = "_Channel" and QualCategoryInfo.CategoryID = QualChoiceInfo.CategoryID and QualChoiceInfo.ChoiceID = SvcClassQualInfo.ChoiceID
<i>name of statistic being displayed</i>	N/A	Value of respective column.

## Service Class and Queue Status - Real-time

The OA database items used to determine drop-down box items for the input screen are:

Input parameter	Database table	Database item
<b>Service Classes and Queues</b>	SvcClassState	SvcClassName (<Data Source Name>)

The OA database items used to determine the content of the label screen tips are:

Screen tip label text	Database table	Database item or calculation
For Service Classes: <b>Service Class</b> For Queues: <b>Queue</b>	N/A	The label of the associated Service Class or Queue
For Service Classes: <b>Current State</b>	SvcClassState	SvcClassStateName
For Service Classes <b>Critical Threshold</b>	SvcClassGoalInfo	if CriticalThreshold != NULL then CriticalThreshold else "None"
For both Service Classes and Queues: <b>Upper Threshold</b>	SvcClassGoalInfo	if UpperThreshold != NULL then UpperThreshold else "None"
For Service Classes: <b>Lower Threshold</b>	SvcClassGoalInfo	if LowerThreshold != NULL then LowerThreshold else "None"

The OA database items and calculations used to populate the floor are:

Statistic	Database table	Database item or calculation
<b>Number of Work Items in Queue</b>	SvcClassState	QueueSizeCnt
<b>Service Class State</b>	SvcClassState	<p>For Advocate-delivered service classes (i.e. QueueType = Advocate and EWT != NULL):</p> <p>SvcClassState, where</p> <ul style="list-style-type: none"> <li>Unknown = a gap in the ribbon or histogram</li> <li>Agents Available = -3</li> <li>Queue Empty = -2</li> <li>Ahead of Target = -1</li> <li>On Target = 0</li> <li>Future Risk = 1</li> <li>Immediate Risk = 2</li> <li>Behind Target = 3</li> <li>Critical = 4</li> </ul> <p>(all numbers are relative to the floor, which is at 0)</p> <p>A ribbon's or histogram's color corresponds to the current Service Class state. States are organized into categories and each category is distinguished by its color:</p> <ul style="list-style-type: none"> <li>Red = Critical,</li> <li>Yellow = Behind Target,</li> <li>Green = On Target, Future risk, Immediate Risk</li> <li>Blue = Ahead of Target, Agents Available, and Queue empty.</li> </ul> <p>For Non-Advocate-delivered service classes and Queues (i.e. EWT = NULL):</p> <p>display nothing</p>

Statistic	Database table	Database item or calculation
<b>Oldest Wait Time</b>	SvcClassState	Now – OldestArrivalTime
<b>Latest Average Wait Time</b>	SvcClassSummary	<p>Given that:</p> $X = \text{WkOpenCriticalCnt} + \text{WkOpenBehindCnt} + \text{WkOpenOnTargetCnt} + \text{WkOpenAheadCnt} + \text{WkOpenNoGoalCnt}$ <p>And “n” represents the current database values and “n-1” represents the database values at the time of the previous report update,</p> <p>Then:</p> <p>When “n” is the first update of the report (i.e., where there is no “n-1”) or where “n” is the first update of the report for the current interval then</p> <p style="padding-left: 40px;">If <math>X(n) &gt; 0</math> Then Average Wait Time = <math>\text{WkInQueueDur}(n) / X(n)</math></p> <p style="padding-left: 40px;">If <math>X(n) = 0</math> Then display a “gap” in the ribbon or histogram</p> <p>And when “n” is not the first update of the report (i.e., where there is an “n-1”) then</p> <p style="padding-left: 40px;">If <math>X(n) - X(n-1) &gt; 0</math> Then Average Wait Time = <math>[\text{WkInQueueDur}(n) - \text{WkInQueueDur}(n-1)] / [X(n) - X(n-1)]</math></p> <p style="padding-left: 40px;">If <math>X(n) - X(n-1) = 0</math> then display a “gap” in the ribbon or histogram</p>

The OA database items and calculations used to populate the left wall are:

Statistic	Database table	Database value or calculation
<b>Number of Work Items in Queue</b>	SvcClassState	QueueSizeCnt
<b>Expected Wait Time</b>	SvcClassState	For Service Classes: If EWT != NULL and EWTUsed = 1 then EWT else blank For Queues: blank
<b>Oldest Wait Time</b>	SvcClassState	For Queues: Now – OldestArrivalTime For Service Classes: blank
<b>30-Minute Average Wait Time</b>	N/A	$[Current\ AWT_{(1)} + Current\ AWT_{(2)} + \dots + Current\ AWT_{(N)}] / N$ N = The total number of Current AWT values generated over the 30 minute period.

The OA database items and calculations used to populate the right wall are:

Visual representation	Database Table.Column	Database value or calculation																		
Pie slice size	<p>Where AgentCapSetInfo.SvcClassID = the ID of the selected service class</p> <p>&lt;Role&gt; Pie: and where AgentCapSetInfo.AgentRole = &lt;Role&gt; according to the following table:</p> <table border="1" data-bbox="587 661 1096 896"> <thead> <tr> <th>Role</th> <th>Agent Role Values</th> </tr> </thead> <tbody> <tr> <td>Regular</td> <td>0</td> </tr> <tr> <td>Reserve</td> <td>1</td> </tr> <tr> <td>Backup</td> <td>2</td> </tr> </tbody> </table> <p>&lt;State&gt; slice: and where: AgentState.AgentState = &lt;state&gt; according to the following table:</p> <table border="1" data-bbox="544 1106 1133 1568"> <thead> <tr> <th>State</th> <th>Agent State Values</th> </tr> </thead> <tbody> <tr> <td>Idle</td> <td>3</td> </tr> <tr> <td>On break</td> <td>5</td> </tr> <tr> <td>Busy this Service Class</td> <td>1 &amp; 2 and AgentState.SvcClassID = the ID of the selected service class</td> </tr> <tr> <td>Busy other Service Class or Queue</td> <td>1 &amp; 2 and AgentState.SvcClassID != the ID of the selected service class</td> </tr> </tbody> </table>	Role	Agent Role Values	Regular	0	Reserve	1	Backup	2	State	Agent State Values	Idle	3	On break	5	Busy this Service Class	1 & 2 and AgentState.SvcClassID = the ID of the selected service class	Busy other Service Class or Queue	1 & 2 and AgentState.SvcClassID != the ID of the selected service class	Count the number of matching records
Role	Agent Role Values																			
Regular	0																			
Reserve	1																			
Backup	2																			
State	Agent State Values																			
Idle	3																			
On break	5																			
Busy this Service Class	1 & 2 and AgentState.SvcClassID = the ID of the selected service class																			
Busy other Service Class or Queue	1 & 2 and AgentState.SvcClassID != the ID of the selected service class																			
Total that appears beneath pie label in parenthesis “()”.	N/A	The sum of the pie slice sizes for a pie.																		

## Service Class and Queue Volume - Historical

The OA database items used to determine drop-down box items for the input screen are:

Input parameters	Database table	Database item
Service Classes and Queues	SvcClassInfo	SvcClassName (<Data Source Name>)

The OA database items and calculations used to populate the floor are:

Statistic	Database table	Database item or calculation
Work Offered	SvcClassSummary	WkArrivedCnt
Work Completed	SvcClassSummary	WkForwardedCnt

The OA database items and calculations used to populate the left wall are:

Statistic	Database table	Database value or calculation
Average Wait Time	SvcClassSummary	<p>For each selected Service Class or Queue</p> $[(a_1 + a_2 + \dots a_n)] / [(b_1 + b_2 + \dots b_n)]$ <p>where</p> <p><math>a = \text{WkInQueueDur}</math></p> <p><math>b = \text{Sum [WkOpenBehindCnt + WkOpenNoGoalCnt + WkOpenOnTargetCnt + WkOpenCriticalCnt + WkOpenAheadCnt]}</math></p> <p>and <math>n =</math> the number of “y” time categories.</p>

## OA Basic Reports

The OA database items used to determine the entities on the right wall are:

<b>Statistic</b>	<b>Database table</b>	<b>Database value or calculation</b>
<b>Average Wait Time</b>	SvcClassSummary	For each selected Service Class or Queue $[(a_1 + a_2 + \dots a_n)] / [(b_1 + b_2 + \dots b_n)]$  where  $a = \text{WkInQueueDur}$  $b = \text{Sum [WkOpenBehindCnt + WkOpenNoGoalCnt + WkOpenOnTargetCnt + WkOpenCriticalCnt + WkOpenAheadCnt]}$  where n = the number of service classes and queues on the x-axis.

## Skill Performance - Historical

The OA database items used to determine drop-down box items for the input screen are:

<b>Input Parameter</b>	<b>Database Table</b>	<b>Database Item</b>
<b>Skills</b>	CmsSkillInfo	SplitName (<Data Source Name>)

The OA database items and calculations used to populate the report floor are:

Statistic	Database table	Database item or calculation
Number of ACD Calls	CmsSkill	acdcalls
Average Speed of Answer	CmsSkill	anstime / acdcalls
Number of Abandoned Calls	CmsSkill	abncalls
Average Time to Abandon	CmsSkill	abntime / abncalls

The OA database items and calculations used to populate the left and right walls are:

Floor Statistic	Database Item or Calculation
<ul style="list-style-type: none"> <li>● Number of ACD Calls</li> <li>● Number of Abandoned Calls</li> </ul>	<p>When the selected statistic for the wall is <b>Total of Floor Data</b>:</p> <p><math>(b_1 + b_2 + b_3 + \dots + b_n)</math> where <math>b</math> = the value of a floor column for this Skill, and where <math>n</math> = the number of columns on the floor for this Skill or date, as appropriate.</p>
<ul style="list-style-type: none"> <li>● Number of ACD Calls</li> <li>● Average Speed of Answer</li> <li>● Number of Abandoned Calls</li> <li>● Average Time to Abandon</li> </ul>	<p>When the selected statistic for the wall is <b>Average of Floor Data</b>:</p> <p><math>[(c_1 + c_2 + c_3 + \dots + c_n) / (b_1 + b_2 + b_3 + \dots + b_n)]</math> where <math>c</math> = is the numerator used to calculate the height of the floor column, and where <math>b</math> = the denominator used to calculate the height of the floor column, and where <math>n</math> = the number of columns on the floor for this Skill or date as appropriate.</p>

## Work Item Detail

The data used to populate the Channels and Agents drop-down boxes on the input page are determined as follows:

## OA Basic Reports

<b>Input Element</b>	<b>Database Table</b>	<b>Database Item or Calculation</b>
<b>Channels</b>	N/A	The following items: <ul style="list-style-type: none"><li>● Voice</li><li>● Email</li><li>● Text Chat</li></ul>
<b>Agents</b>	Employee	Display FULLNAME (LOGINNAME) where ROLE_AGENT = 1

The OA database items used to determine the records that comprise the Work Item Detail report and the content of the report columns are:

:

Report Column	Database table	Calculation
<p>This record is included if the criteria in the calculation column are met. The value displayed in the <b>Date</b> column is the value contained in the associated Contact field.</p>	<p>Contact</p>	<p>If Contact.CreateTime is within the date range selected in the <b>Date Range</b> portion of the input page            Then display            Contact.CreateTime</p>
<p>If the <b>From</b> text box is populated then this record is included if the criteria in the calculation column are met</p>	<p>Contact            MediaInteraction</p>	<p>If Selected Channels includes <b>Voice</b> then            MediaInteraction.Type = 2 (i.e. voice), and MediaInteraction.ANI contains value in From box, and Contact.VDUID = MediaInteraction.Contact_Key</p> <p>If Selected Channels includes <b>Email</b> then            MediaInteraction.Type = 0 (i.e. email), and MediaInteraction.Sender contains value in From box, and Contact.VDUID = MediaInteraction.Contact_Key</p> <p>If Selected Channels includes <b>Text Chat</b> then            MediaInteraction.Type = 1 (i.e. chat), and MediaInteraction.UserName contains value in From box, and Contact.VDUID = MediaInteraction.Contact_Key</p> <p>If the user selects more than one channel then these criteria are "OR'd" together.</p>

