# NetIQ® Analysis Center

## User Guide

**August 2008**

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An Attachmate® Business

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# About This Book and the Library

The *User Guide for Analysis Center* provides conceptual information about the NetIQ Analysis Center product (Analysis Center), an overview of Analysis Center components, information about installing and managing Analysis Center, and instructions for configuring reports.

## Intended Audience

This book provides information for individuals responsible for understanding Analysis Center concepts, and for system administrators and users responsible for installing, configuring, and reporting with Analysis Center.

## Other Information in the Library

The library provides the following information resources:

**Analysis Center for AppManager Management Guide**
: Provides conceptual information about Analysis Center. This book is intended for system administrators and users responsible for configuring and using Analysis Center, for reporting on AppManager data. This book also provides an overview of the Analysis Center user interfaces and the Help.

**Help**
: Provides context-sensitive information and step-by-step guidance for common tasks, as well as definitions for each field on each window.

# Conventions

The library uses consistent conventions to help you identify items throughout the documentation. The following table summarizes these conventions.

| Convention | Use |
|---|---|
| **Bold** | • Window and menu items<br>• Technical terms, when introduced |
| *Italics* | • Book and CD-ROM titles<br>• Variable names and values<br>• Emphasized words |
| `Fixed Font` | • File and folder names<br>• Commands and code examples<br>• Text you must type<br>• Text (output) displayed in the command-line interface |
| Brackets, such as [*`value`*] | • Optional parameters of a command |
| Braces, such as {*`value`*} | • Required parameters of a command |
| Logical OR, such as *`value1`* \| *`value2`* | • Exclusive parameters. Choose one parameter. |

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## Chapter 1

# Introducing Analysis Center

Analysis Center imports raw data from multiple sources such as AppManager repositories, transforms the data into useful information about the computing infrastructure that supports your business, and publishes that information in graphical or tabular reports. You can use these reports to:

- **Track performance.** Are my Web servers operating within the limits of current system resources? Is there any degradation of throughput on my network?
- **Uncover trends.** Is there an increase in the number of HTTP requests handled by my Web servers? Is there an increase in the number and size of messages conveyed by my Exchange Servers?
- **Correlate events.** Does the volume of customer traffic during the holiday shopping season overwhelm the memory and CPU of my Web servers? Does an increase in the number and size of messages conveyed by my Exchange Servers have a negative impact on network performance?
- **Make forecasts.** At what point will customer traffic outpace the system resources on my Web servers and when should I upgrade? At what point will the increase in size and number of messages conveyed by my Exchange Servers have a degrading effect on network throughput and when should I upgrade?
- **Track security events.** Has there been an unusual number of failed login attempts? Are my Web servers subject to frequent port scanning?

Analysis Center is built around Microsoft SQL Server, SQL Server Analysis Services, and SQL Server Reporting Services. Employing these technologies facilitate the transfer and manipulation of large amounts of data. It also ensures rapid retrieval of information, and provides reports of up-to-the minute analyses of your enterprise.

# Analysis Center Architecture

Analysis Center includes a number of software components that you can install on one computer or distribute across multiple computers. The following models illustrate the Analysis Center architecture, and the Analysis Center with Appmanager architecture, with software components installed on separate computers.

The source databases (AppManager repositories) copy the data to the Data Marts, and from the Data Marts to the Data Warehouse. The Analysis Center Console enables you to perform queries on the Data Warehouse using the OLAP server and the Analysis Center Warehouse. The Web Service connects to the Data Warehouse, OLAP, and configuration databases on behalf of the Console in order to enable users to perform Analysis Center administrative functions, configure and run reports. The Web Part and Data Extension make the same connections with the Web Service to publish, print, and provide Web access to reports via SQL Reporting Services and Microsoft SharePoint.

# Analysis Center Components

This section describes the components of Analysis Center.

## Data Mart

A Data Mart is a SQL Server database that Analysis Center creates for each AppManager data source. A Data Mart collects and processes data from data sources, and then stores it in fact and dimension tables to be used by the Data Warehouse. A Data Mart serves several purposes:

- Stores the data copied from the source databases for processing.
- Stored procedures process the copied data.
- Fact and dimension tables store the processed data.
- The fact tables function as a component of the Data Warehouse.

The SQL Server agent copies the data from the Data Source to the Data Mart, and thereafter to the Data Warehouse, by using SQL Server Integration Services (SSIS) packages.

## Data Warehouse

The Data Warehouse is made up of two relational databases and a multidimensional database. The `AC_Warehouse` and `AC_OLAP` databases are used for AppManager reporting.

The relational database `AC_Configuration` supports administrative functions implemented from the Analysis Center Console. The information in the Configuration database includes:

- Analysis Center security information, such as the level of privileges for each Analysis Center role and which users are assigned to which roles.
- Connection information: the SQL server and database names used during the generation of AppManager reports.

- The status of the SSIS packages that are responsible for copying data from one database to another.
- The status of scheduled reports.
- Custom schedule configuration.

The relational database `AC_Warehouse` serves as the immediate source of data for the multidimensional database. The relational database is managed by Microsoft SQL Server, and contains, among other things, the dimensional data copied from the Data Marts and views linked to the fact tables in the Data Marts.

The multidimensional database `AC_OLAP` is managed by Microsoft SQL Server Analysis Services, and contains aggregations (for example, maximum, minimum, average) of the data copied from the source databases. These aggregated values are stored in cubes designed to facilitate the rapid query of large amounts of data.

Each Data Mart contains the following cubes:

- Data organized by the local time on the AppManager computer
- Data organized by the UTC time (Greenwich Mean Time).

A **cube** is a structure for data that uses hierarchical dimensions as an organizing principle. Dimensions describe data from a particular point of view (for example, the computer and application from which it was generated, or the date and time during which it was generated). The hierarchical structure of dimensions allows you to select data from any point in the hierarchy (for example, all data generated during 2005; all data generated during December 2005; or all data generated December 1, 2005). Given this structure and organization of aggregate values, you can, for example, create reports for:

- The average, minimum, and maximum use of memory resources by all Exchange Servers for the year 2005.
- The average growth rate for all SQL Server databases for the month of December, 2005.
- The average daily use of CPU for all Domino servers for 2004 and 2005.

## Web Service

The Analysis Center Web Service authenticates Console, Data Extensions, and Web Part connections established during report generation and runs the SQL queries that gather report data.

## SQL Reporting Services and Data Extension

SQL Reporting Services is a Microsoft addition to SQL Server that facilitates the creation, management, and delivery of reports. The Data Extension is a NetIQ addition that allows Analysis Center reports to be displayed within SQL Reporting Services.

## Web Part

If you use Microsoft SharePoint technology, the Web Part extends Analysis Center reports to SharePoint Web sites.

## Console

The Console is the Analysis Center user interface, from which you perform administrative functions and generate reports. For more information, see "Installing Analysis Center" on page 41. The Analysis Center administrative functions include:

- Defining Analysis Center users, groups, and permissions sets.
- For AppManager repositories, setting the schedules for how often data is copied to the Analysis Center Data Warehouse and reconciling resource identities so each computer in an enterprise has a single identity.

You run reports from the Console by setting the report context, and then viewing the results. The context controls for a report let you:

- Select the data streams and computers
- Specify the time frame
- Select which measures of the data you want for your report (for example, average, minimum, maximum)

## Chapter 2

# Planning the Installation

Before you install Analysis Center, there are a number of decisions you need to make:

- How many computers and SQL Servers do you want to use for Analysis Center components (interface, databases, related services)?
- Which types of logon accounts do you want to use for the various SQL Server services (Windows or local system)?
- Which type of authentication do you want to use for each SQL Server (Windows or Mixed Mode), and how you want to connect between the various SQL Servers (Windows or SQL Server authentication)?
- Will you use Report Designer, which is a component of Microsoft SQL Server 2005 Reporting Services Service Pack 2, to customize Analysis Center reports?
- Will you use Microsoft Windows SharePoint Services to display reports on the Analysis Center Web Part?

# Companion Analysis Center Utilities

The Utilities folder of the Analysis Center installation kit includes the following utilities.

| Utility | Description |
|---|---|
| ACPreCheckUtility -- Data Source Verification and Size Estimation | The Data Source Verification and Size Estimation utility helps you estimate the sizes needed for the Analysis Center databases and diskspace. Consider running this utility before installing Analysis Center. |
| LegendVerificationUtility -- AM Legend Verification | AM Legend Verification screens the existing legends defined in your AppManager database and identifies any legends that Analysis Center may not be able to resolve.<br>You can run this utility only if you have installed the Analysis Center Data Warehouse on your server. The utility asks for your Analysis Center Data Warehouse login information, and then makes a connection to the Data Warehouse database in order to perform the legend processing that is available only through Analysis Center.<br>The utility also needs to make a connection to your AppManager database in order to read the existing legends stored in the AppManager database. For more information about how to use this utility, see the utility help. |
| NetIQ AC Diag Tool | If you report problems to NetIQ Technical Support, you might be asked to start this utility, which gathers data used to diagnose and solve problems. |

# Distributing Analysis Center Components

The Analysis Center components (Data Warehouse, SQL Reporting Services Data Extension, Web Part, Web Service, and Console) can be installed together on a single computer, installed in any combination on separate computers, or installed individually on separate computers. Your decisions about how to distribute these components should be guided by the volume of data that will be moving from one database to another, the frequency at which data will be processed, the number and frequency of reports that will run against the data, and the amount of data covered in reports.

In general, you can anticipate the following:

- **Console:** demands significant memory and CPU resources for presenting reports.
- **Data Mart database:** each Data Mart requires disk space at least equal to the disk space used by its source of data; demands significant memory and CPU resources for processing data.
- **Data Warehouse relational database:** requires minimal disk space; requires reliable network support to accommodate the volume of data traffic; demands moderate to significant memory and CPU resources to process data.
- **Data Warehouse multidimensional database:** requires minimal disk space; demands significant memory and CPU resources to process cubes and queries.
- **Web Service:** at least 512 MB RAM; requires minimal disk and CPU resources.
- **Web Part:** requires Microsoft Windows SharePoint Services and therefore additional system requirements. For more information, see "Web Part for Windows SharePoint Services" on page 35.

For more information, see "System Requirements" on page 23.

# Deciding Between Windows and SQL Authentication

When you install the Analysis Center Data Warehouse and Web Service, you need to configure the type of authentication used for a number of different connections between Analysis Center components.

During the Data Warehouse installation, the connections that you need to configure are:

- Data Warehouse SQL Server agent to Data Warehouse SQL Server
- Data Warehouse SQL Server agent to Data Warehouse Analysis Services
- Data Warehouse Analysis Services to Data Warehouse SQL Server
- Data Mart SQL Server agent to Data Mart SQL Server
- Data Mart SQL Server agent to Data Warehouse SQL Server

During the Web Service installation, those connections are:

- Web Service to Data Warehouse SQL Server
- Web Service to Data Warehouse Analysis Server

With the exception of the Data Warehouse SQL Server Agent to Data Warehouse Analysis Services and Web Service to Data Warehouse Analysis Server connections, which must use Windows Authentication, all the others can use either Windows or SQL Server Authentication. Before you install Analysis Center, you will need to make some decisions about the type of authentication you want to use in each case, set up the necessary accounts and permissions, configure each SQL Server to use the appropriate type of authentication, and configure your SQL Server services to use the appropriate accounts. For more information, see “SQL Server Services” on page 15.

**To use Windows Authentication:**

1. Configure each Windows account as a login for each SQL Server to which that account needs access.
2. Add each login to the appropriate Server Role for each SQL Server.
3. Configure each SQL Server to use Windows Authentication Mode or Mixed Mode.

**To use SQL Server Authentication:**

1. Create the same login name and password on each SQL Server to which you will connect using that account (the login name and password have to exist locally on each server).
2. Add each login to the appropriate Server Role for that SQL Server.
3. Configure each SQL Server to use Mixed Mode Authentication.

During installation of the Data Warehouse, you select one of three options for the types of authentication you want to use for connections between the Data Warehouse and any Data Mart SQL Servers. For more information, see "Installing the Data Warehouse" on page 44.

The options are:

- Default (Recommended)
- Windows-Only
- Custom

## Default (Recommended)

This option is recommended for a fully distributed environment.

Under the Default option, the Data Warehouse SQL Server Agent and Analysis Services use Windows Authentication to connect to the Data Warehouse. In this case, the logon account for each service is used to make the connection. The SQL Server Agent logon account must have administrative permissions for the Data Warehouse SQL Server and Analysis Server (System Administrators server role for the SQL Server). If you do not initially configure the SQL Server Agent account with administrative permissions, you can do so later in the installation.

Under the Default option, Data Mart SQL Server Agents use SQL Server Authentication to connect to the Data Mart and Data Warehouse SQL Servers. In this case, the installation program creates the necessary SQL Server logins and encrypts the passwords.

For this option, the Data Warehouse and Data Mart SQL Servers have to be configured to use Mixed Mode (Windows and SQL Server Authentication).

## Windows-Only

This option is not recommended for a fully distributed environment.

Under the Windows-only option, use Windows Authentication for all connections. The logon account for each service is used to make the connection.

- The Data Warehouse SQL Server and SQL Server Agent, Analysis Services, any Data Mart SQL Servers and SQL Server Agents, and the Analysis Center Web Service must all use the same domain account for their service log-on accounts. The domain account used for these services must have administrative permissions for the Data Warehouse SQL Server, any Data Mart SQL Server, and the Analysis Server (System Administrators server role for the SQL Servers). Administrative permissions for Data Mart SQL Servers must be granted prior to installation. Other administrative permissions can be granted during installation. The domain account must be trusted for delegation.
- All SQL Server services must have a Service Principle Name.
- MS OLAPService(Analysis Services) must have a Service Principle Name.
- For the Windows-only option, the Data Warehouse and Data Mart SQL Servers can be configured to use either Windows Authentication Mode or Mixed Mode.
- All Analysis Center SQL Servers and the Analysis Server must be added to the Active Directory of their domain.
- Any domains that host Analysis Center computers must be configured for Kerberos security.
- On any computer hosting an Analysis Center SQL Server, Microsoft Distributed Transaction Coordinator (DTC) must be configured for network access.
- All computers hosting Analysis Center components must be trusted for delegation.

The barrier to using Windows authentication for all the connections in a fully distributed environment is the **double-hop** issue. The problem, briefly, is that the security credentials used to make the connection from Computer A to Computer B cannot be used to make a necessary subsequent connection from Computer B to Computer C, and so the operation fails. For example, to carry out the OLAP Processing job, the Analysis Server (on Computer A) makes a connection to the Data Warehouse SQL Server (on Computer B) to get dimension data, and makes a subsequent connection from the Data Warehouse SQL Server (on Computer B) to the Data Mart SQL Server (on Computer C) is required to get fact data. The credentials of the Analysis Services logon account are not successfully passed from Computer A to Computer B to Computer C.