OA Basic Reports

Report Column	Database table	Calculation
<p>If the <b>To</b> input box is populated then this record is included if the criteria in the calculation column are met.</p>	<p>Contact MediaInteraction</p>	<p>If Selected Channels includes <b>Voice</b> then</p> <p style="padding-left: 40px;">MediaInteraction.Type = 2 (i.e. voice), and MediaInteraction.DNIS contains value in To box, and Contact.VDUID = MediaInteraction.Contact_Key</p> <p>If Selected Channels includes <b>Email</b> then</p> <p style="padding-left: 40px;">MediaInteraction.Type = 0 (i.e. email), and MediaInteraction.Recipient contains value in To box, and Contact.VDUID = MediaInteraction.Contact_Key</p> <p>If the user selects more than one channel then these criteria are “OR'd” together.</p>

Report Column	Database table	Calculation
<p>If one or more values in the <b>Channel</b> drop-down box are selected then this record is included if the criteria in the calculation column are met.</p>	<p>Contact MediaInteraction</p>	<p>If Selected Channels includes <b>Voice</b> then  MediaInteraction.Type = 2 (i.e. voice), and Contact.VDUID = MediaInteraction.Contact_Key</p> <p>If Selected Channels includes <b>Email</b> then  MediaInteraction.Type = 0 (i.e. email), and Contact.VDUID = MediaInteraction.Contact_Key</p> <p>If Selected Channels includes <b>Text Chat</b> then  MediaInteraction.Type = 1 (i.e. chat), and Contact.VDUID = MediaInteraction.Contact_Key</p> <p>If the user selects more than one channel then these criteria are “OR'd” together.</p>
<p>If one or more values in the Agent drop-down box are selected then this record is included if the criteria in the calculation column are met.</p>	<p>Contact RoutingEvent AgentSegment</p>	<p>If AgentSegment.Employee_Key = the selected agent PKEY value and Contact.VDUID = RoutingEvent.Contact_Key and AgentSegment.Segment_Key = RoutingEvent.UUID and AgentSegment.ParticipationRole = 0 (i.e., Primary Agent)</p>

## OA Basic Reports

Report Column	Database table	Calculation
If the value in the <b>Time in System</b> drop-down boxes is > 0 then this record is included if the criteria in the calculation column are met. The value displayed in the <b>Time in System</b> column is the value contained in the associated Contact field.	Contact	If Contact.Duration meets the input criterion include this record and display Contact.Duration

Report Column	Database table	Calculation
<p>If the value in the <b>Number of Times Handled</b> pull-down box is &gt; 0 then this record is included if the criteria in the calculation column are met. The value displayed in the <b>Number of Times Handled</b> column is the value contained in the associated Contact field.</p>	<p>Contact</p>	<p>If Contact.Interactions meets the input criterion include this record and display Contact.Interactions</p>
<p>If the value in the <b>Number of Times Held or Deferred</b> drop-down boxes is &gt; 0 then this record is included if the criteria in the calculation column are met. The value displayed in the <b>Number of Times Held or Deferred</b> column is the value contained in the associated MediaInteraction field.</p>	<p>Contact RoutingEvent</p>	<p>If Selected Channels includes <b>Voice</b> then              RoutingEvent.HoldCount meets the input criterion, and Contact.VDUID = RoutingEvent.Contact_Key</p> <p>If Selected Channels includes <b>Email</b> then              RoutingEvent.DeferCount meets the input criterion, and Contact.VDUID = RoutingEvent.Contact_Key</p> <p>If Selected Channels includes <b>Text Chat</b> then              RoutingEvent.Web_Defer_Count meets the input criterion, and Contact.VDUID = RoutingEvent.Contact_Key</p> <p>If the user selects more than one channel then these criteria are “OR'd” together.</p>

## OA Basic Reports

The OA database items used to determine the content of the Segment Information report elements are

:

Report element	Database table	Database item or calculation
<b>Work Item ID</b>	Contact	VDUID
<b>Start Time</b>	N/A	start time of first segment
<b>Agent</b>	RoutingEvent AgentSegment Employee  CmsCallHistory CmsAgentInfo	<p>For QRepository records:</p> <p>If there is a record in AgentSegment where AgentSegment.Segment_Key = RoutingEvent.UUID then</p> <p>Employee.FullName where Employee.Pkey = AgentSegment.Employee_Key, and AgentSegment.ParticipationRole = 0, and AgentSegment.Segment_Key = RoutingEvent.UUID</p> <p>else</p> <p>&lt;blank&gt;</p> <p>For Call History records:</p> <p>If CmsCallHistory.AnsLogin = &lt;blank&gt;</p> <p>&lt;blank&gt;</p> <p>else</p> <p>CmsAgentInfo.LogName where CmsCallHistory.AnsLogin = CmsAgentInfo.LogID and CmsCallHistory.SourceID = CmsAgentInfo.SourceID</p>

Report element	Database table	Database item or calculation
<b>Queue or Skill</b>	RoutingEvent Queue  CmsCallHistory CmsSkillInfo	For QRepository records:  Queue.QueueName where RoutingEvent.Queue_Key = Queue.PKey  For Call History records:  if CmsCallHistory.DispSplit = -1 then <blank>  else  CmsSkillInfo.SplitName where CmsCallHistory.DispSplit = CmsSkillInfo.Split and CmsCallHistory.SourceID = CmsSkillInfo.SourceID
<b>From</b>	Media Interaction  CmsCallHistory	For QRepository records:  If MediaInteraction.Type = 2 (i.e., voice) then display MediaInteraction.ANI  If MediaInteraction.Type = 0 (i.e., email) then display MediaInteraction.Sender  If MediaInteraction.Type = 1 (i.e., chat) then display MediaInteraction.UserName  For CallHistory records:  if CmsCallHistory.Calling_Pty != NULL then  display CmsCallHistory.Calling_Pty  else  display <blank>

## OA Basic Reports

Report element	Database table	Database item or calculation
<b>To</b>	Media Interaction  CmsCallHistory	For QRepository records:  If MediaInteraction.Type = 2 (i.e., voice) then display MediaInteraction.DNIS  If MediaInteraction.Type = 0 (i.e., email) then display MediaInteraction.Recipient  If MediaInteraction.Type = 1 (i.e., chat) then display <Blank>  For CallHistory records:  if CmsCallHistory.FirstVdn != NULL then display CmsCallHistory.FirstVdn else display <blank>

Report element	Database table	Database item or calculation
<b>Channel</b>	MediaInteraction	<p>For QRepository records:</p> <p>If MediaInteraction.Type = 2 (i.e., voice) then display "Voice"</p> <p>If MediaInteraction.Type = 0 (i.e., email) then display "Email"</p> <p>If MediaInteraction.Type = 1 (i.e., chat) then display "Text Chat"</p> <p>For CallHistory records:</p> <p>"Voice"</p>
<b>Duration</b>	RoutingEvent  CmsCallHistory	<p>For QRepository records:</p> <p>If MediaInteraction.Type = 2 (i.e., voice)</p> <p style="padding-left: 40px;">RoutingEvent.voicetalktime + RoutingEvent.voiceholdtime + RoutingEvent.WrapTime</p> <p>If MediaInteraction.Type = 0 (i.e., email)</p> <p style="padding-left: 40px;">RoutingEvent.emailwritetime + RoutingEvent.emailinacttime + RoutingEvent.defertime</p> <p>If MediaInteraction.Type = 1 (i.e., chat)</p> <p style="padding-left: 40px;">RoutingEvent.chattalktime + RoutingEvent.chatholdtime + RoutingEvent.WrapTime</p> <p>For Call History records:</p> <p style="padding-left: 40px;">CmsCallHistory.AcwTime + CmsCallHistory.TalkTime</p>

## OA Basic Reports

The OA database items used to determine the content of the Wrap-up Codes report elements are:

Report element	Database table	Database item or calculation
<b>Work Item ID</b>	N/A	From Work Item ID element of the Segment report.
<b>Agent</b>	N/A	From the Agent column of this segment of the Segment report.
<b>Duration</b>	N/A	From the Duration column of this segment of the Segment report.
<i>category codes</i>	Contact RoutingEvent TaskPerformed TaskPerformedCode ClassificationCode	<p>If reached from the Segment Information report:</p> <p>Display ClassificationCode.Name where TaskPerformed.RoutingEvent_Key = RoutingEvent.UIID and TaskPerformed.Pkey = TaskPerformedCode.TaskPerformed_Key and ClassificationCode.Pkey = TaskPerformedCode.Code_Key and ClassificationCode.CodeType = 1 (i.e., Category Code)</p> <p>If reached from the Work Item Detail report:</p> <p>Display ClassificationCode.Name where: RoutingEvent.Contact_Key = Contact.VDUID and TaskPerformed.RoutingEvent_Key = RoutingEvent.UIID and TaskPerformed.Pkey = TaskPerformedCode.TaskPerformed_Key and ClassificationCode.Pkey = TaskPerformedCode.Code_Key and ClassificationCode.CodeType = 1 (i.e., Category Code)</p>

Report element	Database table	Database item or calculation
<i>reason codes</i>	Contact RoutingEvent TaskPerformed TaskPerformedCode ClassificationCode	<p>If reached from the Segment Information report:</p> <p>Display ClassificationCode.Name where</p> <p>TaskPerformed.RoutingEvent_Key = RoutingEvent.UUID and                      TaskPerformed.Pkey = TaskPerformedCode.TaskPerformed_Key and ClassificationCode.Pkey = TaskPerformedCode.Code_Key and ClassificationCode.CodeType = 3 (i.e., Reason Code)</p> <p>If reached from the Work Item Detail report:</p> <p>Display ClassificationCode.Name where:</p> <p>RoutingEvent.Contact_Key = Contact.VDUID and                      TaskPerformed.RoutingEvent_Key = RoutingEvent.UUID and                      TaskPerformed.Pkey = TaskPerformedCode.TaskPerformed_Key and ClassificationCode.Pkey = TaskPerformedCode.Code_Key and ClassificationCode.CodeType = 3 (i.e., Reason Code)</p>

OA Basic Reports

Report element	Database table	Database item or calculation
<i>outcome codes</i>	Contact RoutingEvent TaskPerformed TaskPerformedCode ClassificationCode	<p>If reached from the Segment Information report:</p> <p>Display ClassificationCode.Name where</p> <p>TaskPerformed.RoutingEvent_Key = RoutingEvent.UUID and TaskPerformed.Pkey = TaskPerformedCode.TaskPerformed_Key and ClassificationCode.Pkey = TaskPerformedCode.Code_Key and ClassificationCode.CodeType = 2 (i.e., Outcome Code)</p> <p>If reached from the Work Item Detail report:</p> <p>Display ClassificationCode.Name where:</p> <p>RoutingEvent.Contact_Key = Contact.VDUID and TaskPerformed.RoutingEvent_Key = RoutingEvent.UUID and TaskPerformed.Pkey = TaskPerformedCode.TaskPerformed_Key and ClassificationCode.Pkey = TaskPerformedCode.Code_Key and ClassificationCode.CodeType = 2 (i.e., Outcome Code)</p>



## Chapter 4: OA Features

This chapter presents monitoring and troubleshooting information about core Operational Analyst features. This information will help you determine possible sources of difficulty in various portions of Operational Analyst, like historical or real-time databases, OA subsystems, and various data and user interfaces. Trace files, alarm messages and error messages are valuable tools, and this chapter helps to clarify the information they provide.

The major sections in this chapter are:

- [Processes](#)
- [Trace files](#)
- [Alarm messages](#)
- [Error messages](#)
- [Forwarders and recorders](#)
- [The CORBA interface](#)
- [TimesTen database](#)
- [Data Manager and Report Data Server](#)
- [Event Collector](#)
- [Schema migration](#)
- [Stumbras](#)

## Processes

Operational Analyst provides two tools to help you monitor its various processes: Administration Client and the `pa` utility. Master Operations Manager (MOM) is the behind-the-scenes controller of Operational Analyst processes that takes input from either the Administration Client or the `pa` utility. This section provides information about both MOM and `pa`.

**Note:**

When a reboot occurs on an Operational Analyst system and the OA processes are starting up, some processes that depend on the database may not start initially because the database itself is not up yet. Master Operations Manager attempts to restart these processes 3 times within 5 minutes, and then repeats the attempts during the next 5 minutes. All processes should start successfully during this second 5 minute period since the database should be running by then. Two processes that may be affected in this manner are **sched** (scheduler) and **admb** (Admin Manager Base Server).

## Master Operations Manager

MOM receives input from an Administration Client graphical user interface or from the command line utility `pa`. From the **Administration Client Interface Services** screen, you can elect to disable or enable the forwarder, data manager, and data server processes on an Operational Analyst real-time server, the recorder on an Operational Analyst historical server, the forwarder-recorder on a co-resident server (historical and real-time), or disable or enable a forwarder on CMS. Using the `pa` command, you can elect to enable or disable these and other Operational Analyst processes, or stop and start all Operational Analyst processes.

MOM maintains a list of all processes under MOM control. Upon stopping and re-starting the Operational Analyst service (as during a reboot), the MOM remembers which processes were disabled and does not restart those processes.

This table shows the processes controlled by the MOM and the respective servers on which they run.

Process	MOM process ID	Operational Analyst server			
		Historical	Real-time	Reporting	CMS
MOM	N/A	x	x	x	x
recorder	reccmscallhistory	x			

Process	MOM process ID	Operational Analyst server			
		Historical	Real-time	Reporting	CMS
	reccmssynonyms	x			
	reccmsagent	x			
	reccmsskill	x			
	reccmsvsn	x			
	reccmscwc	x			
	recworkitem	x			
	recdisplaynames	x			
	recagentstate	x			
	recagent	x			
	recservicestate	x			
	recserviceclass	x			
	recprocess	x			
	recivrport	x			
scheduler	schd	x			
forwarder	fwdworkitem		x		
	fwddisplaynames		x		
	fwdagentstate		x		
	fwdagent		x		
	fwdservicestate		x		
	fwdserviceclass		x		
	fwdprocess		x		
	fwdivrport		x		
	fwdcmscallhistory				x
	fwdcmssynonyms				x
	fwdcmsagent				x
	fwdcmsskill				x

Process	MOM process ID	Operational Analyst server			
		Historical	Real-time	Reporting	CMS
	fwdcmsvsn				x
	fwdcmsvcw				x
application management server	ams	x	x	x	x
security	aut	x	x	x	x
admin mgr	admb	x	x	x	x
	adm0	x	x	x	x
data manager	dm		x		
data server	dsvr		x		
report framework*				x	

\* Started and stopped via the NT Services panel.

**Note:**

The MOM process does not have a process ID as do the other processes.

## The pa utility

The **pa** utility allows the enabling, starting, and stopping of Operational Analyst processes. This interface allows a user with the proper permissions to shut down all processes at once or start all Operational Analyst processes. Commands for use of **pa** are described below. Once executed, all commands indicate whether or not they executed successfully.

### Enable

---

You may enable any Operational Analyst process using the **pa** command line utility. From the **Administration Client Interface Services** screen, you can elect to enable the recorder, forwarder, forwarder-recorder, data manager, and data server. Each request to enable a process is logged. To enable **scheduler**, type the following at a command prompt:

```
pa enable schd
```

## Disable

---

You may disable any Operational Analyst process using the `pa` command line utility. You can disable the recorder, forwarder, forwarder-recorder, data manager, and data server, from the Administration Client. Each request to disable a process is logged. To disable the first administration manager on an historical server, type the following at a command prompt:

```
pa disable adm1
```

## Start

---

You may request to start all processes. This also starts the MOM. To start all of the processes, type the following at a command prompt:

```
pa start all
```

## Stop

---

You may request to stop all processes. This also stops the MOM. Therefore, once executed, Administration Client requests to enable individual processes will fail. To stop all of the processes, type the following at a command prompt:

```
pa stop all
```

## Command line options

---

The `pa` utility allows the enabling, starting, and stopping of Operational Analyst processes. This interface allows a user with the proper permissions to shut down all processes at once or start all Operational Analyst processes. Commands for use of `pa` are described below. Once executed, all commands indicate whether or not they executed successfully.

### Note:

The process IDs are the MOM process IDs listed in the table in [Master Operations Manager](#) on page 106. They are not the operating system process ids.

`pa start all`

Start the MOM and all the processes.

`pa stop all`

Stop the MOM and all the processes.

`pa enable processId`

Enable a process.

`pa disable processId`

Disable a process.

`pa active processId`

Find out if a process is currently running.

`pa state processId`

Display whether the process is enabled or disabled.

`pa cat`

Display the MOM list of processes and their characteristics as contained in the `momtab` file. This file should not normally be edited. If it is edited, the only field that should be changed is the `-v 10` field.

`pa list`

Display the list of processes activated by the MOM and their current state.

## Other Operational Analyst processes

In addition to the processes described in the previous sections, Operational Analyst is dependent upon other process that are not under the control of MOM.

### ORBacus Naming Service

---

The ORBacus Naming Service must be running on all servers. To verify the service is running:

- On Windows NT: **Settings > Control Panel > Services.**
- On Windows 2000: **Settings > Control Panel > Administrative Tools > Services.**

Look for **ORBacus Naming Service** and verify that it has a status of **Started**. If not, start it from this **Services** window.

- On Solaris: From the command line enter `ps -ef | grep namesrv`.

If the service is running, a line containing the service name **namesrv**, UID, GID and other information about the service is displayed. If the service is not running a line containing only **grep namesrv** is displayed.

If the service is not running, as *root*, or with *root* privileges, edit **/etc/inittab** to see if **namesrv** is set to **respawn**.

- If **namesrv** is not currently set to **respawn**:

1. Set **namesrv** to **respawn**
2. Write the file
3. Execute **init q**.

- If **namesrv** is currently set to **respawn**:

1. Set **namesrv** to **off**.
2. Write the file.
3. Execute **init q**.
4. Set **namesrv** to **respawn**.
5. Write the file.
6. Execute **init q** again.

## TimesTen Database Services

---

Services associated with the TimesTen database must be running on the real-time server. See [Starting or stopping TimesTen](#) on page 146 for information on starting TimesTen services.

## Report Framework Service

---

The Report Framework Service must be running on the report server. Additionally, services associated with the Webserver must be running on the report server. Refer to the Webserver documentation for details on Webserver services.

To verify the Report Framework Service is running:

- On Windows NT: **Settings > Control Panel > Services**.
- On Windows 2000: **Settings > Control Panel > Administrative Tools > Services**.

Look for **Stumbras-Tomcat** and verify that it has a status of **Started**. If not, start it from this **Services** window.

- On Solaris: From the command line enter `ps -ef | grep stumbras`.

## OA Features

If the service is running, a line containing the service name **strumbras**, UID, GID and other information about the service is displayed. If the service is not running a line containing only **grep strumbras** is displayed.

If the service is not running, as *root*, or with *root* privileges, edit **/etc/inittab** to see if **strumbras** is set to **respawn**.

- If **strumbras** is not currently set to **respawn**:
  1. Set **strumbras** to **respawn**
  2. Write the file
  3. Execute **init q**.
- If **strumbras** is currently set to **respawn**:
  1. Set **strumbras** to **off**.
  2. Write the file.
  3. Execute **init q**.
  4. Set **strumbras** to **respawn**.
  5. Write the file.
  6. Execute **init q** again.

## Database services

---

Services associated with the historical database must be running on the server containing the database. Please refer to the database documentation for details about its particular service requirements.

---

## Trace files

Trace allows you to isolate and diagnose problems within a process as well as problems between communicating processes.

**Note:**

Trace files are not intended for customer use, but rather for Avaya Customer Support representatives, system verification engineers, or development engineers who are engaged in troubleshooting Operational Analyst problems.

This section provides information about using trace files.

## Loginfile

The **loginfile** file contains the trace log parameters used by the Logger to determine the name, location, size, and number of rollover files associated with each component. There is one **loginfile** file:

```
%PABASE%\data\admin\loginfile
```

It specifies information for Operational Analyst server and the Operational Analyst Administration Client.

Following is an example of some entries in this file:

```
dbchecktrc data/log/dbcheck/dbchecktrc 150000 10  
reccmsagent data/log/recorder/cmsagentTrc 500000 3
```

The first two items of each entry should not be changed (forward slashes are required). The third item specifies the maximum size of the trace file in bytes and can be modified to a value of 100,000 to 10,000,000. The fourth item specifies the maximum number of rollover files and can be modified to a value of 3 to 99. If you need larger or more log files, you can modify these two items. However, if you increase these values, be sure to verify that there is enough disk space on the machine before making the changes.

## Locating trace files

Most of the trace files are located in the directories in the **%PABASE%\data\log** directory. To locate a particular server trace file, edit the **loginfile** file described above and find the path and filename (the second item in the entry) associated with the process of interest.

## Trace levels

Trace files contain trace information that results from the trace level you set. There are three levels of tracing available: Event level (10), Interface level (20), and Debug level (30). The Event level tracing provides the least amount of information, Interface level provides more detailed trace information, and the Debug level provides the most detailed trace information.

Trace levels above Event level (10) produce a large volume of data and should be used sparingly, especially the Debug level (30). The large amount of data logged can affect the overall performance and throughput of Operational Analyst.

**Note:**

If anti-virus software is running on a system where a high level of tracing is enabled, performance may be further impacted. This is especially noticed when the trace levels are increased for Data Manager and Aggregation. While troubleshooting at this level, be sure to configure the anti-virus software so that it does not scan the trace files. If the system performance is still impaired, you may consider turning off the anti-virus software while capturing the trace information needed.

Trace levels can be changed dynamically or statically. Dynamic changes apply only to the currently running processes. If the trace level must be maintained on an on-going basis even after stopping and restarting a process, the trace level must be changed statically.

## Dynamic trace level changes

---

The Application Management Framework provides the capability to dynamically change the tracing level for all of the OA CORBA servers. With this functionality, you do not need to stop processes to change the tracing level. Keep in mind that the level that you set is only valid as long as the current instance of the process is running. It will be reset to the values in MOM if the process restarts.

The command-line tool syntax is:

```
amui [host hostname] process processname tlevel level
```

where

- *hostname* is the IP or DNS name of the host where the CORBA process is running, localhost is used if not specified.
- *processname* is the name of the CORBA process.
- *level* is a valid trace level of 0,10,20, or 30.

**Note:**

For Solaris the command is `amui.sh`.

For example:

```
amui host oalab process recagentstate tlevel 30
```

sets the trace level of the **recagentstate** process to the highest debug level.

## Static trace level changes

---

If it becomes necessary to permanently change the tracing level for a process, edit the **%PABASE%\data\admin\mom\etc\momtab** file. This file contains entries for each of the processes that MOM controls. The line associated with the process of interest must be modified, then the process must be stopped and restarted for the change to take effect.

For example, consider this excerpt from a **%PABASE%\data\admin\mom\etc\momtab** file:

```
admb:234:respawn:java com.avaya.cc.cvx.adminmgr.AdminMgrSrv.AdminMgrSrvBaseServer
-v 10
adm0:234:respawn:java com.avaya.cc.cvx.adminmgr.AdminMgrSrv.AdminMgrSrvServer -i 0
-v 10
ams:1234:respawn:java com.avaya.cc.cvx.appmanserver.AppManServer -v 0
```

To permanently increase the trace level for the **admb** process to the highest debug level, change **-v 10** to **-v 30**. Then stop and restart the **admb** process via the **pa** command. (See [The pa utility](#) on page 108 for more information.)

### Note:

Do not modify any other values in the **momtab** file.

## Administration Client trace levels

---

See [AdminPol.html](#) on page 24 for details on setting Administration Client trace levels.

## List managed processes

To list the managed CORBA processes, use the following command:

```
amui [host hostname] list
```

This displays the list of managed processes running on *hostname*, or **localhost** if *hostname* is not specified. These process names can be used to change the tracing level.

**Note:**

For Solaris the command is `amui.sh`.

---

## View load level on host

To view the CPU load level on a host, use the following command:

```
amui [host hostname] load
```

With this command, you can display the load level of the CPU on *hostname*, or on **localhost** if *hostname* is not specified.

**Note:**

For Solaris the command is `amui.sh`.

---

## Alarm messages

When an alarm occurs, Operational Analyst forwards an alarm message to the IC Alarm Server, which is part of the IC Manager. The IC Alarm Server may be on a Windows system or a Solaris system. IC alarms are viewed using the IC Alarm Monitor. This viewer resides on a client machine and is therefore supported only on Windows systems. The IC Alarm Viewer provides a GUI interface to view and clear alarms. It can view the alarms of multiple Alarm Servers.

An OA alarm is cleared through software by raising an informational alarm. Cleared alarms should clearly state that the specific condition no longer exists.

In addition to being forwarded to an IC Alarm Server, OA alarms are also logged into the local OA central error log (the Windows **Event Log** or the Solaris **CentralErrorLog.log** file), as well as into trace files if tracing is activated.