If you want to use Windows authentication for every connection between Analysis Center components, you have to install the Data Warehouse SQL Server, Analysis Services, the Web Service, and any Data Mart SQL Servers on the same computer.

## Custom

With the Custom option, you can, if you want, use a different type of authentication for each connection.

If you use Windows Authentication, the SQL Server Agent logon account must have administrative permissions for the Data Warehouse SQL Server and Analysis Server (System Administrators server role for the SQL Server). If you do not initially configure the SQL Server Agent account with administrative permissions, you can do so later in the installation. In addition, the logon account for any Data Mart SQL Server Agent must be configured as a member of the System Administrators server role for the Data Warehouse SQL Server and for each Data Mart SQL Server before you install Analysis Center.

If you use SQL Server Authentication for a connection, the login name and password you specify for that connection must already be configured on the relevant SQL Server and must also belong to the System Administrators server role for that SQL Server.

Under the Custom option, Analysis Center does not perform any management of the SQL Server accounts and passwords. Passwords are sent in clear text, which may pose some security risks.

Any SQL Server to which you connect using SQL Server Authentication must be configured to use Mixed Mode (Windows and SQL Server Authentication).

# Account Requirements

This section describes the account requirements for installing Analysis Center and for the SQL Server services that support Analysis Center.

## Analysis Center Installation

To install Analysis Center, you need to have administrative access to the computer on which you are installing components. You can use either a domain or local administrator account.

During installation of the Data Warehouse, you are asked whether you want to use Windows or SQL Authentication to connect to that SQL Server. If you use Windows Authentication, the account under which you are running the installation must belong to the System Administrators group for the SQL Server. If you use SQL Authentication, you must specify a SQL Server account that belongs to the System Administrators group for the SQL Server.

You cannot use a SQL Server account whose username contains spaces, single, or double quotes. You cannot use a SQL Server account whose password contains spaces or ampersand character. However, you can use a SQL Server account whose password contains single or double quotes.

The multidimensional database can be installed on the local computer or on a remote computer.

## SQL Server Services

This section discusses the permissions required for the various SQL Server service logon accounts under different distribution scenarios. Each example assumes one instance of SQL Server or Analysis Services on a computer.

If you distribute components across different instances of SQL Server on the same computer, the same requirements for permissions apply server to server (for example, from the Data Mart SQL Server to the Data Warehouse SQL Server).

## Source Database and Analysis Center Databases on One Computer

Source database and Analysis Center computer (SQL Server and Analysis Server):

| Authentication Mode | Required Permissions |
|---|---|
| Windows-Only Authentication | **SQLSERVER**<br>• Member of System Administrators server role for the SQL Server<br>**SQLSERVERAGENT**<br>• Member of System Administrators server role for the SQL Server<br>**MS OLAPService**<br>• Member of System Administrators server role for the SQL Server<br>**Note**<br>All services must use the same domain account. |
| SQL Server and Windows Authentication | **SQLSERVER** can run as Local System.<br>**SQLSERVERAGENT** and **MS OLAPService** must have permissions described above. |

## Source Database on First Computer; All Analysis Center Databases on Second Computer

Analysis Center computer (SQL Server and Analysis Server):

| Authentication Mode | Required permissions |
|---|---|
| Windows-Only Authentication | **SQLSERVER**<br>• Member of System Administrators server role for the SQL Server<br>• db_datareader database role for the source database<br>**SQLSERVERAGENT**<br>• Member of System Administrators server role for the SQL Server<br>• db_datareader database role for the source database<br>**MS OLAPService**<br>• Member of System Administrators server role for the SQL Server<br>**Note**<br>All services must use the same domain account. |
| SQL Server and Windows Authentication | **SQLSERVER** can run as Local System.<br>**SQLSERVERAGENT** and **MS OLAPService** must have permissions described above. |

## Source Database on First Computer, Data Mart on Second Computer, Data Warehouse on Third Computer

Data Mart computer (SQL Server):

| Authentication Mode | Required Permissions |
|---|---|
| Windows-Only Authentication | **SQLSERVER**<br>No special requirements<br>**SQLSERVERAGENT**<br>• Member of System Administrators server role for the Data Mart SQL Server<br>• Member of System Administrators server role for the Data Warehouse SQL Server<br>• db_datareader database role for the source database |
| SQL Server and Windows Authentication | **SQLSERVER** can run as Local System.<br>**SQLSERVERAGENT** must have permissions described above. |

Data Warehouse computer (SQL Server and Analysis Server):

| Authentication Mode | Required Permissions |
|---|---|
| Windows-Only Authentication | **SQLSERVER**<br>• Member of System Administrators server role for the Data Warehouse SQL Server<br>• db_datareader database role for the source database<br>**SQLSERVERAGENT**<br>• Member of System Administrators server role for the Data Warehouse SQL Server<br>• Member of System Administrators server role for the Data Mart SQL Server<br>• db_datareader database role for the source database<br>**MS OLAPService**<br>• Member of System Administrators server role for the Data Warehouse SQL Server<br>**Note**<br>All services must use the same domain account. |
| SQL Server and Windows Authentication | **SQLSERVER** can run as Local System.<br>**SQLSERVERAGENT** and **MS OLAPService** must use Windows authentication and have permissions described above. |

## Source Database and Each Analysis Center Database on a Separate Computer

Data Mart computer (SQL Server):

| Authentication Mode | Required Permissions |
|---|---|
| Windows-Only Authentication | **SQLSERVER**<br>No special requirements<br>**SQLSERVERAGENT**<br>• Member of System Administrators server role for the Data Mart SQL Server<br>• Member of System Administrators server role for the Data Warehouse SQL Server<br>• db_datareader database role for the source database |
| SQL Server and Windows Authentication | **SQLSERVER** can run as Local System.<br>**SQLSERVERAGENT** must have permissions described above. |

Data Warehouse relational database computer (SQL Server):

| Authentication Mode | Required Permissions |
|---|---|
| Windows-Only Authentication | **SQLSERVER**<br>• Member of System Administrators server role for the Data Warehouse SQL Server<br>• Member of System Administrators server role for the Data Mart SQL Server<br>• db_datareader database role for the source database<br>**SQLSERVERAGENT**<br>• Member of System Administrators server role for the Data Warehouse SQL Server<br>• Member of System Administrators server role for the Data Mart SQL Server<br>• db_datareader database role for the source database<br>**Note**<br>All services must use the same domain account. |
| SQL Server and Windows Authentication | **SQLSERVER** and **SQLSERVERAGENT** must have the permissions specified above. |

Data Warehouse multidimensional database computer (Analysis Server):

| Authentication Mode | Required Permissions |
|---|---|
| Windows-Only Authentication | **MS OLAPService**<br>• Member of System Administrators server role for the Data Warehouse SQL Server<br>• Member of System Administrators server role for the Data Mart SQL Server |
| SQL Server and Windows Authentication | **MS OLAPService** must have the permissions specified above. |

## Analysis Center Web Service

The Web Service uses impersonation to make connections from the Analysis Center Console and Data Extension to the Analysis Center Data Warehouse, and through a linked server definition, to the Data Mart. **Impersonation** involves using a single account to make connections to various Analysis Center components regardless of which account is used to start the Console. The permissions required of the Web Service impersonation account are described below:

- The account must belong to the Administrators group on each computer to which it makes a connection. If you are using replicated accounts for different domains, the account can be a local account. Otherwise, it must be a domain account.
- Connections to the Data Warehouse SQL Server can use either Windows or SQL Server Authentication. In either case, the account must belong to the System Administrators role for the Warehouse SQL Server.
- Connections to the Data Warehouse Analysis Server must use Windows Authentication.
- Connections to a Data Mart SQL Server can use either Windows or SQL Server Authentication. In either case, the account must belong to the System Administrators role for each Data Mart SQL Server.

**Note**

If you create a new domain account for use by the Web Service, you need to restart the `IIS Admin Service` in order for Internet Information Services to be aware of the account.

## Connection to Data Mart Database

During the creation of a Data Source, you are asked to specify whether the Data Warehouse SQL Server Agent connects to the Data Mart database using Windows or SQL Server authentication. If you use SQL Server authentication, the login name you specify must be a System Administrator for the Data Mart SQL Server. For more information, see the *NetIQ Analysis Center for AppManager Management Guide*.

# System Requirements

Analysis Center 2.7 components are supported on 32-bit and 64-bit versions of Windows Server 2003 with Microsoft SQL Server 2005 Service Pack 2. You can install each Analysis Center component on a separate computer. If you install multiple components on the same computer, they must meet the system requirements.

The following table identifies the Analysis Center components supported on x86 (which is a 32-bit architecture), and x64 (which is a 64-bit extended architecture) platforms.

| Component | x86 | x64 |
|---|---|---|
| **Console** | Yes | Wow64 |
| **Web Service** | Yes | Yes |
| **Data Warehouse** | Yes | Yes |
| **Data Extension** | Yes | Yes |
| **Web Part** | Yes | No |

**Note**

- Wow 64 refers to a 32-bit application emulated on Windows 64-bit platform.
- If you distribute Analysis Center components across multiple computers, you must enable the Remote Registry Service on the computers. Otherwise, the installation fails.
- If you are using Analysis Center with only one AppManager data source, either the Standard or the Enterprise Edition of SQL Server 2005 Analysis Services Service Pack 2 is supported. If you are using two or more AppManager data sources with Analysis Center, SQL Server 2005 Analysis Services Enterprise Edition Service Pack 2 is required.
- If you are reporting on data generated from AppManager version 6.5 UNIX agents, Analysis Center requires that you apply hotfix 51991 for Sun Solaris, HP-UX or Linux, or AppManager for UNIX 6.5 for AIX Service Pack 1 for IBM AIX. If you do not apply the hotfix, the Analysis Center reports display incorrect or missing UNIX data. For more information about obtaining the hotfix, contact NetIQ Technical Support.

# Hardware and Software Requirements for Analysis Center Components

The following tables identify the hardware and software requirements on x86 and x64 platforms, for each component of Analysis Center.

## Console Computer

**Console System Requirements**

| | x86 | x64 |
|---|---|---|
| **Screen Resolution** | 1024x768 or higher. | 1024x768 or higher. |
| **Processor** | 600-megahertz (MHz) Pentium III-compatible or faster processor; 1-gigahertz (GHz) or faster processor recommended | 1-GHz AMD Opteron, AMD Athlon 64, Intel Xeon with Intel EM64T support, Intel Pentium IV with EM64T support processor or faster |
| **Operating System** | Windows Vista, Windows XP Professional, Windows 2003 | Windows Vista, Windows XP Professional, Microsoft Windows Server 2003 Standard x64 Edition, Enterprise x64 Edition |
| **Memory** | 512 megabytes (MB) of RAM or more; 1 gigabyte (GB) or more recommended | 512 megabytes (MB) of RAM or more; 1 gigabyte (GB) or more recommended |
| **Hard Disk** | Approximately 100 MB of available hard-disk space for the recommended installation | Approximately 100 MB of available hard-disk space for the recommended installation |

| Console System Requirements | | |
|---|---|---|
| | **x86** | **x64** |
| **Other Requirements** | NET Framework 2.0 Redistributable Package(x86) | NET Framework 2.0 Redistributable Package(x64) |
| | Microsoft Internet Explorer 6.0 Service Pack 1 or later | Microsoft Internet Explorer 6.0 Service Pack 1 or later |

**Note**

If you install the Console on a Windows 2003 computer and plan to connect to a remote Web Service, set the Internet Explorer Security settings for **Internet** and **Local intranet** to **Low** on the computer where you want to install the console.

## Data Mart Computer

**Data Mart System Requirements**

| | x86 | x64 |
|---|---|---|
| **Processor** | 600-megahertz (MHz) Pentium III-compatible or faster processor; 1-gigahertz (GHz) or faster processor recommended | 1-GHz AMD Opteron, AMD Athlon 64, Intel Xeon with Intel EM64T support, Intel Pentium IV with EM64T support processor or faster |
| **Operating System** | Windows 2003 | Microsoft Windows Server 2003 Standard x64 Edition, Enterprise x64 Edition |
| **Memory** | 512 megabytes (MB) of RAM or more; 1 gigabyte (GB) or more recommended | 512 megabytes (MB) of RAM or more; 1 gigabyte (GB) or more recommended |
| **Hard Disk** | Approximately 350 MB of available hard-disk space or more depending on the size of the AM repositories | Approximately 350 MB of available hard-disk space or more depending on the size of the AM repositories |
| **Other Requirements** | NET Framework 2.0 Redistributable Package(x86) | NET Framework 2.0 Redistributable Package(x64) |
| | Microsoft Internet Explorer 6.0 Service Pack 1 or later | Microsoft Internet Explorer 6.0 Service Pack 1 or later |
| | SQL Server 2005 Service Pack 2; same language version as the Data Warehouse SQL Server. | SQL Server 2005 X64(64-bit) Enterprise Edition Service Pack 2 |

| Data Mart System Requirements | | |
|---|---|---|
| | **x86** | **x64** |
| | SQL Server Integration Services 2005 Service Pack 2 | SQL Server Integration Services 2005 Service Pack 2 |
| | Microsoft Distributed Transaction Coordinator (MSDTC) service | Microsoft Distributed Transaction Coordinator (MSDTC) service |

**Note**

Successful copying from a Data Mart to the Data Warehouse requires that the language editions, collation, sort order, and locale settings match. For example, if the Data Warehouse SQL Server is an English language edition and the Data Warehouse computer is set to the English locale, then the Data Mart SQL Server must also be an English language edition and the Data Mart computer must be set to the English locale.