**Note:**

In a CMS-only configuration, alarms are logged only in the **CentralErrorLog.log** file and trace files (if tracing is activated) because there is no associated IC system to receive the alarm messages.

To view alarms:

On the IC system, from IC Manager select **Tools > Alarm Monitor**.

## Alarm properties

The alarm properties, stored in the `%PABASE%\data\admin\server.properties` file, specify the host type and location of the alarm server to receive the alarms. This file is configured during installation, and under normal conditions does not require editing. However, if error messages are logged indicating that alarm messages cannot be forwarded because of incorrect properties values, edit the file and assure these two entries are as follows:

```
AlarmHostType=IC
```

```
AlarmServer=<alarmserver location>
```

where `alarmserver location` is the fully qualified IP address of the alarm server that is to receive the alarms. (For example: **myAlarmServerName.dr.avaya.com**.)

## Alarm tables

Alarms originate from several Operational Analyst sources. The following tables present the alarms from each of the sources. To aid your understanding of the information presented in the tables, review these tips:

- The *Alarm message* column of the tables shows the message as it appears in the IC Alarm Monitor and the error log.
- In some cases in the tables an alarm message has an ellipsis (...) at the end of the text. This indicates that the actual alarm message will present more information based on where in the product the alarm is generated.
- Some alarm message entries contain a list of strings within square brackets, like [ **a1** | **a2** | **a3** ]. This indicates that one of the values in the list appears in the actual alarm message.
- Many entries specify file path names. While MS Windows notation **%PABASE%** and \ is used in the paths specified in the entries, you can replace them with **\$PABASE** and / respectively for Solaris.
- In entries where lengthy path names must be broken, they are broken at a directory boundary. Always consider path names to be unbroken.

## Administration Manager alarm messages

Alarm message	Description	Resolution
Exception when resolving Admin Manager reserve server. Check MOMTAB to be sure it is being launched...	Unable to resolve administration manager reserve server with the naming service.	Check the <b>%PABASE%\data\admin\mom\etc\momtab</b> file to be sure the <b>adm0</b> and <b>admb</b> entries are set to <b>respawn</b> , not <b>off</b> . Verify the ORBacus Naming Service is running. If the service is not running, see <a href="#">ORBacus Naming Service</a> on page 110 for information about starting the service.
Exception when narrowing Admin Manager reserve server. Check MOMTAB to be sure it is being launched...	Unable to narrow the object reference.	Check the <b>%PABASE%\data\admin\mom\etc\momtab</b> file to be sure the <b>adm0</b> and <b>admb</b> entries are set to <b>respawn</b> , not <b>off</b> . Stop and restart <b>adm0</b> using these commands: <code>pa disable adm0</code> and <code>pa enable adm0</code> .
Exception when starting [adm1  adm2  adm3  adm4   adm5] process...	Unable to connect to an administration manager server on the historical server.	Verify the ORBacus Naming Service is running. If the service is not running, see <a href="#">ORBacus Naming Service</a> on page 110 for information about starting the service. Check for networking problems.
Server [adm1  adm2  adm3  adm4   adm5] failed to register with base server - exiting	The administration manager base server has died.	Execute the <code>pa list</code> command to see if <b>admb</b> is running. If not, restart it using <code>pa enable admb</code> .
Exception when resolving [adm1  adm2  adm3  adm4   adm5]...	Unable to resolve one of [adm1  adm2  adm3  adm4   adm5] with the naming service. This could be because the administration manager server is not running.	Reconnect from the Administration Client.
Exception when narrowing [adm1  adm2  adm3  adm4  adm5]...	Unable to narrow the object reference.	Stop and restart <b>adm0</b> using <code>pa disable adm0</code> and <code>pa enable adm0</code> .

Alarm message	Description	Resolution
Exception when setting up monitoring of [adm0   adm1   adm2   adm3   adm4   adm5]...	Server did not start properly, or quit.	For <b>adm0</b> , stop and restart using <code>pa disable adm0</code> and <code>pa enable adm0</code> . For others, if Administration Client is available, then attempt to reconnect to the server by selecting <b>File &gt; Reconnect</b> , or restart the Administration Client.
AdminMgrSrvBaseServer unable to get lock. Check the momtab file to be sure that only one AdminMgrSrvBaseServer is being launched.	Unable to get lock.	<p>Check the <b>%PABASE%\data\admin\mom\etc\momtab</b> file to be sure there is only one AdminMgrSrvBaseServer set to <b>respawn</b>.</p> <p>If logging in to the Administration Client with the OA User ID configured during installation, check permissions of the <b>%PABASE%\data\runtime\lock</b> directory and verify this ID has permission to write to this directory.</p> <p>If logging in to the Administration Client with a different User ID, verify this User ID is a member of the OA Group ID configured during installation. Then check permissions of the <b>%PABASE%\data\runtime\lock</b> directory and verify this group has permission to write to this directory.</p>
Alarm message containing error number 4202.	Unable to initialize the naming service.	Verify the ORBacus Naming Service is running. If the service is not running, see <a href="#">ORBacus Naming Service</a> on page 110 for information about starting the service.
Exception raised during ORB initialization:...	Unable to initialize the ORBacus ORB; may be using incorrect ORB.	<p>Verify in the <b>%PABASE%\AdminPol.html</b> (or <b>%PABASE%\AdminSig.html</b>) file that for the entry <b>PARAM NAME="java_archive"</b>, <b>jars/OB.jar</b> and <b>jars/OBNaming.jar</b> are included in the <b>VALUE</b> specified.</p> <p>Verify that the <b>OB.jar</b> and <b>OBNaming.jar</b> files exist in <b>%PABASE%/jars</b> directory.</p>

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Alarm message	Description	Resolution
Exception raised during creation of mySrv:...	Problem with CORBA.	Check system resources: disk space, memory, etc. Contact Avaya customer support.
Could not publish object reference:...	Unable to publish an object reference with the naming service.	Verify the ORBacus Naming Service is running. If the service is not running, see <a href="#">ORBacus Naming Service</a> on page 110 for information about starting the service. Stop and restart the Administration Manager Base Server using <code>pa disable admb</code> and <code>pa enable admb</code> .
AdminMgrSrvBaseServer could not initialize as monitoree:...	Monitor cannot publish interface with the naming service.	Verify the ORBacus Naming Service is running. If the service is not running, see <a href="#">ORBacus Naming Service</a> on page 110 for information about starting the service. Stop and restart the Administration Manager Base Server using <code>pa disable admb</code> and <code>pa enable admb</code> .
Exception raised during impl_is_ready:...	Unable to start CORBA event loop.	Check the <b>CLASSPATH</b> environment variable to be sure that <b>server.jar</b> appears in the <b>CLASSPATH</b> before any JRE entries, or before any other ORB entries.

Alarm message	Description	Resolution
AdminMgrSrvServer [0   1   2   3   4   5] : failed to get lock for AdminMgrSrvServer [0   1   2   3   4   5]...	Unable to launch an Administration Client.	<p>Execute the <code>pa list</code> command to see if <b>admb</b> is running. If not, start it using <code>pa enable admb</code>.</p> <p>Possible race condition; wait 30 seconds and try again.</p> <p>If logging in to the Administration Client with the OA User ID configured during installation, check permissions of the <b>%PABASE%\data\runtime\lock</b> directory and verify this ID has permission to write to this directory.</p> <p>If logging in to the Administration Client with a different User ID, verify this User ID is a member of the OA Group ID configured during installation. Then check permissions of the <b>%PABASE%\data\runtime\lock</b> directory and verify this group has permission to write to this directory.</p>
Alarm message containing error number 4701.	Monitor cannot publish interface with the naming service.	<p>Verify the ORBacus Naming Service is running. If the service is not running, see <a href="#">ORBacus Naming Service</a> on page 110 for information about starting the service.</p> <p>Stop and restart this server.</p>
Exception raised during Monitoree initialization for...	Monitor cannot publish interface with the naming service.	<p>Verify the ORBacus Naming Service is running. If the service is not running, see <a href="#">ORBacus Naming Service</a> on page 110 for information about starting the service.</p> <p>Stop and restart this server.</p>
System exception starting thread...	<p>Unable to start thread to monitor activity of reserve server (<b>adm0</b>) and Administration Client servers.</p> <p>Possibly out of threads.</p>	<p>Check system resources like: threads being used, and memory.</p> <p>Contact Avaya customer support.</p>
NotInitializedException raised during creation of mySrv...	Problem with CORBA.	<p>Check system resources like: disk space and memory.</p> <p>Contact Avaya customer support.</p>

Alarm message	Description	Resolution
Cannot resolve reference to base server:...	Unable to resolve administration manager base server with the naming service.	<p>Check the <b>%PABASE%\data\admin\mom\etc\momtab</b> file to be sure the <b>admb</b> entry is set to <b>respawn</b>, not <b>off</b>.</p> <p>Verify the ORBacus Naming Service is running. If the service is not running, see <a href="#">ORBacus Naming Service</a> on page 110 for information about starting the service.</p>
Cannot narrow reference to base server:...	Unable to narrow the object reference.	<p>Check the <b>%PABASE%\data\admin\mom\etc\momtab</b> file to be sure the <b>admb</b> entry is set to <b>respawn</b>, not <b>off</b>.</p> <p>Stop and restart <b>admb</b> using <code>pa disable admb</code> and <code>pa enable admb</code>.</p>
AdminMgrSrvServer can't monitor base server...	Server did not start properly, or quit.	<p>Stop and restart <b>admb</b> using <code>pa disable admb</code> and <code>pa enable admb</code>.</p>
Exception raised during creation of myImpl...	Unable to start CORBA event loop.	<p>Check the <b>CLASSPATH</b> environment variable to be sure that <b>server.jar</b> appears in the <b>CLASSPATH</b> before any JRE entries, or before any other ORB entries.</p>

## Scheduler alarm messages

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Alarm message	Description	Resolution
ExecutionManager:: ExecutionManager: Process failed to start schedule entry name: <i>SomeName</i> process type: <i>SomeProcessType</i>	System scheduled process failed to start.	Check the Windows Event Log or Solaris <b>\$PABASE/data/log /CentralError/CentralErrorLog.log</b> file for other error messages that may indicate the problem.  Operational Analyst will try to start the process at the next scheduled time. If it continues to fail then check the trace files associated with the process.  Contact Avaya customer support.

## DBService alarm messages

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Alarm message	Description	Resolution
DBService:initialize: RT_359: Unable to connect to TimesTen DB.	Cannot connect to the TimesTen database.	Verify the TimesTen services are running: TimesTen Data Manager and TimesTen Server. Start them if they are not running. See <a href="#">Starting or stopping TimesTen</a> on page 146 for information on starting TimesTen services.  If TimesTen is running, run <b>ttisql</b> and attempt to connect to the database. If this is successful then Contact Avaya customer support.

## Data Manager alarm messages

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Alarm message	Description	Resolution
RT_113: Failed to initialize ORB	Unable to initialize the ORBacus ORB. May be using an incorrect ORB.	Check the <b>CLASSPATH</b> environment variable to be sure that <b>server.jar</b> appears in the <b>CLASSPATH</b> before any JRE entries, or before any other ORB entries.
RT_115: Failed to initialize name service	Unable to initialize the naming service	Verify the ORBacus Naming Service is running. If the service is not running, see <a href="#">ORBacus Naming Service</a> on page 110 for information about starting the service.
DataManager:DataManager()RT_104: Failed to get properties.	Unable to get properties values.	Verify the administration manager is running.
DataManager:DataManager()RT_135: Failed to get Default properties.	Unable to get properties values.	Verify the administration manager is running.
RT_108: ORB not initialized exception.	Unable to initialize connection monitoring.	Verify the ORBacus Naming Service is running. If the service is not running, see <a href="#">ORBacus Naming Service</a> on page 110 for information about starting the service. Stop and restart data manager.
RT_109: Error while initializing connection monitor.	Unable to initialize connection monitoring.	Verify the ORBacus Naming Service is running. If the service is not running, see <a href="#">ORBacus Naming Service</a> on page 110 for information about starting the service. Stop and restart data manager.