## Data Warehouse Relational Database Computer

**Data Warehouse Relational Database System Requirements**

| | x86 | x64 |
|---|---|---|
| **Processor** | 600-megahertz (MHz) Pentium III-compatible or faster processor; 1-gigahertz (GHz) or faster processor recommended | 1-GHz AMD Opteron, AMD Athlon 64, Intel Xeon with Intel EM64T support, Intel Pentium IV with EM64T support processor or faster |
| **Operating System** | Windows 2003 | Microsoft Windows Server 2003 Standard x64 Edition, Enterprise x64 Edition |
| **Memory** | 512 megabytes (MB) of RAM or more; 1 gigabyte (GB) or more recommended | 512 megabytes (MB) of RAM or more; 1 gigabyte (GB) or more recommended |
| **Hard Disk** | Approximately 350 MB of available hard-disk space or more depending on the size of the Data Marts | Approximately 350 MB of available hard-disk space or more depending on the size of the Data Marts |
| **Other Requirements** | NET Framework 2.0 Redistributable Package(x86) | NET Framework 2.0 Redistributable Package(x64) |
| | Microsoft Internet Explorer 6.0 Service Pack 1 or later | Microsoft Internet Explorer 6.0 Service Pack 1 or later |
| | Microsoft Distributed Transaction Coordinator (MSDTC) service | Microsoft Distributed Transaction Coordinator (MSDTC) service |

| Data Warehouse Relational Database System Requirements | | |
|---|---|---|
| | **x86** | **x64** |
| | SQL Server 2005 Service Pack 2; same language version as the Data Warehouse SQL Server | SQL Server 2005 X64(64-bit) Enterprise Edition Service Pack 2 |
| | Microsoft Visual C++ 2005 Service Pack 1 Redistributable Package (x86) | Microsoft Visual C++ 2005 Service Pack 1 Redistributable Package (x64) |

## Data Warehouse Multidimensional Database Computer

**Data Warehouse Multi-dimensional Database System Requirements**

| | x86 | x64 |
|---|---|---|
| **Processor** | 600-megahertz (MHz) Pentium III-compatible or faster processor; 1-gigahertz (GHz) or faster processor recommended | 1-GHz AMD Opteron, AMD Athlon 64, Intel Xeon with Intel EM64T support, Intel Pentium IV with EM64T support processor or faster |
| **Operating System** | Windows 2003 | Microsoft Windows Server 2003 Standard x64 Edition, Enterprise x64 Edition |
| **Memory** | 512 megabytes (MB) of RAM or more; 1 gigabyte (GB) or more recommended | 512 megabytes (MB) of RAM or more; 1 gigabyte (GB) or more recommended |
| **Hard Disk** | Approximately 350 MB of available hard-disk space, depending on the size of the Data Warehouse | Approximately 350 MB of available hard-disk space, depending on the size of the Data Warehouse |
| **Other Requirements** | NET Framework 2.0 Redistributable Package(x86) | NET Framework 2.0 Redistributable Package(x64) |
| | Microsoft Internet Explorer 6.0 Service Pack 1 or later | Microsoft Internet Explorer 6.0 Service Pack 1 or later |
| | SQL Server 2005 Analysis Services Service Pack 2 | SQL Server 2005 Analysis Services Service Pack 2 |

If you install the Data Warehouse multidimensional database on a remote Analysis Server, the computer from which you are making the installation must have the Client components from the Analysis Services Setup.

## Data Extension Computer

| **Data Extension System Requirements** | | |
|---|---|---|
| | **x86** | **x64** |
| **Processor** | 600-megahertz (MHz) Pentium III-compatible or faster processor; 1-gigahertz (GHz) or faster processor recommended | 1-GHz AMD Opteron, AMD Athlon 64, Intel Xeon with Intel EM64T support, Intel Pentium IV with EM64T support processor or faster |
| **Operating System** | Windows 2003 | Microsoft Windows Server 2003 Standard x64 Edition, Enterprise x64 Edition |
| **Memory** | 512 megabytes (MB) of RAM or more; 1 gigabyte (GB) or more recommended | 512 megabytes (MB) of RAM or more; 1 gigabyte (GB) or more recommended |
| **Hard Disk** | Approximately 350 MB of available hard-disk space for the recommended installation | Approximately 350 MB of available hard-disk space for the recommended installation |

| Data Extension System Requirements | | |
|---|---|---|
| | **x86** | **x64** |
| **Other Requirements** | NET Framework 2.0 Redistributable Package(x86) | NET Framework 2.0 Redistributable Package(x64) |
| | Microsoft Internet Explorer 6.0 Service Pack 1 or later | Microsoft Internet Explorer 6.0 Service Pack 1 or later |
| | SQL Server 2005 Reporting Services Service Pack 2 | SQL Server 2005 Reporting Services Service Pack 2 |

## Web Service Computer

| Web Service System Requirements | | |
|---|---|---|
| | **x86** | **x64** |
| **Processor** | 600-megahertz (MHz) Pentium III-compatible or faster processor; 1-gigahertz (GHz) or faster processor recommended | 1-GHz AMD Opteron, AMD Athlon 64, Intel Xeon with Intel EM64T support, Intel Pentium IV with EM64T support processor or faster |
| **Operating System** | Windows 2003 with Internet Information Services 6.0 or later, and ASP.NET enabled | Windows 2003 with Internet Information Services 6.0 or later, and ASP.NET enabled |
| **Memory** | 512 megabytes (MB) of RAM or more; 1 gigabyte (GB) or more recommended | 512 megabytes (MB) of RAM or more; 1 gigabyte (GB) or more recommended |
| **Hard Disk** | Approximately 350 MB of available hard-disk space for the recommended installation | Approximately 350 MB of available hard-disk space for the recommended installation |
| **Other Requirements** | NET Framework 2.0 or later and ASP.NET enabled | NET Framework 2.0 or later and ASP.NET enabled |
| | Microsoft Internet Explorer 6.0 Service Pack 1 or later | Microsoft Internet Explorer 6.0 Service Pack 1 or later |
| | Microsoft Internet Information Services (IIS) 6.0, and ASP.NET 2.0 | Microsoft Internet Information Services (IIS) 6.0, and ASP.NET 2.0 |

If you create a new domain account for use by the Web Service, you need to restart the `IIS Admin Service` in order for Internet Information Services to be aware of the account.

## Web Part for Windows SharePoint Services

**Web Part for Windows SharePoint Services System Requirements**

| | x86 |
|---|---|
| **Processor** | 600-megahertz (MHz) Pentium III-compatible or faster processor; 1-gigahertz (GHz) or faster processor recommended |
| **Operating System** | Operating Systems: Microsoft Windows Server 2003 Standard Edition, Windows Server 2003 Enterprise, Windows Server 2003 Datacenter, Windows Server 2003 Web Edition, plus the latest service pack |
| **Memory** | 512 megabytes (MB) of RAM or more; 1 gigabyte (GB) or more recommended |
| **Hard Disk** | Approximately 350 MB of available hard-disk space for the recommended installation |
| **Other Requirements** | Windows SharePoint Services 2.0 Service Pack 2.0 or later or Office SharePoint Portal Server 2003, .NET Framework 2.0 or later and ASP.NET 2.0 enabled |

**Note**

Running SharePoint Portal Server 2003 on Windows Server 2003 Web Edition requires SQL Server 2005 Service Pack 2 to be installed on a separate computer; for a complete set of system requirements, visit SharePoint Portal Server 2003 System Requirements at:

http://www.microsoft.com/office/preview/sharepoint/sysreq.asp.

## Supported Data Sources

Analysis Center supports data sources from the following NetIQ products:

- AppManager versions 6.0 and later. For more information, see the *NetIQ Analysis Center for AppManager Management Guide*.

# Using Named Instances of SQL Server

If you use named instances of SQL Server on different computers for any of the Analysis Center databases, you need to ensure that each client of a database can connect to that named instance.

Use the SQL Server Client Network Utility to configure connectivity from each client computer to each named instance of SQL Server. For example, from the Data Warehouse SQL Server computer to the SQL Server instance for the Data Mart.

**To configure connectivity:**

1. From the client computer, start the Client Network Utility. Click **Start > Programs > Microsoft SQL Server > Client Network Utility**. The Client Network Utility dialog box is displayed.
2. On the General tab, enable TCP/IP and set it as the first protocol.
3. Select **TCP/IP** and click **Enable**.
4. Click the arrows to move **TCP/IP** to the top of the **Enabled protocols by order** list.

5. On the Alias tab, click **Add** to open the Add Network Library Configuration dialog box.

6. In the **Server alias** field, specify the SQL Server\Instance name to which the client will connect. The same name is displayed in the **Server name** field.

7. In the Network libraries panel, select **TCP/IP**.

8. In the Connection parameters panel, specify the **Port number** through which the connection to the SQL Server is made.

   If you do not know the port number, select **Dynamically determine port**.

   **Note**
   It is preferable to specify the port number. The process of dynamically determining the port may cause security alerts in circumstances where there is monitoring for port attacks. In circumstances where the client and server are separated by a firewall, the system administrator will need to know which port to open.

9. Click **OK** to close the Add Network Library Configuration dialog box.

10. Click **OK** to close the Client Network Utility dialog box.

# SQL Server Licensing Considerations

There are a number of different licensing options you can use for your SQL Server environment (for example, per CPU, per user, per device). Which option you choose should be based on the unique circumstances of your business. The following summary of connections to SQL Server components is provided to help you decide which type of licensing will suit you best.

| This Analysis Center Component | Connects to this SQL Server Component |
|---|---|
| Data Warehouse SQL Server Agent | • Each Data Mart SQL Server<br>• The Data Warehouse SQL Server<br>• Analysis Services |
| Analysis Services | • The Data Warehouse SQL Server<br>• Each Data Mart SQL Server |
| Data Mart SQL Server Agent | • The associated source database SQL Server<br>• The associated Data Mart SQL Server<br>• The Data Warehouse SQL Server |
| Web Service | • The Data Warehouse SQL Server<br>• Analysis Services |
| Data Extension | • The database via the Web Service |
| Console | • The database via the Web Service<br>• Reporting Services |
| Web Part | • The database via the Web Service |

# Analysis Center License Monitoring

For AppManager data sources, Analysis Center requires one license for each server (Managed Agent) that provides Analysis Center data. A license monitor shows you how many licenses are installed at your site and how many AppManager servers are being monitored. The number of Analysis Center servers at your site should be less than or equal to the number of installed licenses.

If the number of Analysis Center servers at your site exceeds your licenses, when you start the Console, Analysis Center displays a warning message but you can still run or deploy reports.

# Preparing Report Designer to Customize Reports

You can use the Report Designer component of SQL Server 2005 Reporting Services Service Pack 2 to customize Analysis Center reports. To use Report Designer, you must first install Visual Studio .NET 2005, and then install SQL Reporting Services on that computer. You must also then install the Analysis Center Data Extension on that computer. For more information, see "Customizing Reports" on page 201.

# Chapter 3
# Installing Analysis Center

This chapter provides procedures to install Analysis Center components.

## Overview of Analysis Center Installation

The Analysis Center setup program allows you to install the following components:

- Data Warehouse
- Web Service
- Data Extension
- Console
- Web Part

The Analysis Center setup program allows you to install components on the following platforms:

- **x86**
- **x64**

The x64 setup option installs all components on x64 computers except the Console and Web Part. For more information about which components are supported on x64, see "System Requirements" on page 23.

You can install these components individually or in any combination. Depending on the choices you make, you are presented with a different set of dialog boxes.

If you are going to install the various components on separate computers, install the components in this order:

1. Data Warehouse
2. Web Service
3. Data Extension
4. Console
5. Web Part

# Performing the Installation

Log on to the computer on which you want to install Analysis Center using an account that is a member of either the local or domain Administrators group. Close all open applications and run the setup program from the Analysis Center installation kit. If you double-click `setup.exe`, the product installation preview page opens in your browser.

If you want to install an Analysis Center component on the computer containing the installation kit, you can start the installer by selecting the Production Setup tab and then clicking **Install NetIQ Analysis Center (x86)** or **Install NetIQ Analysis Center (x64).**

If you install Analysis Center components on multiple computers, copy the installation kit to a server at your site that the Analysis Center computer can access. You can then start the installation kit at each Analysis Center computer from the shared server. For example, from `\\SWInstaller\ACInstall\setup.exe`.

# Running the Setup Program

This section describes the steps to install Analysis Center.

**To install Analysis Center:**

1. Log on with an administrator account to the computer where you want to install an Analysis Center component.
2. Run `Setup.exe` in the root folder of the installation kit.
3. On the Setup tab, click the appropriate option as follows:
   - To install Analysis Center on an x86 computer, click **Begin x86 Setup**.
   - To install Analysis Center on an x64 computer, click **Begin x64 Setup**.
4. In the **License Agreement** window, click **Yes** to accept the terms of the license agreement and proceed with the installation, or click **No** to exit the setup program.
5. In the **Feature Selection** window, select the Analysis Center component that you want to install on this computer.
6. Complete the setup program by following the instructions. For more information about fields on a window, see the Help.

The following sections describe how to install each separate component.

If you are upgrading Analysis Center, see "Upgrading from Analysis Center version 2.6" on page 49. For more information about modifying your Analysis Center installation, see "" on page 51.

## Recording Installation Settings

Before starting the setup program, you can configure the setup program to record the installation settings that you specify on the installation dialogs. You can then reinstall Analysis Center in batch mode by issuing a single command.

To turn on recording and create a recording file `windows\setup.iss`:, start the Analysis Center (x86) or Analysis Center (x64) setup program with the `-r` switch:

For example, `NetIQAnalysisCenterSetup_x86 -r`

In the future, you can reinstall Analysis Center components on this computer, bypassing the installation dialog boxes, by issuing this command:

```
NetIQAnalysisCenterSetup_x86 -s -f1"c:\Windows\setup.iss" -
f2"c:\Windows\logfile.log"
```

`NetIQAnalysisCenterSetup_x86` is located in the analysis_center\setup folder of the installation kit.

If the installation kit is stored on a remote server, issue these commands from **Start > Run**. If the installation kit is stored locally on the Analysis Center computer, you can open a command prompt.

## Installing the Data Warehouse

You can install the Data Warehouse on a local computer or on a remote computer. If you install Analysis Center on a SQL Server failover cluster, run the Analysis Center Data Warehouse setup on each node of the cluster, beginning with the node where SQL Server is in the Active mode. If you install the Data Warehouse on an Analysis Services failover cluster, you must use the Remote Analysis Server option.

SQL Server System Administrator permissions are required for installation of the Data Warehouse relational database.

If you are going to connect to the SQL Server instance where you are making the installation using the Windows account under which you are running the installation, that account must have System Administrator permissions for that SQL Server. For more information about Data Warehouse, see “Data Warehouse” on page 4.

---

**Note**

Do not install more than one Data Warehouse on a single Analysis Server the cube processing job fails.

---

**To install the Data Warehouse:**

1. Log on to the computer where you want to install the Data Warehouse with an account that has SQL system administrator privileges. For more information, see "Running the Setup Program" on page 43.
2. In the **Feature Selection** dialog box, select **Data Warehouse**.
3. Click **Next.**
4. Complete the setup program by following the instructions on the pages. For more information about fields, see the Help.

## Installing the Analysis Center Web Service

If you install the Data Warehouse and Web Service on computers that are in different domains, and if you chose SQL authentication when installing the Web Service, the account under which you run the setup program must have Administrator permissions on the Data Warehouse computer.

Do not install the Web Service on the following:

- Domain Controller. If you do, you will not be able to log in to Analysis Center.
- Computers where IIS 6.0 has *IIS 5.0 isolation mode* enabled. If you do, Web Service installation will disable that setting and possibly cause some currently installed Web applications to malfunction.

For more information about Web Service, see "Web Service" on page 6.

**To install the Analysis Center Web Service:**

1. Log on to the computer where you want to install the Web Service with an account that has SQL system administrator privileges. For more information, see "Running the Setup Program" on page 43.
2. In the **Feature Selection** dialog box, select **Analysis Center Web Service**.
3. Click **Next.**
4. Complete the setup program by following the instructions on the pages. For more information about fields, see the Help.

## Installing the Data Extension

If you are going to use Report Designer to customize reports, install the Data Extension on the computer where SQL Server Reporting Services is installed. For more information about SQL Reporting Services and Data Extension, see "SQL Reporting Services and Data Extension" on page 6.

**To install the Data Extension:**

1. Log on to the computer where you want to install the Data Extension with an account that has SQL system administrator privileges. For more information, see "Running the Setup Program" on page 43.
2. In the **Feature Selection** dialog box, select **SQL Reporting Services Data Extension**.
3. Click **Next.**
4. Complete the setup program by following the instructions on the pages. For more information about fields, see the Help.

## Installing the Analysis Center Console

Install the Analysis Center Console to generate reports and manage your Analysis Center installation. For more information about the Analysis Center Console, see "Console" on page 6.

**To install the Analysis Center Console:**

1. Log on to the computer where you want to install the Console with an account that has SQL system administrator privileges. For more information, see "Running the Setup Program" on page 43.
2. In the **Feature Selection** dialog box, select **Analysis Center Console**.
3. Click **Next.**
4. Complete the setup program by following the instructions on the pages. For more information about fields, see the Help.

## Installing the Web Part

The optional Web Part feature, based on Microsoft SharePoint technology, allows SharePoint sites to display Analysis Center reports and templates. Ensure you create a SharePoint configuration database and note the database name before you run the setup program. The setup program prompts you for this information. For more information about creating a SharePoint configuration database, see the SharePoint documentation.

If you install the Web Service on a non-default Web site, you will get an error message when configuring the Web Part because the Web Part expects to find the Web Service at the default site. The solution is to configure the Web Part to look for the Web Service at the correct address. For more information, see "If You Install the Web Service On a Non-default Web Site" on page 49.

**To install the Web Part component:**

1. Log on to the computer where you want to install the Web Part with an account that has SQL system administrator privileges. For more information, see "Running the Setup Program" on page 43.
2. ***If SharePoint Services or SharePoint Portal Server 2003 are installed after the Analysis Center Web Service, the Web Part will not function correctly until you perform the steps described in "If You Install SharePoint after Analysis Center" on page 48.***
3. ***If you install the Web Service on a non-default Web site, you will get an error message when configuring the Web Part because the Web Part expects to find the Web Service at the default site.***
4. In the **Feature Selection** dialog box, select **Web Part component**.
5. Click **Next.**
6. Complete the setup program by following the instructions on the pages. For more information about fields, see the Help.
7. Restart the IIS service using the Internet Information Services (IIS) administrative tool.

# If You Install SharePoint after Analysis Center

The ability to display reports within a SharePoint site depends on Microsoft Windows SharePoint Services or SharePoint Portal Server 2003 software. If you install SharePoint after you install the Web Service or the Data Extension, the Windows SharePoint Services or SharePoint Portal Server 2003 intercepts requests that should be handled by IIS. When this happens, you might be unable to log onto the Analysis Center Console or unable to access SQL Reporting Services.

**To solve the problem:**

1. Exclude Analysis Center virtual directories, by running the following commands from the command prompt:

   ```
   stsadm -o addpath -url http://localhost/ACWebService
   -type exclusion
   ```

   ```
   stsadm -o addpath -url http://localhost/Reports
   -type exclusion
   ```

   ```
   stsadm -o addpath -url http://localhost/ReportServer
   -type exclusion
   ```

   For more information about excluding managed paths, see **http://support.microsoft.com/kb/828810/.**

2. Open `web.config` (located by default under `inetpub\wwwroot`) on the Web Service computer, and make the following changes:

   **a.** In the line shown below, change "`wss_minimaltrust`" to "`Full`"

   ```
   <trust level="wss_minimaltrust" originUrl="" />
   ```

   **b.** Remove the comment tags (`<!-- ... -->`) around the following lines:

   ```
   <add name="Session"
   type="System.Web.SessionState.SessionStateModule"/>
   ```

   **c.** Enable the session state flag by adding the following lines between the `<system.web></system.web>` tags

   ```
   <pages enableSessionState="true" enableViewState="true"
   enableViewStateMac="true" validateRequest="false" />
   ```

# If You Install the Web Service On a Non-default Web Site

The Web Part expects to find the Web Service at the default Web site. If the Web Service is installed on a non-default Web site, configure the Web Part to look for the Web Service at the correct location.

**To configure the Web Part to look for the Web Service at correct location:**

1. On the Web Part computer, n Windows Explorer, go to the IIS root directory (`C:\Inetpub\www\bin` by default).
2. Double-click **ACWebPartAdminConsole.exe**. The Analysis Center WebPart Admin Tool opens.
3. Change **Virtual Server** and **Web Service URL** to match the location of the Web Service.
4. Click **OK**.

# Upgrading from Analysis Center version 2.6

You can upgrade from Analysis Center version 2.6 to Analysis Center version 2.7, with the Data Extension, Data Warehouse, Web Service, Console, and Data Mart, on a single computer or in a distributed environment. Before you install Analysis Center version 2.7, start the SQL Server Enterprise Manager, and back up the AC_Warehouse, AC_OLAP, AC_Configuration, and all other Data Marts. Ensure that each Analysis Center component meets the system requirements. For more information, see "System Requirements" on page 23.

## Upgrading on a Single Computer

You can upgrade from Analysis Center version 2.6 to Analysis Center version 2.7, on a single computer.

**To upgrade all components on a single computer:**

1. Log on to the computer where you want to upgrade from Analysis Center version 2.6 to Analysis Center version 2.7, with an account that has SQL system administrator privileges.
2. If you have installed Analysis Center with the Data Extension, use the **Modify** option of the Analysis Center version 2.6 setup program to uninstall the Data Extension.
3. Upgrade SQL Server 2000 to SQL Server 2005 Service Pack 2. For more information about upgrading from SQL Server 2000 to SQL Server 2005 Service Pack 2, see the SQL Server documentation.
4. Upgrade Analysis Center version 2.6 to Analysis Center version 2.7.
5. Install the Data Extension using the **Modify** option of the Analysis Center version 2.7 setup program.
6. Start the Analysis Center Console version 2.7.

## Upgrading in a Distributed Environment

You can also upgrade from Analysis Center version 2.6 to Analysis Center version 2.7, in a distributed environment.

**To upgrade in a distributed environment:**

1. If you have installed Analysis Center with the Data Extension, use the **Modify** option of the Analysis Center version 2.6 setup program to uninstall the Data Extension from the SQL Server Reporting Services computer.
2. If you have installed Analysis Center version 2.6 on a distributed environment, upgrade the Data Warehouse component before you upgrade other Analysis Center components.

- If the Data Warehouse is on a remote server, upgrade the Data Warehouse SQL Server 2000 to SQL Server 2005 Service Pack 2.
- If the SQL Server Analysis Services is on a remote server, upgrade SQL Server Analysis Services 2000 to SQL Server Analysis Services 2005 Service Pack 2.
- If the Data Mart is on a remote server, upgrade the Data Mart SQL Server 2000 to SQL Server 2005 Service Pack 2.
- If the Analysis Center Web Service is on a remote server, upgrade from Analysis Center version 2.6 to Analysis Center version 2.7 by running the Analysis Center 2.7 setup program.
- If the Console is on a remote server, upgrade from Analysis Center version 2.6 to Analysis Center version 2.7 by running the Analysis Center 2.7 setup program.

3. Install the Data Extension using the **Modify** option of the Analysis Center version 2.7 setup program.
4. Start the Analysis Center Console version 2.7.

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**Note**

After uninstalling the Data Extension from Analysis Center version 2.6, the Connection string is removed in SQL Server Reporting Services, under **Analysis Center Data Source**. The Connection string is not created after reinstalling the Data Extension in Analysis Center version 2.7. You must create the connection string manually in the following format : `URL=http://<Server Name>/ACWebService` to view the reports in SQL Server Reporting Services.

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# Modifying an Installation

If you start the setup program on a computer that is hosting an Analysis Center component, you can also modify the installation by selecting **NetIQ Analysis Center** from the Control Panel **Add or Remove Programs** utility.

**To add additional components:**

1. Select **NetIQ Analysis Center** from the Control Panel **Add or Remove Programs** utility.
2. Select **Modify**, and then click **Next**. The **Feature Selection** dialog box opens, showing the components that you *can* install and components that *are* installed. Installed components are selected by default.
3. Select the additional components that you want to install. Leave the currently installed components that you want to keep selected.
4. The **Repair** operation reinstalls any installed Analysis Center components on the computer.
5. The **Remove** operation removes all installed Analysis Center components. To remove a currently installed component during the modify operation, clear the selection for that component.
6. When you click **Finish** on the last dialog box of the program, the uninstallation of Analysis Center appears to be complete; however, the removal of SSIS packages and SQL Server Agent jobs continues until they are all removed.

   When you remove Analysis Center, the removal of SSIS packages and SQL Server Agent jobs can take several minutes, depending on the number of packages and jobs, and the extent to which your Analysis Center environment is distributed among different computers.

There is no option to install the Data Warehouse during a modify operation. This safeguard is implemented to help minimize the confusion that would result from having multiple Data Warehouses installed in a single Analysis Center environment.

If you are removing Analysis Center in preparation for a new installation, verify that all SSIS packages and SQL Server Agent jobs have been removed before installing the program again.

# Modifying the Web Service Impersonation Account

If, after installing the Analysis Center Web Service, you need to modify the impersonation account information (for example, if the account password has changed), use the Internet Information Services Manager to update the Application Pool identity for Analysis Center for IIS 6.0. For more information, see the IIS Help.

# Chapter 4
# Getting Started with Analysis Center

This chapter describes how to begin working with Analysis Center, including which tasks to perform first, how to plan out your reports, and how to generate reports.

## Getting Started Overview

After you install Analysis Center, perform the following Analysis Center tasks to configure Analysis Center and begin generating reports.

1. **Implement security.** The security settings you make define what is visible to each user who logs on to the Console, and what Console functionality is available to each user. For more information, see "Configuring Security" on page 75.

   In addition, Analysis Center provides a utility that allows you to add new Analysis Center licenses or remove licenses for the product. For more information about this utility, see "Managing License Keys" on page 89.

2. **Define the report data.** For AppManager reports, add one or more Data Sources.

   For more information about adding AppManager Data Sources, see the *NetIQ Analysis Center for AppManager Management Guide*.

3. **Plan your reports.** For more information, see "Planning a Report" on page 56.

4. **Generate reports.** To generate a report, set the context for the report, generate it, and then view it in the Results pane. The context of a report refers to the computers, data streams, and time frame included in the report. Context may also include such measures as average or minimum. For more information, see "Generating Live Reports" on page 91, or for a concise overview, see "Generating and Deploying a Report: An Overview" on page 57.

   If several reports contain related data that is best interpreted when seen together, you can group those reports on one page with an Analysis Center feature called a "dashboard." For more information about dashboards, see "Using Dashboards" on page 165.

5. **Deploy reports.** Once you have configured a live report to provide the information you need, you can then deploy that report to SQL Server 2005 Reporting Services Service Pack 2 to have it run periodically on the schedule you choose. Each iteration of the report can be delivered via subscription (by email or written to a file share) to one or more users. For more information about deploying reports, see "Deploying Reports to SQL Reporting Services" on page 155.

6. **Perform administrative tasks.** Basic Analysis Center housekeeping consists of such tasks as defining holidays, determining the amount of time data is retained in the Data Warehouse, and restoring deleted folders and reports. For more information about administrative tasks, see "Performing Administrative Tasks" on page 171.

# Planning a Report

Before you begin generating and deploying reports, think about why you want to create a report and who will be using it.

1. Decide what purpose the report will have. What information do you want the report to show? Have you run the AppManager Knowledge Scripts that will produce the data that you want to reveal in a report?

2. In the Navigation pane, look through the sub-folders within the **Reports** folder. Is there already a report that is similar to what you want? Consider the reports in the **Application Specific** folder, as well.

3. Look at the Configuration Card to see the report properties. Is this report still a good match? For more information, see "Understanding the Configuration Card" on page 137.

4. Generate the report to see whether it actually does what you want. Select the report name in the Navigation pane and click the **Execute Report** button. The report is displayed in the Results pane. For more information about setting report properties and contexts, see "Generating Live Reports" on page 91.

5. If the report does what you want, save it under a new, content-specific title in an appropriate folder. For more information, see "Saving, Moving, and Renaming Reports" on page 134.

6. If appropriate, deploy the report to SQL Reporting Services for access by other users. For more information, see "Deploying Reports to SQL Reporting Services" on page 155.

7. If none of the existing reports is suitable, look through the **Templates** folder to find a report that is structured the way you want. Save the report under a new title in an appropriate folder, customize the report to present the data that you need, and then generate the report to check its function.

# Generating and Deploying a Report: An Overview

Analysis Center includes many reports that you can use as-is or alter to suit your needs. These pre-configured reports are located in the various category groups within the **Reports** folder in the Navigation pane. This section describes how to generate and deploy a Performance report. For more information, see "Generating Live Reports" on page 91.

## Generating a Performance Report

The following example illustrates the steps involved in creating a **Performance Data Filtered by KS Over Time** report.

Before generating this report, make sure that your data source can supply the data that your report uses. For the following example, you run a series of AppManager NT Knowledge Scripts, setting their parameters to collect data and setting their thresholds abnormally low so as to be assured of data and events that could be used in a report.

1. In the Navigation pane, expand **Reports > AppManager > Performance** folder and select **Performance Data Filtered by KS Over Time**.

   After you select the report, the Tasks pane displays **Context**, **Tasks**, and **Properties** tabs. Also, if your data source contains any data, the Results pane displays a preview of the report.

2. ***If you want to view a detailed description of the report, right-click on the report title and select Configuration Card***.

   The Overview section contains a description of the functions of the report, and frequently offers suggestions for customizing the report. The rest of the Configuration Card is a graphical representation of the configured contexts and parameters that make up the report.

3. On the Context tab, select the Knowledge Script context. Use the Knowledge Script context to select the Knowledge Scripts that are generating the data you want included in the report.

   In this example, you select the `NT_CpuByProcess` Knowledge Script.

   **Note**
   For more information about how to select data in the contexts, see "Using the Multi-State Tree Control" on page 96.

4. Select the Metric context. Use the Metric context options to define the data for your report. In this example, you can view the selections that are related to AppManager Knowledge Script data stream legends.

   For this example, in the **Application(s)** list, select **NT**. In the list of metric options, select all of the children of the % **CPU Utilization By Process** metric.

5. Select the Measures context. The Measures context options allow you to determine the statistics used in the report. For this example, use the default. The default is Average.

6. Select the Time context. Use the Time context to determine the time frame for your report. In this example, select a smaller time frame than the default, which is the Last 28 Days.

   In the **Date Range** list, select **Last 7 Days**.

7. Click **Execute Report.** The Results pane displays the report.

8. Once you have finished customizing the report, click **Report > Save Report As** to save with a new title under **Reports > Performance**. Make the new title as explicit as possible — it should tell you exactly what purpose this report has.