Alarm message	Description	Resolution
RT_203: System initialization failed - Exiting	A process upon which the data manager depends failed to start, such as EventProcessor, or EventManager.	Check the Windows Event Log or Solaris <b>\$PABASE/data/log/CentralError/CentralErrorLog.log</b> file for other error messages that may indicate the problem and other details. Check the <b>%PABASE%\data\log\datamanager\dmTrc.log</b> file for other trace messages. May need to increase the trace level for the <i>dm</i> process, restart the data manager, and look at the log file again.
RT_208 Failed to register gateway with name service	Unable to register the gateway with the ORBacus Naming Service.	Verify the ORBacus Naming Service is running. If the service is not running, see <a href="#">ORBacus Naming Service</a> on page 110 for information about starting the service. Contact Avaya customer support.
DataManager:registerWithAMF() RT_139: Error creating ApplicationManager instance	Unable to create application manager instance.	Check system resources like disk space and memory. Contact Avaya customer support.
DataManager:registerWithAMF() RT_140: Error creating ResourceManager instance...	Unable to create resource manager instance.	Check system resources like disk space and memory. Contact Avaya customer support.
RT_200: Cannot write to event buffer files	I/O Error trying to write to file <b>%PABASE%\add_on\data\dm\EventBufferX.txt</b>	Check available disk space. Check the permissions of <b>%PABASE%\add_on\data\dm</b> directory and <b>EventBufferX.txt</b> file and verify that the OA Administration User configured during installation has permission to write to this directory and file. Verify the file is not currently in use (e.g. being edited).
RT_228: PABASE not set, cannot open event buffer files	<b>PABASE</b> environment variable is not set.	<b>PABASE</b> needs to be set to the base directory of the Operational Analyst installation.

## OA Features

Alarm message	Description	Resolution
IntervalExportDone:processEvent():Exception requesting Application Management Server to release database from Extreme load level	Unable to release database resource from extreme CPU load level. Possibly a CORBA error.	If AMS is not running then this is ok. Run <b>pa list</b> command to see if the <b>ams</b> process is running. If AMS is running, then this condition should self-correct after a time-out period and the resource will be released.
BulkDeliverer:notifyAboutActiveFiles():RT_111: CORBA call timed out for table <i>SomeTableName</i>	CORBA connection between data manager and forwarder went down.	Generally self-correcting. The alarm is cleared after the next successful CORBA call.
BulkDeliverer:notifyAboutActiveFiles():RT_118: CORBA Communication Failure for table <i>SomeTableName</i>	CORBA connection between data manager and forwarder went down.	Generally self-correcting. The alarm is cleared after the next successful CORBA call.
BulkDeliverer:notifyAboutActiveFiles():RT_137: Forwarder failed to take the data. for table <i>SomeTableName</i>	CORBA connection between data manager and forwarder went down.	Generally self-correcting. The alarm is cleared after the next successful CORBA call.
SynonymExporter:publishData()::RT_111: CORBA call timed out for table <i>SomeTableName</i>	CORBA connection between data manager and forwarder went down.	Generally self-correcting. The alarm is cleared after the next successful CORBA call.
SynonymExporter:publishData()::RT_118: CORBA Communication Failure for table <i>SomeTableName</i>	CORBA connection between data manager and forwarder went down.	Generally self-correcting. The alarm is cleared after the next successful CORBA call.
SynonymExporter:publishData()::RT_137: Forwarder failed to take the data. for table <i>SomeTableName</i>	CORBA connection between data manager and forwarder went down.	Generally self-correcting. The alarm is cleared after the next successful CORBA call.
SynonymExporter:unloadDataAndNotify()::RT_111: CORBA call timed out for table <i>SomeTableName</i>	CORBA connection between data manager and forwarder went down.	Generally self-correcting. The alarm is cleared after the next successful CORBA call.
SynonymExporter:unloadDataAndNotify()::RT_118: CORBA Communication Failure for table <i>SomeTableName</i>	CORBA connection between data manager and forwarder went down.	Generally self-correcting. The alarm is cleared after the next successful CORBA call.

Alarm message	Description	Resolution
SynonymExporter:unloadDataAndNotify()::RT_137: Forwarder failed to take the data. for table <i>SomeTableName</i>	CORBA connection between data manager and forwarder went down.	Generally self-correcting. The alarm is cleared after the next successful CORBA call.
WorkitemDataSet:attemptDataDelivery()::RT_111: CORBA call timed out for table <i>SomeTableName</i>	CORBA connection between data manager and forwarder went down.	Generally self-correcting. The alarm is cleared after the next successful CORBA call.
WorkitemDataSet:attemptDataDelivery()::RT_118: CORBA Communication Failure for table <i>SomeTableName</i>	CORBA connection between data manager and forwarder went down.	Generally self-correcting. The alarm is cleared after the next successful CORBA call.
WorkitemDataSet:attemptDataDelivery()::RT_137: Forwarder failed to take the data. for table <i>SomeTableName</i>	CORBA connection between data manager and forwarder went down.	Generally self-correcting. The alarm is cleared after the next successful CORBA call.
WorkitemDataSet:notifyAboutActiveFile()::RT_111: CORBA call timed out for table <i>SomeTableName</i>	CORBA connection between data manager and forwarder went down.	Generally self-correcting. The alarm is cleared after the next successful CORBA call.
WorkitemDataSet:notifyAboutActiveFile()::RT_118: CORBA Communication Failure for table <i>SomeTableName</i>	CORBA connection between data manager and forwarder went down.	Generally self-correcting. The alarm is cleared after the next successful CORBA call.
WorkitemDataSet:notifyAboutActiveFile()::RT_137: Forwarder failed to take the data. for table <i>SomeTableName</i>	CORBA connection between data manager and forwarder went down.	Generally self-correcting. The alarm is cleared after the next successful CORBA call.

## Data Server alarm messages

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Alarm message	Description	Resolution
DataServerMain: RT_104: Failed to get properties.	Unable to get properties values.	Check that the administration manager is running.
DataServerMain: RT_135: Failed to get Default properties.	Unable to get properties values.	Check that the administration manager is running.
DataServerMain:Main() RT_203: System initialization failed - Exiting	A process upon which the data server depends failed to start.	Check the Windows event log or Solaris <b>\$PABASE /data/log/CentralError /CentralErrorLog.log</b> file for other error messages that may indicate the problem and other details. <b>Check the %PABASE% \data\log\dataserver\dsTrc.log</b> file for other trace messages. May need to increase the trace level for the <b>ds</b> process, restart the data server, and look at the log file again.
DataServerMain:Main() RT_314: The following required tables are missing from data base:...	Tables are missing from the TimesTen database.	Stop and restart data manager. May need to use <b>ttisql</b> to drop <b>u.wkheader</b> table and then restart data manager.
DataServerMain:initializeCorba(): RT_114 :Failed to initialize BOA	Unable to initialize the ORBacus ORB.	Check system resources like disk space and memory. Contact Avaya customer support.
DataServerMain:initializeCorba(): RT_328: Failed to register RDS.	Unable to register the report data server with the naming service.	Verify the ORBacus Naming Service is running. If the service is not running, see <a href="#">ORBacus Naming Service</a> on page 110 for information about starting the service.

Alarm message	Description	Resolution
DataServerMain:initializeCorba(): RT_330: Error in getting system state.		Verify the ORBacus Naming Service is running. If the service is not running, see <a href="#">ORBacus Naming Service</a> on page 110 for information about starting the service.
DataServerMain:registerSubComponents() RT_332: Exception: Unsupported version.	Incompatible IDLs.	Possibly bad installation. Contact Avaya customer support.
DataServerMain:registerSubComponents() RT_333: Failed to resolve gateway narrow.	Incompatible IDLs.	Possibly bad installation. Contact Avaya customer support.
DataServerMain:registerWithAMF(): RT_139: Error creating ApplicationManager instance...	Unable to create Application Manager instance.	Check system resources: disk space, memory, etc. Contact Avaya customer support.
DataServerMain:registerWithAMF(): RT_140: Error creating ResourceManager instance...	Unable to create resource manager instance.	Check system resources like disk space and memory. Contact Avaya customer support.
DSRestartnum:restartNum: RT_381: Could not get strings from properties file to build restart num file name	Unable to get values from properties file.	Verify the administration manager is running.
DataSetManager:Constructor: RT_374: File Error...	File path does not exist.	Verify <b>%PABASE%\add_on\data\dsvr</b> directory exists and that the OA Administration User configured during installation has permission to write to this directory. If the <b>dsvr_restartnum.dat</b> file exists in that directory, be sure that the OA Administration User configured during installation has permission to write to this file.

## Forwarder alarm messages

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Alarm message	Description	Resolution
CMSAcid X has 15 minute intervals	CMS interval size is invalid for OA.	Unadminister that ACD source on OA using the Administration Client <b>Interface Services</b> page. Change the interval value on CMS to 30 following instructions in the CMS documentation. This involves data migration, etc.
<i>SomeId</i> :CMSCollector terminated abnormally...	An unhandled exception was thrown.	Restart the forwarder. If the alarms persists, contact Avaya customer support.
<i>SomeId</i> :ECHCollector terminated abnormally...	An unhandled exception was thrown.	Restart the forwarder. If the alarms persists, contact Avaya customer support.
<i>SomeId</i> :HDSCollector terminated abnormally...	An unhandled exception was thrown.	Restart the forwarder. If the alarms persists, contact Avaya customer support.
<i>SomeId</i> :Buffer terminated abnormally...	An unhandled exception was thrown.	Restart the forwarder. If the alarms persists, contact Avaya customer support.
<i>SomeId</i> :Exporter terminated abnormally...	An unhandled exception was thrown.	Restart the forwarder. If the alarms persists, contact Avaya customer support.
<i>SomeTableName</i> : CMSReader: <i>specific error message</i>	There is a database problem causing <i>SomeTableName</i> to be unreachable for reading.	<i>Specific error message</i> should indicate more detail of the problem. Verify database services are running. Check that <i>SomeTableName</i> exists in the database. Check for networking problems. Check disk space.

Alarm message	Description	Resolution
unable to open <i>SomeFileName: specific error message</i>	Unable to open file.	<i>Specific error message</i> should indicate more detail of the problem. Check permissions of <i>SomeFileName</i> and verify that the OA Administration User configured during installation has permission to write to this file. Remove the file if it exists and its permissions are correct, and restart the forwarder.
unable to read <i>SomeFileName: specific error message</i>	Unable to open file.	<i>Specific error message</i> should indicate more detail of the problem. Check permissions of <i>SomeFileName</i> and verify that the OA Administration User configured during installation has permission to write to this file. Remove the file if it exists and its permissions are correct, and restart the forwarder.
unable to read <i>SomeFileName: infinite loop</i>	Possibly corrupt file.	Data has been lost, but the condition is self-correcting.
<i>SomeTableName: buffer full; purging oldest data</i>	Buffer became full. Data is lost.	Increase the size of the buffer using the Administration Client <b>Interface Services</b> page. This may improve future buffer performance during system outages.
unable to write <i>SomeFileName: specific error message</i>	Unable to write file. Data is lost.	<i>Specific error message</i> should indicate more detail of the problem. Check disk space and free up space if possible.

## Forwarder or recorder alarm messages

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Alarm message	Description	Resolution
<i>SomeId</i> :Clock terminated abnormally...	An unhandled exception was thrown.	Restart the forwarder or recorder. If the alarm persists, contact Avaya customer support.
<i>SomeTableName</i> : CRTable: <i>specific error message</i>	There is a database problem causing <i>SomeTableName</i> to be unreachable for writing.	<p><i>Specific error message</i> should indicate more detail of the problem.</p> <p>Verify database services are running.</p> <p>Check that <i>SomeTableName</i> exists in the table.</p> <p>Check for networking problems.</p> <p>Check disk space.</p>

## Event Collector alarm messages

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Alarm message	Description	Resolution
EC.ICServerFailure: Unexpected IC server failure	The IC CORBA infrastructure notified Event Colector (EC) that one of the required IC Servers failed (e.g., ADU Server, Directory Server).	In normal operating conditions the condition will be transient and EC will recover without any external intervention. If the problem persists, verify: <ul style="list-style-type: none"> <li>● The network is operating normally.</li> <li>● All required servers are operational (no machines crashed).</li> <li>● EC server and required IC servers (e.g., ADU Server, Directory Server) are properly configured.</li> </ul> If the problem persists, contact Avaya customer support.
EC.QueueSizeLimit: ECQueue: <i>queueName</i> has encountered a queue limit exception	The named queue has exceeded its configured maximum size limit due to a performance bottleneck.	Verify: <ul style="list-style-type: none"> <li>● Network throughput to data manager is adequate</li> <li>● Data manager is operating normally and has adequate server resources (e.g., memory, CPU)</li> <li>● The EC process is getting adequate server resources (e.g., memory, CPU).</li> </ul> If the problem persists, contact Avaya customer support.