   After you save the report, the Navigation pane displays the report and the Results pane displays the title.

---

**Tip**

To make the functions of the report obvious to users, type a meaningful description in the **Description** field on the Properties tab. Ensure that you accurately describe what is shown in the report and include important parameters such as the date range the report covers, the metric being used, and the computers being included. Although you can see the parameters in the Analysis Center Console, you cannot see the parameters you deploy the report to SQL Server 2005 Reporting Services Service Pack 2.

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## Deploying a Report

After you have generated a report, you can then deploy the report to SQL Reporting Services. From Reporting Services, you can schedule the report to run periodically. You can configure SQL Reporting Services to send the report by email to one or more users, or write the report to a file share. You can also view the report by using a Web Browser with access to SQL Reporting Services.

For more information about deploying reports, see "Deploying Reports to SQL Reporting Services" on page 155.

From the Console, if you delete reports that are already deployed, then Reporting Services and Web Part may not display such reports correctly.

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**Note**

To deploy reports to Reporting Services, you must have permission to deploy a report from the Console and have Administrator level permissions on the Reporting Services computer.

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**To deploy a report:**

1. Make sure that you have configured your report to provide the information you need. Then save and generate the report.
2. Click **Deploy Report**.
3. In this example, accept the default **Report Server Location** and **Report Server Credentials** information, and then click **Deploy**.
4. Access the SQL Server Reporting Services home page by entering the following address in a Web browser:

   ```
   http://<name of SRS Server>/Reports
   ```

5. Expand **NetIQ** > **Analysis Center** > **Performance**.
6. Click the report you deployed.

Chapter 5

# Navigating the Analysis Center Console

The Analysis Center Console is the interface through which you administer Analysis Center and generate reports. You can access the Console elements based on the permissions granted to you by an Analysis Center Administrator. Elements for which you do not have permission are not visible.

## Starting the Console

The following steps describe the process of starting the Analysis Center Console.

**To start the Analysis Center Console:**

1. In the **NetIQ > Analysis Center** program folder, click **Analysis Center Console**.
2. Provide the necessary information to connect to the Analysis Center Web Service:

| Field | Description |
|---|---|
| Web Service | Enter the URL of the Analysis Center Web Service using the format `http://`*`computer hosting Web Service/Web Service virtual directory`*.<br>The URL is defined during installation of the Web Service. For more information, see "Installing the Analysis Center Web Service" on page 45. |
| Use Current Windows Authenticated User | Select this option to log on with the Windows account you used to log onto the domain.<br>Clear this option to enable the **Login name** and **Password** fields. |
| Login name | Enter the login name for the account you want to use to connect to the Web Service using the format *`domain`*`\`*`user name`*.<br>The first time you start the Console, use an account that is a member of the local Administrators group on the computer where the Web Service is installed. The first time you connect to the Web Service, members of this group are added to the Analysis Center `BUILTIN\Administrators` group on the Console computer. For more information, see "Configuring Security" on page 75. |
| Password | Enter the password for the account you want to use to connect to the Web Service. |

| Field | Description |
|---|---|
| Don't show again | Select this option to not display the Logon dialog box in the future when:<br>• You connect to the same Web Service<br>• You use your current Windows credentials to connect to the Web Service<br>If you start the Console while using a different Windows account, the Console displays this dialog box. |

3. Click **Logon**.

The Web Service uses IIS to validate the credentials you use to log on. IIS evaluates the credentials of the account according to how you configured the Web Service during installation.

If you configured the Web Service to use Windows Integrated Authentication, IIS first attempts to validate the user account by its current credentials. If IIS cannot validate by that method, IIS prompts for a user name and password until you provide valid credentials.

If you configured the Web Service to use Basic Authentication, IIS prompts for a user name and password until you provide valid credentials.Identifying Console Elements

The Analysis Center Console consists primarily of the Navigation pane, the Results pane, and the Tasks pane. You can move the Navigation and Task panes.

# Navigation Pane

The Navigation pane gives you access to the different functional areas of Analysis Center. The contents of the Results and Tasks panes change according to the selection you make in the Navigation pane.

When you click something in the Navigation pane, it takes a few moments for the panes to refresh while the Console queries the Data Warehouse and Configuration database.

The Navigation pane contains the following folders:

- Analysis Center Home
- Enterprise
- Views
- Reports
- Templates

## Analysis Center Home

The **Analysis Center Home** page allows you to manage or access Security, Data Sources, and Reports.

Each link has an icon that indicates the configuration status of that particular item. For example, if you have not added at least one Data Source, the icon for the Data Sources link is yellow.

If you click the Manage Security link, the Manage Security dialog box opens. For more information, see "Configuring Security" on page 75.

If you click the Manage Data Sources link, the Data Sources list is displayed in the Results pane. For more information, see the *NetIQ Analysis Center for AppManager Management Guide*.

If you click the View Reports link, the Console displays the Reports folder. Expand the Reports folder to see available reports.

## Enterprise

The Enterprise folder contains the following:

- The Active Data Sources folder allows you to see all the currently active Data Sources you have defined. For more information about adding AppManager Data Sources, see the *NetIQ Analysis Center for AppManager Management Guide*.
- Database Connections folder allows you to see or modify all of your external Database Connections.
  - The default Analysis Center connection, `ACOLAP`, is the connection to the OLAP database. If you are an Administrator, you can change the Server Name and OLAP Catalog values of this connection. However, do not modify the connection properties unless you have been instructed to do so by NetIQ Technical Support.

    To move or change the OLAP server, use the Properties dialog to change the values of this connection. Right-click the connection and select **Properties**. You cannot delete this connection.
- The Deleted Data Sources folder allows you to see all the Data Sources you have deleted.
- The Pending Data Sources folder allows you to see any added Data Sources that have not yet been activated.

When you select the Enterprise folder, the Results pane displays the following objects:

- Green for OK
- Yellow for Warning
- Red for Critical Condition)

These objects indicate the overall health of your Data Sources, Data Marts, Data Warehouse, and Report Server. This allows you to identify potential problems in your Analysis Center environment.

## Data Sources

The health of your Data Sources is determined by the success or failure of the most recent ETL job that has run for each Data Source. If any of those jobs has failed, then the overall health of your Data Sources is considered as compromised.

When you select Data Sources, a list of Data Sources is displayed in the lower part of the Results pane. In the upper part of the Results pane, a Status icon, either green, red, or blue, indicating the overall health of your Data Sources is displayed. Green indicates success, red indicates failure, and blue indicates an informational message.

The list presents several columns of information:

| Column | Contents |
|---|---|
| Name | Name of the Data Source. |
| PreCheck | An integer value that indicates:<br>• The type of pre-check mode you selected when creating the Data Source<br>• Whether or not you selected to activate the Data Source upon successful completion of the pre-check.<br>The possible integer values are:<br>• `0`: No pre-check<br>• `10`: Basic check; do not activate<br>• `11`: Basic check; activate<br>For more information about Data Source pre-checking, see "Managing Data Sources" in the NetIQ Analysis Center for AppManager Management Guide. |
| Oldest Data | The date of the oldest data copied from the source database. |
| Newest Data | The date of the most-recent data copied from the source database. |
| Days collected | The number of days of data copied from the source database. |

## Data Marts

The health of your Data Marts is determined by the up/down status of the SQL Server and SQL Server Agent services for each Data Mart. If any service is down, then the overall health of your Data Marts is considered compromised.

When you select Data Marts, a related list is displayed in the lower part of the Results pane. In the upper part of the Results pane, a Status icon, either green, red, or blue, indicating the up/down status of the SQL Server service, is displayed.

The list presents four columns of information:

| Column | Contents |
|---|---|
| Server | Name of the Data Mart SQL Server. |
| Database | The name of the Data Mart database. |
| Service | The relevant service (SQL Server or SQL Server Agent). |

## Data Warehouse

The health of your Data Warehouse is determined by the up/down status of the Data Warehouse SQL Server, the SQL Server agent, and Analysis Services, and from the success or failure of the most recent OLAP Processing job. If any service is down or the last OLAP Processing job fails, then the overall health of your Data Warehouse is considered as compromised.

When you select Data Warehouse, a related list is displayed in the lower part of the Results pane. In the upper part of the Results pane, an icon either green, red, or blue, indicating the up/down status of the relevant service, or the success or failure of the last OLAP Processing job is displayed. Green indicates success, red indicates failure, and blue indicates informational message. The list presents three columns of information:

| Column | Contents |
|---|---|
| Server | The name of the Data Warehouse SQL or Analysis Server. |
| Service | The relevant service (SQL Server, SQL Server Agent, Analysis Services, or AC OLAP Processing Job). |

## Report Server

The health of your Report Server is determined by the up/down status of SQL Server Report Server and Internet Information Services, and the presence/absence of the Analysis Center Data Extension. If either service is down, or the Data Extension is not present, then the health of your Report Server is considered compromised.

When you select Report Server, a related list is displayed in the lower part of the Results pane. In the upper part of the Results pane, an icon indicating the status of the Report Server component is displayed. The list presents two columns of information:

| Column | Contents |
|---|---|
| Service | A list of Report Server-related components:<br>• Report Server<br>• Analysis Center Data Extension for SQL Reporting Services<br>• Internet Information Services |

If you have installed SQL Reporting Services in a non-default folder, the status icons for the Report Server are red, falsely indicating a critical condition. Use the Reporting Services tab of the Options dialog box to identify the correct location of the Report Server. Once you indicate the correct location, the status icons for the Report Server reflect the appropriate condition. For more information, see "Setting SQL Server Reporting Services Options" on page 176.

# Views

Select the Views folder to see a list of all AppManager views that have been imported from the various repositories. These views are one method by which data in reports is filtered. When you select Views, the following columns of information are displayed:

| Column name | Column contents |
|---|---|
| Data Source | Data Sources from which data has been imported. |
| View Name | AppManager views for which data has been imported. |
| Machine Count | Number of computers or servers in each view. |

| Column name | Column contents |
|---|---|
| Permissions | Analysis Center permissions set for each view. |

You can print or export the columns of information by right-clicking in the table, and then clicking **Print** or **Export**.

You can export to the following formats:

- Microsoft Excel Workbook (XLS)
- Web page (HTML)
- XML file (XML)
- Text file (TXT)

## Reports

Expand the Reports folder to see a tree view of available reports. When you select the Reports, the Results pane does not display any information.

When you select an individual report in the Reports folder or a subfolder, the Results pane displays the contents of the report based on the default context, or a message that no data was found for the report.

You can right-click a folder under the Reports folder to display the commands to create, rename, delete, or move a folder.

## Viewing Application-Specific Reports

Analysis Center supports application-specific reports such as Exchange, SQL Server, VoIP. Analysis Center also allows you to specify security on the application-specific reports. For more information about application-specific reports, see "Applying Security to Folders in the Navigation pane" on page 87.

**To view application-specific reports:**

1. Log on to the Console computer with an administrator account.
2. Start the Analysis Center Console in the **NetIQ > Analysis Center** program folder.
3. In the Navigation pane, navigate to the **AppManager > Application Specific** folder.
4. In the **Application Specific** folder, expand the application folder to view the reports. For example, to view the VoIP reports, expand the **VoIP** folder.Templates

Expand the Templates folder to see the available report templates in the Navigation name. When you select the Templates folder, the Results pane does not display any information.

When you select an individual template, either the contents of the report based on the default context are displayed, or a message that no data was found for the report is displayed.

# Results Pane

The Results pane displays information related to the folder you select in the Navigation pane, and the contents of reports.

You can sort and group data in a Report table by the different column heads. For more information, see "Grouping and Filtering Lists" on page 72. When you sort table data, you also sort the corresponding chart, unless the X axis of the chart is ordered by Date/Time. In this circumstance, the chart is not sorted.

# Tasks Pane

The contents of the Tasks pane change depending on what you select in the Navigation pane. When you select one of the top-level folders (such as Analysis Center Home or Enterprise), the Tasks pane contains a list of tasks appropriate to that selection.

When you select an individual report, the Tasks pane contains the Context (data) controls for the report, a list of report-related Tasks, and the Properties controls for the report. You can expand and collapse the individual controls of the Tasks pane by clicking the zoom box for each control.

By default, each control is pinned in place. Click the pin icon to unpin a control.

- When a control is unpinned, it is not displayed in the Tasks pane when not in use.
- To display an unpinned control, point to its tab along the right side of the Tasks pane.
- To close a control, click **Close**.
- To restore a control, select it from the **View** menu.

# Working with Report Folders

In the Navigation pane, folders are containers in which you can keep the reports that you create. You can use the folders to group reports by report function (such as Service Levels), by the application that you are monitoring, by the recipient of the report (such as a specific administrator or business unit), or by myriad other factors that suit your reporting needs.

NetIQ Corporation recommends that you create a folder called "Temporary," "In-progress," "Staging," or some other title that indicates that the folder is a container for reports that are not yet ready for "prime-time." You can leave an in-progress report in the temporary folder as long you need, until you are done making all of the context changes necessary to produce a report that is exactly what you want. With a temporary folder, you can save a report that is not quite finished, come back to it later, and not have to wonder where you saved it. When you have finished the report, you can save it in the permanent folder in which it belongs.

## Creating a Folder

In the Reports folder, you can create new folders.

**To create a new folder:**

1. Right-click the Reports folder or any subfolder, then select **New Folder**. The New Folder dialog box is displayed with the new folder name highlighted.
2. Enter a name for the new folder and then press **Enter**.

The Navigation pane displays the folder with the name you entered, as a child of the folder where you created it.

## Moving a Folder

In the Reports folder, you can move the existing folders.

**To move a folder:**

1. Right-click the folder and select **Move Folder**.
2. Drag the folder to its new location in the Navigation pane.
3. Click **Close**.

# Grouping and Filtering Lists

The lists of information that are displayed in the Results pane can be grouped according to hierarchy. You can expand columns to automatically accommodate all the text in each cell, and you can rearrange columns by dragging. You can also filter a list by a number of different methods.

## Grouping a List

You can create a hierarchical grouping of information in a list by dragging column heads to the grouping area at the top of the list. An ungrouped list is displayed by default.

To group the information in the list by one or more column heads, simply drag the column heads into the grouping area. Each successive column head that you drag is added as a child of the previous column head.

To clear the grouping, right-click in the grouping area and select **Clear Grouping**.

To completely expand each item in the list, right-click in the grouping area and select **Full Expand**.

To completely collapse each item in the list, right-click in the grouping area and select **Full Collapse**.

## Manipulating Columns

The different lists in the Results pane may not, by default, display all the text in individual columns.

You can expand individual columns to display all the text.

**To expand a column:**

Right-click the column head and select **Best Fit**.

You can also expand all columns in the list.

**To expand all columns:**

Right-click a column head and select **Best Fit (all columns)**.

You can rearrange the sequence of columns by dragging the columns from one position in the list to another.

# Filtering Lists

You can filter a list by the row contents of a particular column.

**To filter a list:**

1. Click the drop-down arrow for the column you want to use to create the filter.
2. Select the method by which you want to filter.

| Filter | Description |
|---|---|
| All | All rows are displayed. |
| Custom | All rows where this column matches the equation you define.<br>For example:<br>Job name = X<br>or<br>elapsed time is less than X<br>The custom operators **like** and **not like** are used with wild cards. For example, `like *ETL` displays all rows where the column contains *`<anything>`* `ETL`. |
| Blanks | All rows for which this column contains a blank cell. |
| Non blanks | All rows for which this column does not contain blank cells. |
| <cell content> | All rows for which this column contains this specific cell content. |

**Note**

When you group or filter the data in a table (or sort a column by clicking the column head), the corresponding chart is updated to reflect those changes. Those changes can be saved with the report, with one exception: if the X axis of a chart is Date/Time (for example, values distributed along a time line from January 1 to January 21), no grouping or sorting of the table columns is reflected in the chart, and no grouping or sorting of columns is saved with the report (columns are always sorted by Date/Time ascending).

# Chapter 6
# Configuring Security

Once you have installed Analysis Center and familiarized yourself with the Console, your next step is to implement security. The security settings you make define what is visible to each user who logs on to the Console, and what Console functionality is available to each user.

You configure Security by creating accounts, assigning those accounts to groups, creating permission sets, and then assigning groups and permission sets to folders in the Navigation pane.

Each time a user connects to the Web Service, Analysis Center makes an evaluation of the Windows user groups on the Web Service computer and the groups defined within Analysis Center. In any case where there are matching group names, the Windows user is added to the corresponding Analysis Center group.

For example, if the connecting user is a member of the Windows group *Administrators*, then that user is added to the `AC_Configuration` database as an Analysis Center user with administrative permissions (full permissions for Analysis Center), and is added to the Analysis Center group `BUILTIN\Administrators`. If the connecting user is a member of the Windows group *Users*, then that user is added to the `AC_Configuration` database as a non-administrative Analysis Center user, and is added to the Analysis Center group `BUILTIN\Users`.

Analysis Center has three default groups defined:

- `BUILTIN\Administrators` (full permissions for Analysis Center)
- `BUILTIN\Users`
- `Analysis Center Everyone` (all Analysis Center users belong to this group; this group is not exposed)

---

**Note**

The account you use to install Analysis Center is added as an administrative account with full permissions.

The automatic addition of Windows users to Analysis Center groups works for the three default Analysis Center groups. If you want to create additional local Windows groups and matching Analysis Center groups to take advantage of the automatic addition of users, you must use the following naming convention for the Analysis Center groups:
`<Web Service computer name>\<Windows group name>`

---

# Understanding the Manage Security Window

To open the Manage Security dialog box, click **File > Manage Security** or click the Manage Security Icon on the toolbar. The Manage Security dialog box allows you to:

- Add Windows accounts to Analysis Center, give Analysis Center Administrative permissions to individual accounts, and enable or disable accounts.
- Create groups of Analysis Center users, add Windows users to those groups, give Analysis Center Administrative permissions to individual groups, and enable or disable groups.
- Create permission sets that are more restrictive than Administrative permissions, and enable or disable those permission sets.
- The enable/disable feature lets you fully organize your security paradigm before you implement it. It also allows you to enable/disable individual users, groups, or permission sets whenever it might be necessary during the ongoing administration of Analysis Center security.

# Applying Security

Security for Analysis Center is *applied* to folders in the Navigation pane. For each folder, you can define which groups have permissions, and which permission set is enforced for each group on that folder.

For example, you may want to restrict access to the Enterprise folder to an administrative group with permissions to create Data Sources, while giving broader access to various folder under Reports.

# Working with Accounts, Groups, and Permission Sets

The order in which you create accounts, groups, and permission sets is not important, although you add accounts to groups at some point to give those users access to Analysis Center functionality.

## Creating and Managing Accounts

In order to have Analysis Center group members, you need to first create Analysis Center user accounts.

---

**Note**
You can enter account names in multiple formats: username, machinename\username, domainname\username, etc. And you are allowed to add accounts with the same name provided you use different formats: joe, machine1\joe, machine2\joe. But you should not do this. If you do, the Analysis Center privileges of the accounts will be restricted to the privileges of the account that has the least privileges.

---

## Creating a User Account

You can create a User Account, modify or remove the account.

**To create a user account:**

1. Click **File > Manage Security**.
2. Click the **Accounts** icon and then click **Add**.

   Complete the **Add New Account** dialog box as instructed below:

| Field | Description |
|---|---|
| Name | Type the account name.<br>If you are entering a domain account, use the format *domain\user name*<br>If you are entering a local account, use the format *computer name\user name* |
| Description | Type the description you want for the account. |
| Administrator | Select **Administrator** to give this account all permissions for Analysis Center. |
| Enabled | Select **Enabled** to enable the account. By default, the account is enabled.<br>An enabled account has access to Analysis Center. That access depends on whether the account is granted Administrative permissions, which enabled groups the account belongs to, and which permission sets are associated with each of those groups when they are assigned to folders in the tree view.<br>An account that is not enabled is ignored by Analysis Center. |

3. Click **Create**. The new account is displayed in the Manage Security dialog box.
4. Click **Close**.

**To modify an account:**

1. Click **File > Manage Security**.
2. Click the **Accounts** icon.
3. Select an account and then click **Modify**.
4. Make the necessary modifications to the **Name** and **Description** fields, and to the **Administrator** and **Enabled** options.
5. Click **Modify** and then click **Close**.

**To remove an account:**

1. Click **File > Manage Security**.
2. Click the **Accounts** icon.
3. Select an account and then click **Remove**.
4. Click **Close**.

## Working with Account Groups

Account groups are one aspect of how security is applied to folders in the tree view; permission sets are the other aspect. In order to apply security, you must identify the groups that have access to a folder and which permission set applies to each group.

Group members are selected from the accounts you create for Analysis Center. For more information about accounts, see "Creating and Managing Accounts" on page 77.

**To create an account group:**

1. Click **File > Manage Security**.
2. Click the **Groups** icon and then click **Add**.

3. Complete the **Add New Group** dialog box as instructed below:

| Field | Description |
|---|---|
| Name | Type a name for the group. |
| Description | Type the description you want for the group. |
| Administrator | Select **Administrator** to give this group all permissions for Analysis Center.<br>A group that has this option selected cannot be deleted. |
| Enabled | Select **Enabled** to enable the group.<br>An enabled group is recognized by Analysis Center. The permissions associated with the group are enforced for each folder to which the group is assigned.<br>If a group is not enabled, it is ignored by Analysis Center. |
| Accounts | Click **Add** to open the Browse Accounts dialog box. Select accounts from the list, then click **Add**. The selected accounts are added to the User Name list.<br>Select an account from the User Name list and click **Remove** to remove the account from the group.<br>**Note** An account can belong to multiple groups. In this case, the most-restrictive set of permissions in effect takes precedence. |

4. Click **Create**. The new group is displayed in the Manage Security dialog box.
5. Click **Close**.

**To modify an account group:**

1. Click **File > Manage Security**.
2. Click the **Groups** icon.
3. Select a group and then click **Modify**.
4. Make the necessary modifications to the Name and Description fields, to the Administrator and Enabled options, and to the Name list.
5. Click **Modify** and then click **Close**.

**To copy an account group:**

1. Click **File > Manage Security**.
2. Click the **Groups** icon.
3. Select a group and then click **Copy**.
4. You cannot copy a group that has the *Administrator* option selected.
5. Make the necessary modifications to the **Name** and **Description** fields, to the **Administrator** and **Enabled** options, and to the **Name** list.
6. Click **Copy** and then click **Close**.

**To remove an account group:**

1. Click **File > Manage Security**.
2. Click the **Groups** icon.
3. Select a group and then click **Remove**.
4. Click **Close**.

---

**Note**
You cannot remove a group that has the *Administrator* option selected.

---

## Using Windows Groups

After your initial logon to Analysis Center, you can create additional corresponding Windows and Analysis Center groups, and configure Analysis Center to add Windows users to those Analysis Center groups. When a user logs on to the Console, Analysis Center checks local user groups on the Web Service computer to see whether there are matches to Analysis Center groups. If it finds a match, Analysis Center adds the Windows users to the Analysis Center groups of the same name. The Analysis Center groups must use the following naming convention for this process to work:

```
<Web Service computer name>\<Windows group name>
```

If you remove a member from a Windows group on the Web Service computer, that account can no longer be used to gain access to Analysis Center, but the account will remain in Analysis Center until you have removed it through the Manage Security dialog. For more information about removing an account, see "Creating and Managing Accounts" on page 77.

## Working with Permission Sets

Granting Administrative permissions to individual users or groups grants full Analysis Center permissions. You can define more restricted sets of permissions and enforce more granular security for each folder in the tree view.

You can use the following permissions:

| Category | Permission |
|---|---|
| Administration | Assign security rules to a folder |
| Data Source | Add a Data Source<br>Modify a Data Source<br>Remove a Data Source |
| Folder | Create a new folder<br>Delete a folder<br>Move a folder<br>Rename a folder |
| Node | View a node |
| Report | Delete a report<br>Deploy a report<br>Execute a report<br>Export a report<br>Move a report<br>Print a report<br>Rename a report<br>Save a report<br>Save a report as |

Analysis Center has a number of configured permission sets you can use as is, or as the basis for your own custom sets.

A permission can have one of three states:

- **Undefined**, which means neither an allow or deny state has been assigned to the permission.
- **Allow**, which means the permission is granted.
- **Deny**, which means the permission is denied.

**To create a permission set:**

1. Click **File > Manage Security**.
2. Click the **Permissions** icon and then click **Add**. The Add New Permission Set dialog box is displayed.
3. Complete the fields in the dialog box as instructed below:

| Field | Description |
|---|---|
| Name | Type a name you create to identify the permission set. |
| Description | Type the description you want for the permission set. |
| Enabled | Select **Enabled** to enable the permission set.<br>An enabled permission set is recognized by Analysis Center. The permissions defined by the set are enforced for each folder to which the set is assigned.<br>If a permission set is not enabled, it is ignored by Analysis Center. |
| Permissions | Set the state for each permission as undefined, allow, or deny.<br>Click once to change the state from undefined to allow; click again to change from allow to deny. The icon indicating the permission state changes with each click. |

If you set the permission state at the category (folder) level, then each individual permission inherits that state.

You can set a different state for each permission in a category.

4. Once you have set the state for each permission, click **Create**. The new permission set is displayed in the Manage Security dialog box.

5. Click **Close**.

**To modify a permission set:**

1. Click **File > Manage Security**.

2. Click the **Permissions** icon.

3. Select a permission set and then click **Modify**.

4. Make the necessary modifications to the **Name** and **Description** fields, to the **Enabled** option, and to the permission states.

5. Click **Modify** and then click **Close**.

**To copy a permission set:**

1. Click **File > Manage Security**.

2. Click the **Permissions** icon.

3. Select a permission set and then click **Copy**. The Copy dialog box is displayed.

4. Complete the fields in the dialog box as instructed below:

| Field | Description |
|---|---|
| Name | Type a name for the copy of the permission set. |
| Description | Type the description you want for the new permission set. |
| Enabled | Select **Enabled** to enable the permission set.<br>An enabled permission set is recognized by Analysis Center. The permissions defined by the set are enforced for each object to which the set is assigned.<br>If a permission set is not enabled, it is ignored by Analysis Center. |

| Field | Description |
|---|---|
| Permissions | Set the state for each permission as undefined, allow, or deny.<br>Click once to change the state from undefined to allow; click again to change from allow to deny. The icon indicating the permission state changes with each click. |

5. Click **Create**. The new permission set is displayed in the Manage Security dialog box.
6. Click **Close**.

**To remove a permission set:**

1. Click **File > Manage Security**.
2. Click the **Permissions** icon.
3. Select a permission set and then click **Remove**.
4. Click **Close**.

# Applying Security to Folders in the Navigation pane

Once you have set up users, groups, and permission sets, your next step is to apply security to the folders in the Navigation pane.

Permissions are calculated cumulatively for the folders in a hierarchy, with the most-restrictive permissions taking precedence from that folder to its subfolders.

The following illustration is an example: if a group has permission to view the `Reports` and `Application Specific` folders, and is denied permission to view the `Exchange` folder, then that group does not have access to the Exchange reports (the folder is not displayed for that group), but does have access to the SQL Server reports.

If a group has permission to view the `Reports` folder, and is denied permission to view the `Application Specific` folder, then that group does not have access to either the Exchange or SQL Server reports (those folders are not displayed for that group).

When you are denied permission to view a folder, that folder is not displayed when you log in to the Console.

If permissions for a folder are undefined, that folder inherits the permissions of its immediate parent.

**To apply security to a folder:**

1. Right-click the folder in the Navigation pane and select **Security**.
2. Click **Add**.
3. Complete the dialog box as instructed below:

| Field | Description |
|---|---|
| Group | Select an account group from the list. |
| Permission Set | Select a permission set from the list. This permission set is enforced for the group you select. |

4. Click **Add**. The new information is displayed in the Security dialog box.

---

**Note**
You can add multiple account groups. You can also add the same group multiple times with different permission sets. In this case, if there are overlapping permissions (for example, two different sets that both set permissions for reports), the most-restrictive permission set takes precedence.

---

5. Click **OK**.

# Understanding the Impact of Your Security Settings

The security settings for folders affect the range of functionality available to different users. This section discusses the impact of security settings for the following default folders:

- "Analysis Center Home"
- "Enterprise"
- "Views"
- "Reports and Templates"

## Analysis Center Home

By default, all Analysis Center users have access to Analysis Center. Without access to this folder, you cannot see any of the others.

If you deny access to this folder, you effectively deny access to all Analysis Center functionality.

## Enterprise

Access to the Enterprise folder is necessary to see the Enterprise view, which gives an overall look at the health of your Analysis Center environment, and for access to the Data Sources folder.

Access to the Data Sources folder is necessary to add and modify Data Sources.

## Views

Access to the Views folder is necessary to have access to the various AppManager views that have been imported from each repository. Access to views is required to be able to select computers for a report when you set the context. For more information about views, see "Setting the Group Context" on page 98.

If you are denied access to the Views folder, the report cannot be displayed as you cannot select computers for a report, and there is no data found for the report. You can set permissions for individual views under the Views folder. For example, you can limit some users to selecting computers from only the SQL or Exchange views.

## Reports and Templates

Access to the Reports and Templates folders is necessary to select and generate reports.

You can set permissions for individual folders of reports, or for individual reports, in order to control user access.

# Managing License Keys

Use of Analysis Center requires that you purchase licenses for each NetIQ product:

For AppManager, you need a license for each managed clients. For example, if you use two AppManager Data Sources, each reporting on 500 servers, you need Analysis Center licenses for 1000 managed clients.