## OA Features

Alarm message	Description	Resolution
EC.QueueHighWater: ECQueue: <i>queueName</i> has reached the high water mark.	The named queue's size has exceeded the configured warning threshold.	Verify: <ul style="list-style-type: none"> <li>• Network throughput to data manager is adequate.</li> <li>• Data manager is operating normally and has adequate server resources (e.g., memory, CPU).</li> <li>• EC process is getting adequate server resources (e.g., memory, CPU).</li> </ul> If the problem persists, contact Avaya customer support.
EC.ICMapperControllerFailed: An unexpected failure occurred in the EC process.	EC will be automatically shutdown and restarted. Additional details regarding the failure will be included in the error message.	Contact Avaya customer support.
EC.ICMapperControllerFailed: Memory allocation failure, requesting EC shutdown	EC ran out of memory during normal execution or the heap is corrupted.	The server hosting EC may not have been configured with sufficient memory. Verify the host server has sufficient RAM. If the problem persists, contact Avaya customer support.
EC.ICServerSuccessfulAssign: EC successfully assigned to an IC server.	This is normal and expected during startup.	No action required.
EC.ICProxyInitFailure: Failed to initialize ADU local proxy.	Internal failure.	Contact Avaya customer support.
EC.ICProxyInitFailure: Assign to local ADU server failed. Verify ADU server is configured correctly.	EC was unable to connect to the local ADU Server	Using IC Manager, verify that the local ADU server is properly administered and is running.
EC.ICProxyInitFailure: Failed to initialize DS proxy	Internal failure.	Contact Avaya customer support.
EC.AssignFailure: Assign to DS server failed. Verify DS server is configured correctly	EC was unable to connect to the IC Directory Server.	Using IC Manager, verify the IC Directory Server is properly administered and is running.

Alarm message	Description	Resolution
EC.LostDataManager Connection: Connection to DataManager was lost.	The EC connection to its associated data manager process failed.	<p>Under normal conditions EC will recover the connection to the data manager.</p> <p>If the problem persists for more than a couple of minutes, verify:</p> <ul style="list-style-type: none"> <li>● The associated data manager is executing and is reachable (ping the datamanager host machine)</li> <li>● The <b>ORBacus Naming Service</b> is operational.</li> <li>● If the problem persists, contact Avaya customer support.</li> </ul>
EC.EstablishedDataManager Connection: Connection to DataManager has been established.	EC has successfully established connectivity to its associated data manager	No action required.
EC.ConnectionMonitoring: Failed to initialize the monitree interface.	Internal EC Error	<p>Verify the local <b>ORBacus Naming Service</b> is operating normally.</p> <p>If the problem persists, contact Avaya customer support.</p>
EC.ORBacusInitialize: Failed to initialize ORB server.	EC failed to initialize its CORBA infrastructure.	<p>The most likely cause of this problem is an improper installation of EC. Reinstall EC per the <i>OA Installation and Maintenance Guide</i> and restart.</p> <p>If the problem persists, contact Avaya customer support.</p>
EC.ConnectionMonitoring: ConnectionMonitor AlreadyInitializedException.	EC failed to initialize its CORBA infrastructure.	<p>The most likely cause of this problem is an improper installation of EC. Reinstall EC per the <i>OA Installation and Maintenance Guide</i> and restart.</p> <p>If the problem persists, contact Avaya customer support.</p>
EC.ConnectionMonitoring: ConnectionMonitor CORBA::SystemException.	EC failed to initialize its CORBA infrastructure.	<p>The most likely cause of this problem is an improper installation of EC. Reinstall EC per the <i>OA Installation and Maintenance Guide</i> and restart.</p> <p>If the problem persists, contact Avaya customer support.</p>

## OA Features

Alarm message	Description	Resolution
EC.ConnectionMonitoring: ConnectionMonitor InitializeException.	EC failed to initialize its CORBA infrastructure.	The most likely cause of this problem is an improper installation of EC. Reinstall EC per the <i>OA Installation and Maintenance Guide</i> and restart. If the problem persists, contact Avaya customer support.
EC.ORBacusInitialize: Couldn't start the CORBA event loop.	EC failed to initialize its CORBA infrastructure.	The most likely cause of this problem is an improper installation of EC. Reinstall EC per the <i>OA Installation and Maintenance Guide</i> and restart. If the problem persists, contact Avaya customer support.

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## Error messages

Operational Analyst utilizes a central error logging concept for tracking warning and error conditions that occur. When a warning or error occurs, Operational Analyst records a message in a log file on the local machine. Event, audit and alarm messages are also recorded into this log file.

## Windows message log

On Windows NT and Windows 2000 systems, the messages are logged by the Event Log Service. In order for Operational Analyst to log the messages, the Event Log Service must be running. This service is generally started automatically.

To verify the Event Log Service is running on the Operational Analyst server:

1. Go to **Start > Settings > Control Panel > Services** on NT or **Start > Settings > Control Panel > Administrative Tools > Services** on Windows 2000.
2. Look for **EventLog**.

The status of this service should be **Started**. If it is not, click the service and click **Start** to start the process.

## Configuring the log

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Many Windows applications log messages into the Event Log, including Operational Analyst. If the log file reaches capacity, no more messages can be stored, possibly resulting in the loss of valuable troubleshooting information. To ensure adequate log file space, you should increase the log size to at least 2 MB.

To increase the size of the log:

1. Start the Event Viewer:  
**Start > Programs > Administrative Tools (Common) > Event Viewer** on Windows NT or **Start > Settings > Control Panel > Administrative Tools > Event Viewer** on Windows 2000.
2. Select the application log:  
**Log > Application** on Windows NT or select **Application Log** from the tree-view on Windows 2000.
3. Open the log properties dialog:  
**Log > Log Settings** on Windows NT or **Action > Properties** on Windows 2000.
4. Enter the desired size in the **Maximum log size** text box.
5. Select **OK** to save your change.

You can specify the behavior the Event Log exhibits when the log file reaches capacity by choosing one of the options in the **Event Log Wrapping** (Windows NT) or **When maximum log size is reached** (Windows 2000) section of the log properties dialog:

- **Overwrite events as needed** results in removing the oldest message when a new message is written.
- **Overwrite events older than X days** may result in the log file reaching capacity, depending on message volume, log file size, and the number of days specified.
- **Do not overwrite events (clear log manually)** results in the log file reaching capacity unless you monitor and maintain it regularly.

Carefully consider which option fits your system requirements, and maintain the log file appropriately by saving its contents to a file and then clearing the file on a regular basis.

## Viewing the log

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The central error log messages can be viewed using the Event Viewer, which allows users to view events on the local machine. On NT, users can also view events of other machines on the network.

To view events:

1. Go to **Start > Programs > Administrative Tools (Common) > Event Viewer** on NT or **Start > Settings > Control Panel > Administrative Tools > Event Viewer** on Windows 2000.
2. Select **Application** from the **Log** menu to view the application log.

You can select individual events and double-click them to see event details. Warning, error, event and audit messages are logged into the event log, as well as alarm messages that have also been forwarded to the Alarm Manager.

In the Event Viewer, the **Source** value of Operational Analyst messages is usually prefixed with **OA\_** to facilitate filtering Operational Analyst messages. Messages are assigned a **Type** based on their priority. This table describes the assignments.

Type	Priority	Message content	Icon
Error	High	Alarms, high severity errors	Red stop sign
Warning	Medium	Warnings, event level messages	Yellow !
Information	Informational	Informational and audit messages	Blue i

**Note:**

Audit messages pertain to security events such as logon on the Administration Client or accessing secure files.

## Solaris message log

On Solaris, the error, warning, event and audit messages are logged in a central error log file that can be viewed by editing the file with any text editor. The file is a simple text file that resembles the trace log files. There is no log viewer for viewing these messages. The central error log file resides in the **\$PABASE/data/log/CentralError** directory and is named **CentralErrorLog.log**.

The messages in the central error log for both Windows and Solaris are prefixed with priority and severity indicators to help track conditions that require immediate attention. The priority indicators are:

- **ALARM**
- **ERROR**
- **EVENT**
- **AUDIT**

and the severity indicators are:

- **emergency**
- **high**
- **low**
- **info**

## Internet Information Services (IIS) message log

Internet Information Services (IIS) has its own logging mechanism. When running OA reports, log entries are created each time a basic report is accessed and each time that a basic real-time report is refreshed. When a large number of reports are accessed, the IIS log files can grow to a large size and consume large amounts of disk space. These log files grow progressively because IIS has no mechanism in place to automatically remove older files. If disk space becomes full, this can impact performance of OA processes on that system. Therefore, one of the following should be done:

- Turn off logging for the OA reports. If this logging is turned off, no log entries will be written for any OA Basic report access or report refresh.
- Administer IIS to create these log files on a disk partition dedicated solely to report logging. If this disk becomes full, there will be no performance impact to OA or Basic reports, but no reporting messages will be written to the log files.
- Continually monitor the disk space consumed by these log files and purge files as needed.

## Turn off logging for OA reports

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To turn off logging for the OA reports:

1. As an Administrator, start the Internet Service Manager.
2. Expand the tree to **servername > Default Web Site**.
3. Right click on **jakarta** and choose **Properties**.
4. Under the **Virtual Directory** tab of the jakarta **Properties** window, uncheck the **Log visits** box.

## Create a specific logging directory

---

If you create a dedicated disk partition to contain IIS log files, follow these steps to change the IIS logging directory:

1. As an Administrator, start the Internet Service Manager.
2. Expand the tree to **servername > Default Web Site**.
3. Right click on **Default Web Site** and choose **Properties**.
4. Under the **Web Site** tab of the **Default Web Site Properties** window, click on the **Properties** box.
5. In the **General Properties** tab of the **Extended Logging Properties** window, under **Log file directory** enter the directory into which logs are to be created.

---

## Forwarders and recorders

Forwarders and recorders are responsible for feeding data to Operational Analyst and making sure it is appropriately placed in the data stores. If data is missing from historical or real-time stores, or seems to be inaccurate compared to known IC or CMS activity, check to be sure the forwarders and recorders are correctly administered. Refer to the Operational Analyst Administration Client Help for details.

The `dcstat` (data collection status) command displays status and statistics of forwarders and recorders. The `dcstat` command uses the following syntax:

```
dcstat -n [fwd|rec]datastore [-a | -l | -c | -b | -r]
      [-h <host>] [-i] [-v 0|10|20|30] [-z]
dcstat -n dm [-h <host>] [-i] -s <source>
dcstat -n [db|<table>]
```

- a Display all status. This is equivalent to `-l -c -b -r`.
- b Display status of data buffering.
- c Display status of data collection.
- h The service is on the specified host.
- i Display the supported CORBA interface objects of the *forwarder* or *recorder*. Display the supported tables of the *dm*.
- l Display status of data listening.
- n The name of a service, database, or database table. For a *forwarder* or *recorder*, the prefix indicates the type and the suffix is an historical data store. For example: `fwdcmscallhistory`. For a *dm*, the name is “dm.” for a database, the name is “db.” Anything else is assumed to be a table in the database.
- r Display status of data recording.
- s Source id that identifies a *dm*.
- v Activate/deactivate the trace by changing the verbosity level. For example, 0 means off, 10 means trace events, 20 means trace interfaces, 30 means trace low-level functions.
- z Reset all statistical counters to zero.

For example, if you want to view all status of the forwarder for the agent data store, enter:

```
dcstat -n fwdagent -a
```

## OA Features

If you want to change the trace level for the recorder for the cmsskill data store to a debug level enter:

```
dcstat -n reccmsskill -v 30
```

---

## The CORBA interface

The `diag` command is used to test the basic sanity of CORBA communication. If problems exist within this interface, this tool can help to diagnose where the problem is. It does not test specific communication paths between individual components. The `diag` command exists in the `%PABASE%\bin` directory and is executed using the Command window.

**Note:**

For Solaris, the command is `diag.sh`.

To use the `diag` command, on the Operational Analyst server machine enter the following:

```
diag server
```

On the Operational Analyst Administration Client machine enter the following (including the quotes):

```
diag client "-DHOST=hostname"
```

where *hostname* is the host where the CORBA server is running.

**Note:**

The quote marks ("") are required with this command.

The resulting output is displayed on each machine as each level of the interface is tested. If the CORBA interface is working completely, then you will see the client sending data to the server, and the server receiving the data successfully. This command is most useful in a multiserver environment in which `diag client` is run on one machine and `diag server` is run on another machine.