The cost of a license is based on how long the license lasts and on the number of servers at your site that are providing data to Analysis Center. Use a utility on the Help menu to add or remove licenses. The Manage Licenses window displays your subscription information. For more information, see "Analysis Center License Monitoring" on page 39.

To add a new license or remove an expired license, click **Help > Manage Licenses** to start the license management utility.

- To add a new license key, type the license key in the **New license key** field and click **Add**.
- To remove an existing key, select the key in the top pane and click **Remove**.

A trial license key is installed with the Analysis Center Console. It enables full functionality for a limited time. This trial key is displayed in the Manage Licenses dialog with the expiration date. Reinstalling Analysis Center will not extend the trial period.

# Chapter 7
# Generating Live Reports

After you have defined at least one Data Source and enough time has elapsed that the ETL and OLAP processing jobs have both successfully completed, you can generate reports based on that data. For running a report successfully, the OLAP processing job has to process the context members in the dimensions of the OLAP database.

Analysis Center support VoIP reports. For more information, see "Reports" on page 69.

There are two types of reports you can run:

- **Live**, or ad hoc, reports. For a live report, you set the context for the report, run the report, and then view the contents of the report in the Analysis Center Console.

  When you run a live report, that data is cached until you run the report again. If you select a report that has been created, you see the cached data. To see more-recent data, run the report again.

- **Deployed**, or scheduled, reports. To generate reports on a schedule, you configure the report to display the data in which you are interested (the same way you configure a live report), and then deploy the report to SQL Server 2005 Reporting Services Service Pack 2. The scheduling and distribution of the report is handled from the SQL Reporting Services interface. For more information, see "Deploying Reports to SQL Reporting Services" on page 155.

Analysis Center provides you the Report Wizard to generate reports quickly. For more information, see "Understanding Report Wizard" on page 143.

# Setting the Context for a Report

The context of a report refers to the computers, data streams, and time frame that are the subject of the report, and may also include measures of the data, such as average or maximum.

The first time you select a report, it displays any data relevant to its default context. If there is no relevant data (for example, no data that fits the default time context), then a link to the configuration card for the report is displayed in the Report pane.

---

**Notes**

Depending on the amount of data called for by your context settings, the time required to run a query may exceed the timeout settings in the Web.config file, causing the query to abort. If you are routinely generating reports that contain large datasets, you can alter the timeout settings by editing the Web.config file. For more information, see "Changing Timeout Values" on page 187.

You can also change the connection timeout settings for the Web Service Web site. For more information, see "Adjusting the Connection Timeout for the Web Service Web Site" on page 188.

---

## Displaying the Context Pane

When you first open Analysis Center, the Tasks pane is displayed on the right-hand side of the console with a Context tab and Properties tab displayed at the bottom of that pane. Click the Context tab to display the Context pane.

When you select a report in the Navigation pane, its context controls are available on the **Context** pane.

There are six different context controls you can use with a report, but not every context control is available for every report.

| Context Control | Purpose |
|---|---|
| Data Source/ Database Connection | Lets you select specific sources of data for your report.<br>Data Sources apply to AppManager reports. By default, if you have added more than one Data Source, reports reflect all of them, but many reports allow you to exclude Data Sources. |
| Group | Lets you select computers for a report. You can select computers individually or by group. |
| Knowledge Script | Lets you filter the contents of an AppManager report by Knowledge Script. You can see only the Knowledge Scripts that are available both in the Cube and the Warehouse.<br>For example, if you are running an event report, you can limit the contents of the report to events raised by a particular Knowledge Script (or group of Knowledge Scripts).<br>You can also use this control in conjunction with the Metric context control when it is available.<br>For example, if you are using both the *General_Counter* and *NT_LogicalDiskSpace* Knowledge Scripts to monitor the percentage of free disk space, you can select both Knowledge Scripts, and the comparable metrics returned by each Knowledge Script, and use the report to compare the values.<br>**Note** Keep in mind that if the Knowledge Script and Metric context settings are in conflict with one another, your report will have no data. For example, if you set the Knowledge Script context to *NT_CpuLoaded*, but set the Metric context to a data stream collected by a different Knowledge Script (such as *% Physical Memory Usage*, which is collected by NT_MemUtil), your report will be empty. If you do not want to invoke any filtering by Knowledge Script, use the default selection of *All Knowledge Scripts*. |

| Context Control | Purpose |
|---|---|
| Measures | For AppManager reports, lets you select which statistics to compute for the data:<br>• Average<br>• Count<br>• Maximum<br>• Minimum<br>• Standard Deviation<br>• Sum |
| Metric | Lets you select the data for an AppManager report. You can see only the Metric that are available in Cube.<br>Each data stream is identified by a string (for example, % Physical Memory Usage). Generally, there are multiple instances of a data stream (for example, % Physical Memory Usage from each of your Web servers). |
| Time | Lets you select the time range for a report.<br>Some AppManager reports have two Time context controls, allowing you to compare the same type of data over different time periods (for example, the number of HTTP requests to a Web site over the past year compared to the past month).<br>When you are comparing data in two different time periods, the filters set for that comparison must be the same; therefore, you can set the filter data on the first time context only. Subsequent time contexts will have the filter options greyed out. |

To display a context control, click its name at the bottom of the Context pane. Only one control can be displayed at a time.

## Showing and Hiding Context Buttons

It is possible to remove context buttons that you do not need for your report in order to make your list of contexts more manageable. The context list is saved with the report. Although the contexts may be removed from your view, they are not removed from the report. So be aware of how a context is set, before you remove it from your view. Default values for a context will not affect your report, but if you have a filter set on a context, it will affect your report whether it is hidden or not.

You can also minimize the context buttons to provide more space to view the information associated with a context.

**To remove the context buttons that you do not need:**

1. Click the arrow at the bottom of the Context pane. Then, click **Add or Remove Buttons**.

   The list of possible buttons displays.

2. Click the button that you want to add or remove. If the button you click on exists as part of your report, it is removed. If the button has already been removed, it will be added again.

**To show or hide existing buttons:**

Once you have decided which buttons you want to include with your report, you can easily minimize buttons to make the list temporarily shorter. This is useful when the context you are displaying has a lot of information associated with it and you want to see as much as you can.

To minimize or maximize a context button, click the arrow at the bottom of the Context pane and select either **Show Fewer Buttons** or **Show More Buttons**.

When a button is minimized, an icon is displayed at the bottom of the Context pane.

## Using the Multi-State Tree Control

The contexts use a multi-state tree control that lets you make a variety of different selections in order to create different orientations of the data. For example, you can compare the average memory use of individual SQL Servers to the average for all SQL Servers, or you can compare aggregate values by region.

The capability to make different types of selections from different levels of the tree view provides a great deal of flexibility in how you present data in a report (for example, comparing individual servers to one another, comparing individuals to a group, or comparing groups).

The default selection for a context is the top folder in the context control. For example, in the Group context control, the default selection is the All Machines folder; in the Measures context control, the default selection is the Average folder. If you do not make a selection for a context, the contents of the report will reflect this default selection.

Six different states of selection apply to a folder in the tree; one of the states applies only to the Group context.

You click a folder once to explicitly select just that folder, click again to deselect the folder and select each of its immediate children by rule, then click a third time to deselect the folder and all of its subfolders.

Icons for the other selection states are displayed for parent nodes based on the selection states of their children.

**State 1**: The parent folder is not selected, and none of its children is selected.

If nothing in the tree is selected, then a value is returned for the first item in the tree, in this case, All Machines.

**State 2**: The parent folder is explicitly selected; none of its children (if it has any) is selected.

In this case, the Locations folder is selected. Only values for the Locations folder are returned.

**State 3**: The parent folder is not selected, but one or more of its children are selected.

In this case, the Locations folder is not selected, but each of its immediate children is. Values are returned for each immediate child folder (Bellevue and Houston).

This selection icon is displayed under two circumstances:

- First, when you click an explicitly selected folder. In this case, the folder becomes deselected and the immediate children become selected by rule.
- Second, when you explicitly select any child of the parent folder.

**State 4**: The child folder is selected by rule; none of its children is selected.

To select a folder by rule means to select the child folder by double-clicking on the parent folder. When you select a child folder in this manner, you cannot change the selection of the child, or that of its children by clicking directly on their nodes. You must click again on the parent folder to change the child's selection.

With this selection option, your report will display data only for the child objects that are selected by rule.

In this case, the Bellevue and Houston nodes are selected by rule (by clicking the Locations folder twice). A value is returned for each folder that is selected by rule.

---

**Note**
State 4 applies only to the Group context.

---

**State 5**: The folder is explicitly selected, and one or more of its children are selected (by any method).

In this case, the Bellevue folder is explicitly selected, and the Bellevue01 folder is explicitly selected. A value is returned for the Bellevue folder and for the Bellevue01 folder.

## Selecting Report Data

The Data Source context lets you select which Data Sources you want to use for an AppManager report. By default, AppManager reports reflect all Data Sources.

Use the tree control to select the Data Source(s) or Database Connection to report on.

## Setting the Group Context

The Group context allows you to select individual servers, groups of servers, or server instances to be included in a report.

When you select an AppManager report, a **View** menu at the top of the Group context control lists the views from the various AppManager repositories from which you want to import data.

**To set the Group context:**

1. For AppManager reports, select a view to display the servers in that view.

   If there is more than one instance of a view among the various AppManager repositories (for example, IIS or NT), then all servers from all instances of that view are displayed.

   The Master view may contain other server groups.

2. Select **Show Instances** if you want to list server instances (for example, SQL Server instances) in the tree control.

## Setting the Knowledge Script Context

The Knowledge Script context lets you filter the data in an AppManager report by Knowledge Script.

Use the tree control to select the individual Knowledge Scripts or groups of Knowledge Scripts whose data you want for your report.

## Setting the Measures Context

The Measures context lets you calculate statistics from the data in an AppManager report. Use the tree control to select the measures in which you are interested.

Depending on the report, you can select one or more of the following measures. In this context, the tree control employs only two selection states: Selected and Not Selected.

**Average**
: Average of data point values within the selected date range (aggregate sum divided by aggregate count).

**Count**
: Number of data points collected by a data stream/legend within the selected date range.

**Maximum**
: Highest number (value) of all collected data points within the selected date range.

**Minimum**
: Lowest number (value) of all collected data points within the selected date range.

**Standard Deviation**
: Value that indicates how tightly a set of values is clustered around the average of those same values (square root of the product).
`[((SumOfSquares - (Sum * Sum / Count)) / (Count-1))]`

**Sum**
: Total of all collected data point values within the selected date range.

If you do not select a measure, an average value is calculated by default.

## Setting the Metric Context

The Metric context lets you select the data for an AppManager report. You can filter your selections by application and by metric type. If you select too many data streams for a report, the chart may become unreadable.

In the reports or the charts, Analysis Center does not display metrics for which the data is empty and does not display computers for which data does not exist. For the Reports by Over Time, Analysis Center does not display dates when data does not exist only for the grid.

---

**Note**

Analysis Center does not support the Hide Empty Metrics feature for the Service Level and Statistical Service Level reports.

---

For example, if you want to generate a report for the AppManager performance data for NT using the Template-Metric by Machine, and if data does not exist for % **DC Memory Utilization**, then Analysis Center will not display this metrics in the report or on the chart.

If data does not exist for a few days in a specific range using Template-Data Source by Date Time, Analysis center displays the empty values. For example, if you generate a report using the Template-Data Source by Date Time from 5/23/2007 to 6/6/2007, and if data does not exist for a few days in this date range, Analysis Center displays the empty values.

**To set the Metric context:**

1. Use the **Application(s)** list to limit data to specific applications. For example, you can limit your choices to data collected by AppManager from the Windows operating system or from SQL Server.

   To select applications, click the drop-down arrow and select from available applications.

2. Use the **Metric Type(s)** list to limit data to specific types of data streams (for example, AppManager performance data or AppManager event data).

   To select types of metrics, click the drop-down arrow, then select from available types.

3. Use the tree control to select the data in which you are interested. You can select a single data stream, or multiple individual data streams or groups of data streams from various levels of the hierarchy.

## Setting the Time Context

The Time context lets you specify a time frame for your report. The time context for AppManager reports is OLAP-based. When constructing a custom time context, you are not allowed to set start or end dates that fall outside the timestamps in the data. Where there is a conflict in date ranges, it is resolved in favor of the most restrictive (AppManager) time context.

Some reports include multiple Time context controls, which allow you to compare the same type of data over different periods of time (for example, the processing time required for SQL statements over the past 12 months compared to the last 28 days).

The time range filters are Interval, Start Time, End Time, Days Of Week, US Holidays and UTC. For reports that allow you to specify multiple time ranges, the time range filters are set in the first control and ignored in the other time controls in order to enforce a comparison of like-types of data.

For example, if the Time control specifies hourly intervals for data collected Monday through Friday, then these filters do not apply to all time ranges covered in the report only for the first one.

## Setting the Predefined Date Range

The Time context control lets you set a custom time range, or choose from a number of predefined time ranges. The following table lists the predefined date ranges:

| Date Range | Time Represented |
|---|---|
| Last 7 Days | The last seven days.<br>For example, if today is January 7, then the last seven days are January 1 to January 7. |
| Last 12 Months | The previous twelve months.<br>For example, if today is any day in January, 2005, then the previous 12 months are January 1, 2004 to December 31, 2004. |
| Last 28 Days | The last twenty-eight days.<br>For example, if today is January 28, then the last 28 days are January 1 to January 28. |
| Last 3 Months | The previous three months.<br>For example, if today is any day in April, then the previous three months are January 1 to March 31. |
| Last 365 Days | The last 365 days.<br>For example, if today is December 31, 2005, then the last 365 days are January 1, 2005 to December 31, 2005. |
| Last 4 Quarters | The previous four quarters.<br>The first month of the first quarter is set in **Tools > Options > Enterprise Options**. For more information, see “Setting Data Warehouse Properties” on page 171. January is the default month.<br>Using the default setting, if today is January 1, 2005, then the previous four quarters are January 1, 2004 to December 31, 2004. |
| Last 6 Months | The previous six months.<br>For example, if today is January 1, 2005, then the previous six months are July 1, 2004 to December 31, 2004. |

| Date Range | Time Represented |
|---|---|
| Last 90 Days | The last 90 days.<br>For example, if today is December 31, then the last 90 days are October 3 to December 31. |
| Last Month | The previous month.<br>For example, if today is any day in February, then the previous month is January 1 to January 31. |
| Last N Days | The previous N days.<br>The Date Range sets the base time as the day on which the report is run and counts back N days from the base time.<br>For example, if you select **N Value** as **2** and if today is July 26, 2007, then Analysis Center generates a report for the date range, 7/25/2007 to 7/26/2007. |
| Last N Months | The previous N months.<br>For example, if you select **N Value** as **5** and if the current month is July, then Analysis Center generates a report for the date range, 2/1/2007 to 6/30/2007. |
| Last N Weeks | The previous N weeks.<br>For example, if you select **N Value** as **2** and if today is August 16, 2007, then Analysis Center generates a report for the date range, 7/29/2007 to 08/11/2007. |
| Last Quarter | The previous quarter.<br>Using the default setting of January as the first month of the first quarter, if today is any day in April, then the previous quarter is January 1 to March 31. |
| Last Week | The previous week (Sunday to Saturday). |
| Last Year | The previous year.<br>For example, if today is any day in 2005, then last year is January 1, 2004 to December 31, 2004. |
| This Month | All days in the current month.<br>For example, if today is January 15, then this month is January 1 to January 31. |

| Date Range | Time Represented |
|---|---|
| This Quarter | All days in the current quarter.<br>Using the default setting of January as the first month of the first quarter, if today is February 15, then this quarter is January 1 to March 31. |
| Today | 12:00 AM to 11:45 PM of the current day. |
| Yesterday | 12:00 AM to 11:45 PM of the previous day. |

You can select a value for N in the Last N Days, Last N Months, and Last N Weeks custom date range options.