## TimesTen database

TimesTen is the physical database that hosts the Operational Analyst real-time database. This section provides some information about monitoring and troubleshooting TimesTen.

## TimesTen documentation

TimesTen documentation is included on the Operational Analyst distribution media. During the installation process the documentation is placed in these locations:

- Windows NT and Windows 2000: **C:\TimesTen\TimesTen4.3\Docs**.
- Solaris: **\$PABASE/doc/TimesTen**.

**Note:**

To view the documentation you must have Adobe Acrobat Reader 5.0 or later installed.

## Starting or stopping TimesTen

Information about the procedure for starting or stopping TimesTen is located in *TimesTen Reference Guide Release 4.3*, Chapter 5 *Working with the TimesTen Data Manager Daemon*. This manual is in file **tt\_ref.pdf** in the documentation directories defined above.

## Increasing TimesTen verbosity level

To assist in debugging TimesTen problems, increase the verbosity level:

1. Edit the **srv\info\ttendaemon.options** file in the TimesTen base directory.
2. Remove the **#** symbol from the **#verbose** line.
3. Stop and restart the TimesTen services as described above.
4. When debugging is complete, replace the **#** symbol.

**Note:**

Be sure the **#** is in place in the file during normal operation.

## Monitoring TimesTen memory usage

The best way to monitor memory usage in TimesTen is to use **ttIsq1** and the **dssize** stored procedure. There is no explicit logging done in TimesTen or OA to notify users that a memory threshold setting has been exceeded.

If you see TimesTen-related errors logged by OA, and the associated TimesTen error numbers are **802** or **6220** through **6223**, TimesTen is notifying OA of memory related issues. **802** is an “out-of-memory” error, and the others are “threshold exceeded” warnings.

TimesTen error and warning messages can be viewed in the *TimesTen Reference Guide*. It is available in file **tt\_ref.pdf** in the documentation directory described in [TimesTen documentation](#) on page 146. There are several other good documents in there as well, including more info on **ttIsq1** and **dssize**.

To run **dssize**:

1. At the command line type `ttIsq1 -connStr "dsn=dss128"`.
2. At the **Command>** prompt, type `dssize m;`

**dssize** displays the memory usage (in MB) similar to this:

```
DS_MAX_SIZE:           33
DS_ALLOCATED_SIZE:    33
DS_IN_USE_SIZE:       2
PERM_ALLOCATED_SIZE: 25
PERM_IN_USE_SIZE:     1
PERM_IN_USE_HIGH_WATER: 1
TEMP_ALLOCATED_SIZE:  8
TEMP_IN_USE_SIZE:     1
TEMP_IN_USE_HIGH_WATER: 1
```

where:

Parameter	Represents
DS_MAX_SIZE:	Overall maximum size of the datastore. This includes perm and temp sizes.
DS_ALLOCATED_SIZE:	Allocated memory
DS_IN_USE_SIZE:	Memory in use out of the total allocation
PERM_ALLOCATED_SIZE:	Size of the permanent memory segment. This is where OA tables are stored.
PERM_IN_USE_SIZE:	Out of the allocation, how much is actually in use.
PERM_IN_USE_HIGH_WATER:	High water mark. This may be higher than in_use.
TEMP_ALLOCATED_SIZE:	Size of the temporary memory segment. This segment is used by TimesTen for temporary tables.

## Troubleshooting TimesTen

The following sections describe TimesTen problems and suggested corrective actions.

### TimesTen will not start

---

If the TimesTen database will not start, review the TimesTen log files for clues about the cause of the problem. The most common reasons for failure are listed in this table:

Reason for failure	Corrective action
Inadequate paging file size	Set the paging file (swapfile) to 150% - 200% of the RAM installed in your system.
Database corruption	See <a href="#">TimesTen data store repair</a> below.
C:\temp directory does not exist.	Set the <b>TEMP</b> and <b>TMP</b> environment variables to point to the desired "temp" directory. If TimesTen still does not start, create <b>C:\temp</b> .

### TimesTen data store corruption

---

It is possible for the TimesTen database to get into an inconsistent state that will prevent applications from connecting to it. There are a couple of ways to detect that this has happened. The first is that the data manager and/or data server processes will not complete initialization, or will fail after initialization. In this case these processes will report one or more of the following errors:

- RT\_359: Unable to connect to TimesTen DB
- RT\_129: Unable to recover from error encountered processing a database request; The RT Service is being shutdown to initiate recovery.
- TimesTen error message: data store segment inconsistent and corrupt

The second way to detect and/or confirm that there is a TimesTen database problem is to attempt to connect to it using the `ttIsq1` utility. To do that, perform the following at the NT command prompt:

```
ttIsq1
connect "dsn=dss128";
```

If, after step 2, `ttIsq1` reports an error connecting to the database, or reports that a recovery is under way and that recovery does not complete in a reasonable amount of time, then it is likely that the database is corrupt and must be rebuilt from scratch.

## TimesTen data store repair

---

If the NT Event Log on the real-time server shows repeated errors from the TimesTen data manager indicating that the data store segment is inconsistent and corrupt, and repeated efforts to connect to the database fail, a manual procedure may be necessary to recover from this situation.

Action	Details
1. Stop the real-time data manager and data server	Use the Administration Client <b>Interface Services</b> screen to disable the data manager
2. Move all TimesTen files to another location (they may be needed later to diagnose specific problems).	The TimesTen files are located in <code>%PABASE%\add_on\TimesTen</code> (Windows) or <code>\$PABASE/add_on/TimesTen</code> (Solaris). The filenames have the pattern <code>rtpa.txt.*</code> .
3. Force the re-creation of the TimesTen database	From the command prompt: <pre>ttIsq1 connect "dsn=dss128;OverWrite=1"; exit;</pre>
4. Start the real-time data manager and data server	Use the Administration Client <b>Interface Services</b> screen to enable the data manager. The data store should recover and a pump up will be initiated automatically.

## General TimesTen problems

---

To troubleshoot other general problems with TimesTen, refer to the *TimesTen JDBC Guide Release 4.3*, Chapter 11 *Troubleshooting*. This manual is in files **JDBCguide.pdf**.

## Data Manager and Report Data Server

Data manager (DM) stores data originating in IC into the real-time database. Real-time data is used in real-time reports and is also forwarded to the historical database. If real-time reports do not reflect current data, or if the real-time database appears to be missing data, there may be a problem with the data manager process. It may be improperly administered, or it may not be in an operational state. Check data manager status via the Administration Client (see *Operational Analyst Administration Client Help*) or by using the `pa` command.

Report data server (RDS) provides up-to-date data to the real-time reports. It monitors the real-time database for changes to data and forwards the changes to the reporting subsystem. If real-time reports do not reflect current data, there may be a problem with the data server process. It may be improperly administered, or it may not be operational. Check data server status via the Administration Client (see *Operational Analyst Administration Client Help*) or by using the `pa` command.

### Data manager or report data server fails

If the data manager or the report data server fail to start or fail after initially starting, take these actions:

1. Check the process logs for details about the failures. The logs are:

Data manager	<b>datamanager/dmTrc.log</b>
Data server	<b>dataserver/dsTrc.log</b>

and are located in:

Windows NT and Windows 2000	<b>%PABASE%/data/log</b>
Solaris	<b>\$PABASE/data/log</b>

See [Trace files](#) on page 113 for more information on tracing and logging.

2. Verify that the Orbacus Naming Service is running and operational. See [Troubleshooting map](#) on page 10 for details.
3. Verify that TimesTen is running by looking for the TimesTen Data Manager service in the services log.
4. If TimesTen is available and operational, use `ttIsq1` to verify TimesTen is accessible. See [TimesTen data store corruption](#) on page 148.
5. If `ttIsq1` cannot access TimesTen, see [Troubleshooting TimesTen](#) on page 148.

## Event Collector

The event collector (EC or EC Server) captures real-time events from the IC system and forwards them to the data manager. If EC is not administered correctly, or is not operating, no new contact center information is available for real-time reporting or for aggregation and reporting in the historical database. Check EC administration and status via the IC Manager application. See the *Operational Analyst Installation and Maintenance Guide* for details on how to configure the EC.

## Event Collector logs

EC log files can be found in **\$PABASE/logs/ecServerName.log** where *ecServerName* is the name of the EC instance configured in IC Manager.

The logging flags are set in IC Manager. Select the **Server** tab and the **ECServer** process. In the resulting dialog select the **Debug** tab, then click **Trace Levels**. The **Trace Levels** dialog box appears with the following options:

Flag	Definition
usr1- General EC server logging enabled.	Logs EC startup and shutdown messages.
usr2 - ICServerProxy package logging enabled.	Logs interactions with IC servers.
usr3 - EventMapper package logging enabled.	Logs data transformation performed in preparation for forwarding to the datamanager.
usr4 - ECCommon package logging enabled.	Logs general EC services messages.
usr5 - EC/OA IDL package logging enabled.	Logs high level interactions between EC and data manager.
usr6 - RTPProxy package logging enabled.	Logs detailed data sent from EC to data manager.
usr7 - General debug tracing logging enabled.	Debug logging in EC enabled. Do not use unless directed by Avaya support.
usr8 - Function entry and exit logging enabled.	Detailed EC function tracing enabled. Do not use unless directed by Avaya support.

Other non-EC specific logging flags of interest include:

Flag	Description
msg	Incoming/outgoing messages from/to IC servers.
flush	Immediately flushes I/O to disk.

EC can also “record” incoming and outgoing events. This can be very useful for replicating problems. Recording is enabled via configuration variables that are defined in the EC server configuration dialog described above for the logging flags. Instead of opening the **Debug** tab, open the **Configuration** tab. On this tab, the following parameters control recording:

Parameter	Values
ECR_ENABLED=y	enables recording, default is n
ECR_ROLLOVER_BYTES=bytes	0 disables file size limits, default is 1MB
ECR_ROLLOVER_FILES=num	0 disables limits, default is 10
ECR_ROLLOVER_SECONDS=num	0 disables, default is 0; 1800 is useful for 1/2 hour snapshots

**Note:**

Do not enable recording via the ECR\* flags listed above unless directed to do so by Avaya customer support.

## Event Collector fails

If the event collector fails, take these steps:

1. Verify the EC is configured per the *Avaya Operational Analyst Release 6.0 Installation and Maintenance Guide*. Verify that the following options are populated and configured correctly for EC in the IC Manager:
  - **Site**
  - **Real-Time System ID** (the OA real-time Source ID)
  - **Data Manager Host**
  - **SOURCE\_ID**
2. Start the Event Collector via the IC Manager.
3. Check the IC Manager for the Event Collector status.

The status should be reported as **Up**.

4. Inspect the error logs to be sure the pre-requisite services are available:

- **ORBacus Naming Service**

On Windows, check system **Services** to verify that ORBacus Naming Service is **Started**. On Unix, use `ps -ef | grep nameserv` to see if **nameserv** is in the list of running applications. If the local ORBacus Naming Service is not running, an alarm is logged by EC similar to: **EC.ConnectionMonitoring, emergency, Failed to initialize the monitoree interface**.

- **ADU**

Verify that the ADU server in the EC server local domain has a status of **Up**.

- **DS**

Verify that at least one IC Directory Server (DS) for the site has the status of **Up**.

5. If the Event Collector cannot connect to the Data Manager:

- Verify that the correct values are administered in IC Manager for the Real-Time System ID and the Data Manager Host name or IP address of the target real-time system.
- Verify that the Data Manager process is running on the target OA real-time system.
- If the Event Collector and the OA real-time system are installed on separate machines, verify the network is operating correctly by attempting to **ping** the associated Data Manager host server from the EC host server.

## Poor Event Collector performance

Event Collector performance can be affected by many situations, including:

- An improperly configured host server can result in poor event collector performance.
- Inadequate physical memory can increase virtual memory paging to the point where event collector cannot process any events.
- An overloaded server running too many IC or OA processes. Symptoms of this type of problem include:
  - Poor EC performance
  - EC “Queue limits exceeded” errors
  - Failures of other IC or OA processes co-located with EC.

---

## Schema migration

Schema migration may encounter some errors. This section defines the errors and the trace file.

### Trace file for schema migration

The trace file for schema migration is:

```
%PABASE%\data\log\migration\MigrationTrc.log
```

### Schema migration errors

The following errors may occur during schema migration.

Error	Description
COMMON_NOLOCKS (559)	All locks in use error.
DB_SQL (1078)	Database General SQL error.
OBJ_INVALID_STATE (4301)	An object is in an invalid state.
ADMIN_LONG_MIGRATION_NEEDED (12126)	Migration required.
METADATA_DATA_INCONSISTENCY (12301)	Metadata data inconsistency error.
MIG_UNABLE_TO_DECLARE (12701)	Unable to declare a schema migration.
MIG_UNABLE_TO_START (12702)	Schema migration is unable to start.
MIG_UNABLE_TO_COMPLETE (12703)	Schema migration started but was unable to finish.
MIG_BUSINESS_RULE_VIOLATION (12704)	Migration violated a business rule, such as attempting to modify a schema that does not exist.
MIG_FAILURE (12705)	Migration failed, recovery not possible.

---

# Stumbras

Stumbras is the Reporting Framework that provides communication between a Web (HTTP) server and Basic Reports. Stumbras also provides services that maintain historical database pool connections and real-time connections.

## Error logging

Stumbras offers a logging service, which by default logs to the Operational Analyst main logger and the Stumbras in-memory logger. The level of debugging information captured is controlled by the **LoggingService.xml** file, which is modified via the **Logging Admin** page available at <http://hostname/stumbras/admin>. Do not edit **LoggingService.xml** directly. Doing so may corrupt its contents.

To increase the number of messages captured, set the log level to DEBUG. Use this level carefully since increasing the number of messages can affect disk space and system performance.

**Note:**

You must have administrator privileges to set the debugging level.

## Trouble situations and solutions

This table lists some common Stumbras trouble situations and solutions.

Problem	Possible cause	Solution
Cannot connect to the database.	<b>Profile</b> service failed.	Verify the <b>dbname</b> assigned is the same as the <b>dbpool</b> name used by the DbPool service. (The name is case sensitive.)  Verify the JDBC driver name matches the relevant HTDB server type. The implementation class should be: <ul style="list-style-type: none"> <li>● Oracle: <code>com.avaya.stumbras.services.profile.Oracle8iStorage</code></li> <li>● SQL Server 2000: <code>com.avaya.stumbras.services.profile.JdbcBlobStorage</code></li> </ul>
Report tree-view is not displayed.	Stumbras failed to start.	Check these log and error files for information: <b>\$OADIR/data/log/reports/reportlog.XX.log</b> <ul style="list-style-type: none"> <li>● <code>../tomcat/jvm.stderr</code></li> <li>● <code>../tomcat/jvm.stdout</code></li> <li>● <code>../tomcat/hs_pidXXX.log</code> (where XXX is some number)</li> <li>● <code>../tomcat/logs/isapi.log</code></li> <li>● <code>../tomcat/logs/jasper.log</code></li> <li>● <code>../tomcat/logs/servlet.log</code></li> <li>● <code>../tomcat/logs/tomcat.log</code></li> </ul>
No real-time reports run and an error page is displayed.	<b>RTPA</b> service failed to start.	Verify the Admin Manager is running and is configured for Stumbras.

Problem	Possible cause	Solution
No historical reports run and an error page is displayed.	<b>DbPool</b> service failed to start.	Verify the Admin Manager is running and is configured for Stumbras.
Valid Stumbras users are denied access.	Authorization server failed.	Verify the authorization server is running.  <b>Note:</b> After 3 consecutive login failures, you must wait for 10 minutes before trying again to avoid being locked out.



# Operational Analyst Glossary

<b>Administration screen</b>	Screen on the right side of the Operational Analyst Client interface that contains information about configuration settings which are selected in the navigation tree.
<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 Operational Analyst 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>	Operational Analyst 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 aggregate data that was not successfully aggregated in previous attempts.
<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.

## Archive

<b>Archive</b>	The act of compressing and summarizing aggregated data into the historical database. While aggregation occurs every base interval, archiving occurs on a daily, weekly or monthly basis, with the frequency determined by your configuration in the <b>Container Limits</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>Base interval</b>	Operational Analyst lumps IC real-time data into 30-minute intervals in the historical subsystem.  Also called intervals.  See also base interval data.
<b>Base interval data</b>	Real-time data that Operational Analyst 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>Container</b>	Metadata that defines how data should be sifted and stored in the historical database. The term "container" encompasses 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 Limits</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.  Also called filter rules or rules.

<b>Coordinated Universal Time</b>	<p>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.</p> <p>Operational Analyst stores data in UTC but converts the time to the local time of the client.</p>
<b>CORBA</b>	<p>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.</p>
<b>Current schema</b>	<p>The existing schema that is being used. The current schema is the pre-migration schema.</p>
<b>Daemon</b>	<p>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.</p>
<b>Daily interval</b>	<p>A 24-hour shift that Operational Analyst uses for real-time statistical reporting.</p>
<b>Data dictionary</b>	<p>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.</p>
<b>Data manager</b>	<p>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.</p>
<b>Data type</b>	<p>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.</p>
<b>Database check job</b>	<p>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.</p>
<b>Default schema</b>	<p>Schema that is pre-configured in Operational Analyst. You can revert back to the pre-configured default schema if you decide to discard your changes. You need to migrate your data, however.</p>
<b>Detail data</b>	<p>Historical data that cannot be aggregated.</p> <p>Detail data contains information about the work item, such as the customer ID, work item ID and the origination.</p>

## Detail data purge job

<b>Detail data purge job</b>	Scheduled job that purges selected detail data. You select which detail data to purge in the <b>Scheduled Jobs</b> administration screen.
<b>Disabled container</b>	Container that is not collecting or aggregating data.
<b>Disabled interface service</b>	Data collection service that is not running.
<b>Disabled job</b>	A job that has been configured but is not activated to run.
<b>Display name</b>	A meaningful name associated with a value in the database. For example, instead of displaying the agent ID, Operational Analyst Administration Client displays the agent name; so it will display " <b>John Smith</b> " instead of " <b>1021454540554</b> ."
<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 Operational Analyst 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>Flat file</b>	An independent data file that is not related to another file. Flat files can be related to other data files, but only if you program them to do so.
<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>GMT</b>	<p>Greenwich Mean Time. Also known as UTC (Coordinated Universal Time). GMT 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.</p> <p>Operational Analyst stores data in UTC but converts the time to the local time of the client.</p>
<b>Historical database</b>	<p>Where all historical data about your contact center is stored.</p>
<b>Historical store</b>	<p>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. Operational Analyst has 11 stores that accumulate a variety of report-related data from IC or ACD systems.</p> <p>The IC 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>● Display names</li></ul> <p>The ACD historical stores are:</p> <ul style="list-style-type: none"><li>● CMS agent summary</li><li>● CMS call work codes</li><li>● CMS skill summary</li><li>● CMS VDN summary</li><li>● CMS call history</li><li>● CMS display names</li></ul>
<b>Historical subsystem</b>	<p>Along with the source subsystem, real-time subsystem, reporting subsystem, and CMS subsystem, the historical subsystem constitutes the Operational Analyst data collection system. The historical subsystem pertains to all Operational Analyst components and services that involve historical data.</p>
<b>IC</b>	<p>Avaya™ Interaction Center.</p>
<b>IDL</b>	<p>See Interface Definition language.</p>
<b>Incomplete</b>	<p>Data collection status that indicates there is missing data and the container or archive is missing at least one base interval data.</p>
<b>Info store</b>	<p>Historical store with a group of database tables that keeps track of the display names for the data fields.</p>

## Interface definition language

<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 Operational Analyst interface services include:</p> <ul style="list-style-type: none"><li>● Data manager</li><li>● Report data server</li><li>● Report Framework</li><li>● The respective forwarders and recorders for each historical store.</li></ul>
<b>Interface service name</b>	The internal name that Operational Analyst 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>IVR</b>	Interactive Voice Response. A technology that allows callers to issue commands to a computer without agent intervention. For example, a bank customer can obtain account balance information by entering an account number on a touchtone phone.
<b>IVR port</b>	Part of an IVR system. An IVR port provides interactive voice response services for incoming calls, acting as a virtual agent. Each port uses one phone extension on the PBX and can handle one phone call at a time.
<b>IVR system (IVRS)</b>	A server that processes calls using interactive voice response (IVR) technology. An IVRS contains a large number of IVR ports. The IVRS is connected to the PBX, which routes incoming calls to the IVR ports
<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>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>Migration</b>	The process by which Operational Analyst alters the database tables to conform to a new schema.
<b>MSMQ</b>	Microsoft Message Queue. MSMQ is a software program that allows programs to send messages to other programs.

<b>Navigation tree</b>	Tree that appears on the left side of your Operational Analyst 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. Operational Analyst 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 job you define to execute tasks on specific data at a particular time or recurrence. 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>	Object Request Broker. ORB is the programming code in CORBA that mediates between a client and a distributed object. It enables clients to request services without having to know the location of the server in a network.
<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 Process ID.
<b>Precision</b>	Specifies the maximum total number of decimal digits that can be stored, both to the left and to the right of the decimal point. The precision must be a value from 1 to 15.
<b>Process ID</b>	Identification number for a container delete job. You can determine the PID of a deleted container by looking at the <b>Container Status</b> screen.
<b>Purge</b>	The deletion of selected container data or detail data.

**Purge job****Purge job**

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 **Scheduled Jobs** administration screen.

**Real-time subsystem**

Along with the source subsystem, historical subsystem, reporting subsystem, and CMS subsystem, the real-time subsystem constitutes the Operational Analyst data collection system. The real-time subsystem pertains to all Operational Analyst components and services that involve real-time data.

**Recorder**

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.

There are up to 11 recorders, one for each historical store.

**Recurrence**

The start date and end date of a job, or the number of times a job should be executed. For example, you can schedule a job to execute on April 3, 2002 or once a week. Recurrence is part of the job definition.

**Report Framework**

The self-contained Operational Analyst reporting framework application programming interface (API) that provides an environment to create reports based on the Operational Analyst real-time data. It is a framework that lets you develop servlet-based applications for Web-based reporting and monitoring for your contact center.

**Retention period**

The length of time Operational Analyst retains data.

**Rule**

See container rule.

**Scale**

Specifies the maximum number of decimal digits that can be stored to the right of the decimal point. Scale must be a value from 0 through precision. Maximum storage sizes vary, based on the precision.

**Schema**

Defines aspects of the database, such as attributes (fields) and domains and parameters of the attributes.

**Select**

To select an item, click the item's name or icon. Selected items appear highlighted on the screen.

**Service**

See interface service.

**Service class**

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).

## Shortcut menu

To	Press
Cancel multiple selection of items in the status window	<b>Shift</b> + up (or down) arrow key
Copy	<b>Ctrl + C</b>
Cut	<b>Ctrl + X</b>
Move to the next item on the screen	<b>Tab</b>
Move to the previous item on the screen	<b>Shift + Tab</b>
Paste	<b>Ctrl + V</b>

<b>Source subsystem</b>	Operational Analyst subsystem that collects all ACD and IC event data.
<b>SQL</b>	See Structured Query Language.
<b>Status window</b>	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.
<b>Store</b>	See historical store.
<b>String</b>	A data type contained in the column of the 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.
<b>Structured Query Language</b>	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.
<b>Subsystem</b>	<p>A major component that constitutes the Operational Analyst data collection system. The available subsystems are:</p> <ul style="list-style-type: none"> <li>● Historical</li> <li>● Real-time</li> <li>● Reporting Framework</li> <li>● CMS</li> <li>● Source (ACD and IC)</li> </ul>

**Successful****Successful**

Data collection status that indicates data was successfully archived or aggregated.

**Summary data**

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.

These historical stores contain summary data:

- Agent service class
- Agent state
- Service class summary
- Service class state
- CMS agent summary
- CMS call work codes
- CMS skill summary
- CMS VDN summary

**Summary historical store**

A historical store that contains aggregated data. Available summary historical stores are:

- Agent service class
- Agent state
- Service class summary
- Service class state
- CMS agent summary
- CMS call work codes
- CMS skill summary
- CMS VDN summary

**System scheduled aggregation job**

A job that aggregates base interval data. This job executes on every base interval, that is, in 30-minute increments, if enabled.

**System scheduled job**

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.

See also on-demand jobs.

<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, and it runs regularly, not periodically. This executes daily, if enabled.
<b>Tree</b>	A way of structuring information, where sublevels are shown as branches of a higher level. The navigation tree in Operational Analyst 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 handle 65,536 character combinations rather than just 256, and uses two bytes for each character rather than one.
<b>UTC</b>	<p>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.</p> <p>Operational Analyst stores data in UTC but converts the time to the local time of the client.</p>
<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.

## **Workflow**

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