**To set a value for N:**

1. In the Navigation pane, click **Reports**.
2. From the reports folders, select a report for which you want to modify the report properties.
3. In the Context tab, select **Time**.
4. From the **Date Range** list, select **Last N Days**, **Last N Months** or **Last N Weeks**.
5. From the **N Value** list, select a value for N. By default, the range of values for N is from **2** to **21**.

## Setting the Custom Date Ranges

You can select a start date and an end date for which you want Analysis Center to generate reports. The following table lists the custom date range:

| Date Range | Time Represented |
|---|---|
| Custom Range | The specified date range.<br>For example, you can select Start Date as **7/23/2007**, End Date as **7/26/2007** to generate a report.<br>For more information, see "Setting the Custom Date Ranges" on page 105. |

**To set the Custom Range option:**

1. In the Navigation pane, click **Reports**.
2. From the reports folders, select a report for which you want to modify the report properties.
3. In the Context tab, select **Time**.
4. From the **Date Range** list, select **Custom Range**. When you select **Custom Range**, Analysis Center displays the **Start Date** and **End Date** controls.

## Selecting an Interval

You can select the interval at which data is aggregated in your report. For example, if your time range is 12 months, you may want to aggregate data by month rather than day, while a time range of seven days might be more appropriately aggregated by day.

Select an interval from the **Interval** list.

## Selecting a Start and End Time

You can limit the contents of your report to specific hours of the day. For example, if you are interested primarily in the level of message traffic on your Exchange Servers during regular working hours, you can limit the contents of the report to data collected between 8:00 AM and 6:00 PM.

**To set a start and end time:**

1. Click the arrow on the **Start Time** list to display the Hour/Minute control.

   Hours are listed on the left side of the control. You can select from 00 (Midnight) to 23 (11:00 PM).

   Minutes are listed on the right side of the control. You can select from quarter-hour increments (00 to 45).

2. Select an hour.
3. Select a minute increment.
4. Click outside the control to apply your selections.
5. Click the arrow on the **End Time** list to display the Hour/Minute control.
6. Repeat steps 2 through 4.

## Selecting Days of the Week

You can limit the contents of your report to specific days of the week. For example, if you are interested primarily in the level of message traffic on your Exchange Servers during regular working days, you can limit the contents of the report to data collected from Monday to Friday.

**To select specific weekdays for your report:**

1. Click the arrow on the **Days of Week** list.
2. Select the weekdays you want for your report and click **Apply**.

## Including or Excluding Holidays

You can choose to include or exclude U.S. government and business holidays. To see holidays:

- Click **Tools > Options**. The Options dialog box opens.
- Click **Holidays**.
- In the **Select Holiday Set** field, select **U. S. Business Holidays** or **U. S. Government Holidays**.

Select **Include U.S. Government Holidays** to include those days in your report. Clear this option to exclude those days from your report.

Select **Include U.S. Business Holidays** to include those days in your report. Clear this option to exclude those days from your report.

## Selecting Local or UTC Time

You can choose to represent data using its local time or Universal Time Coordinated (UTC).

Local time can be appropriate when the resources in question are specific to a time zone, for example, a file or application server used for a particular office or region.

UTC time can be appropriate for resources that are accessed from multiple time zones, for example, Web or database servers.

Select **UTC** to present data according to UTC time. Clear this option to use local time.

Use the tree control to select the groups and/or servers for your report.

---

**Note**
You can make selections from a number of different AppManager views, but you have to make them one view at a time. For example, you can make selections from servers in the IIS view, and then switch to the SQL view to make additional selections.

---

## Locking a Context

Analysis Center allows you to lock a context, that is, enforce the same context setting from one report to the next.

Each report has a default context, and when you switch from one report to another, the default context takes precedence unless you have locked the context from a previous report.

Locking a context is valuable when you want to, for example, run a number of different reports covering the same group of servers for the same time period, or run a report covering the same servers and metrics, but for a number of different time periods.

The control for locking a context is displayed in the upper-right corner.

By default, a context is not locked.

To lock a context, click the locking control.

To unlock a context, click the locking control again. Locking is not observed in circumstances in which reports do not include the same context. For example, you may lock the Knowledge Script context for a report, and then select another report that does not include the Knowledge Script context. In this case, locking is ignored. The Knowledge Script context does remain locked, however, if you switch to another report with that context.

---

**Note**

Locking the Metric context is only effective when switching between reports whose Metric contexts are filtered in the same manner.

Some filtering of metrics is hard-coded in the report. For example, the `Average Memory Utilization by Server Over Time` report is hard-coded to include only metrics related to memory use. The effect of the filtering is indicated in the title bar of the context control, in this case, by the text **Memory Utilization**.

In this case, any other report whose Metric context control reads **Metric: Memory Utilization** has the same hard-coded filtering of metrics, and you can effectively lock the Metric context between those reports.

Another layer of filtering is achieved when you set the Application and Metric Type filters in the Metric context control.

For some reports that employ hard-coded filtering, you can also apply these additional filters. For report templates and reports based on templates, you can only filter by this method. When these additional filters are applied, there must also be a match between reports in order to lock the Metric context.

---

## Refreshing a Context

Some contexts have a refresh feature that allows you to update the items you can select for that context while you are configuring a report. For example, you may want to refresh the Group context while you are setting it to see whether new AppManager views or new server instances have been added, or you may want to refresh the Data Source context to see whether new Data Sources have been added.

To refresh a context, right-click in the context control and select **Refresh**.

# Understanding AppManager Control Center Management Groups

Analysis Center allows you to include AppManager Control Center (AMCC) management groups in the Group context of a report. You can view group of servers from single or multiple data sources. For example, you can create an AMCC management group to include both Oracle and SQL Server. However, you cannot create a view to include both Oracle and SQL Server.

Analysis Center recognizes AMCC management groups using auto-discovery, and then displays these groups in the View window and also in the Group context menu. When you create new AMCC management groups, Analysis Center can recognize and display them.

Analysis Center supports AMCC management group names that are less than or equal to 100 characters. However, for the AMCC management group names that exceed this limit, Analysis Center truncates the management group names to 100 characters. A view name can be same as an AMCC management name. To differentiate between the view name and the management group name, Analysis Center prefixes the AMCC management group names with **MG**.

For more information about AMCC, see *NetIQ AppManager Control Center User Guide*.

## Reviewing the Views for AMCC Management Groups

You can create AMCC management groups from the following views:

- AM Standard Views
- AM Snap Views
- AM Dynamic Views
- Rules View

For more information, see the *User Guide for NetIQ AppManager Control Center*.

# Viewing the AMCC Management Groups

To view AMCC management groups, add the AppManager data source in Analysis Center. For more information about adding data sources to Analysis Center, see the *NetIQ Analysis Center for AppManager Management Guide*.

The Configuration Card also displays information about AMCC management groups. For more information, see "Understanding the Configuration Card" on page 137.

## Viewing the AMCC Management Groups in the View Window

Analysis Center displays the AMCC management groups in the View window. For more information, see "Views" on page 68.

**To view AMCC management groups from the View window:**

1. Log on to the Analysis Center computer.
2. Start the Analysis Center Console in the **NetIQ > Analysis Center** program folder.
3. Log on to the Analysis Center Console.
4. In the Navigation pane, click **Views**.

## Viewing the AMCC Management Groups in the Group Context

Analysis Center displays the AMCC management groups in the Group context. For more information, see "Setting the Group Context" on page 98.

**To view AMCC management groups in the Group context:**

1. Log on to the Analysis Center computer.
2. Start the Analysis Center Console in the **NetIQ > Analysis Center** program folder.
3. Log on to the Analysis Center Console.
4. In the Navigation pane, select **Reports**.
5. Select a report for which you want to add the AMCC management groups.

6. In the Tasks pane, select **Context**.

7. In the Group context, select an AMCC management group from the **View** list.

# Setting Report Properties

When you select a report in the tree view, its Properties controls are displayed on the Properties tab in the Tasks pane.

To set a property, you do one of the following depending on the property:

- Click the space to the right of the property and type a value.
- Make a selection from a drop-down list.
- Click a **[...]** button to open a dialog box.

Some properties are read-only.

The following topics discuss the possible properties for a report.

| | |
|---|---|
| “Attributes” on page 113 | “Chart > AxisX” on page 114 |
| “Chart > AxisY” on page 115 | “Chart > Chart3D” on page 117 |
| “Chart > ChartForecasting” on page 118 | “Chart > ChartLegends” on page 118 |
| “Chart > ChartSeries” on page 119 | “Chart > ChartType” on page 120 |
| “Display” on page 121 | “Display > Threshold” on page 123 |
| “Parameters” on page 124 | “Creating and Modifying Columns” on page 125 |

Once you have created a report and retrieved the information in which you are interested, you can make changes to the chart properties and then refresh the chart without executing the report again. This capability allows you to fine-tune the presentation of information in your charts without the overhead of having to run the report to see each change.

To refresh chart properties after making a change, right-click in the Properties control and select **Refresh Chart**.

## Attributes

Report attributes apply to the entire report.

| Property | Description |
|---|---|
| (ID) | This read-only value is a string identifier used internally by Analysis Center. |
| Comments | Enter any string of text that you want to associate with the report. |
| Description | Enter a brief description of the report. This description is displayed beneath the title of the report in the Results pane. |
| LastModifiedBy | This read-only field identifies the last person to save the report |
| ModifyDate | This read-only field indicates the last time the report was modified in the database |
| ThresholdEvent | Select **True** or **False** from the menu.<br>If set to **True**, an entry is made in the Windows Event Log of the Web Service computer when a deployed version of the report contains a value that exceeds the threshold condition you define. For more information, see “Custom” on page 124.<br>You must also enable event logging in the Options dialog box (**Tools > Options > Enterprise Options**). For more information, see “Setting SQL Server Reporting Services Options” on page 176. |

# Chart > AxisX

Changes to these properties affect the X axis of the chart.

| Property | Description |
|---|---|
| Font | Click the **Browse [...]** button to set font type and size in the Font dialog box.<br>**Note** You can also use the following properties to manually set values. |
| Font > Name | Select a font name from the menu. |
| Font > Size | Enter a font size in the field. |
| Font > Unit | Select the unit for the font size (for example, point or pixel). |
| Font > Bold | Set to **True** to display the font as bold. |
| Font > GdiCharSet | Enter a byte value that determines the GDI (Graphical Device Interface) character set used by this font. |
| Font > GdiVerticalFont | Set to **True** if this font object is derived from a GDI vertical font. |
| Font > Italic | Set to **True** to display the font in italics. |
| Font > Strikeout | Set to **True** to display the font in strikeout format.<br>You cannot effectively employ the Strikeout and Underline properties together when deploying a report to SQL Reporting Services. Select one or the other. |
| Font > Underline | Set to **True** to display the font in underline format.<br>You cannot effectively employ the Underline and Strikeout properties together when deploying a report to SQL Reporting Services. Select one or the other. |

| Property | Description |
|---|---|
| IntervalType | Determines the interval at which grid lines are drawn.<br>If set to **Auto**, the chart control calculates the interval.<br>If set to **Default**, the interval matches the Time context interval (for example, if the time range is 7 Days, and the interval is Day, then seven grid lines are drawn). |
| LabelInterval | Determines the interval at which labels are drawn.<br>For example, if this value is set to 5, then a label is drawn every 5th grid line. |
| ShowLabels | Set to **True** to display labels. |
| Title | Enter a title for the axis. |
| WrapLabels | Set to **True** to wrap label text. |

## Chart > AxisY

Changes to these properties affect the Y axis of the chart.

| Property | Description |
|---|---|
| AutoScale | Set to **True** to allow the axis to scale as necessary to accommodate data. |
| Font | Properties for text along the Y axis. For an explanation of each property, see “Font” on page 114. |

| Property | Description |
| --- | --- |
| LabelFormat | Select one of the following label formats:<br>• Default<br>• Number<br>• Percent<br>• Currency<br>• Scientific<br>• Hexidecimal<br>• Decimal<br>• FixedPoint |
| Maximum | Enter a maximum value for the axis. |
| Minimum | Enter a minimum value for the axis. |
| Title | Enter a title for the axis. |

## Chart > Chart3D

Changes to these properties affect the presentation of a three-dimensional chart.

| Property | Description |
|---|---|
| Clustered | For bar and column charts, set to **True** to display each data series separately along the X axis. |
| Enable3D | Set to **True** to render the chart as three-dimensional. Set to **False** to render the chart as two-dimensional. |
| LightStyle | Select a lighting style for the chart.<br>• None<br>• Simplistic<br>• Realistic<br>Lighting affects the shading of the 3D chart components. |
| Perspective | Enter a numerical value (from 0 to 100) that represents the perspective of the chart. The higher the value, the greater the angle of perspective (background to foreground). This property is ignored if RightAngleAxes is set to True. |
| PointDepth | Enter a numerical value (from 0 to 1000) that represents the depth of chart controls along the Z axis. Applies to bar, column, line, pie, and spline charts. |
| PointGapDepth | Enter a numerical value (from 0 to 1000) that represents the distance between chart controls along the Z axis. |
| RightAngleAxes | When set to **True**, the X and Y axes of a chart are rendered at right angles to one another (isometric projection). When set to True, Perspective property is ignored. |
| WallWidth | Enter a numerical value (from 0 to 30) to determine the thickness of the walls of the 3D grid. |
| XAngle | Select a value (from -90 to 90) to determine the rotation of the chart around its X axis. |

| Property | Description |
|---|---|
| YAngle | Select a value (from -90 to 90) to determine the rotation of the chart around its Y axis. |

## Chart > ChartForecasting

Changes to these properties affect how a forecast line is displayed in the chart.

| Property | Description |
|---|---|
| Color | Select a color for the line depicting forecast value. |
| DaysForForecasting | Select the number of days into the future that you want to forecast. |
| ShowForecasting | Set to **True** to display a forecast line in the chart. |

## Chart > ChartLegends

Changes to these properties affect how the chart legend is displayed.

| Property | Description |
|---|---|
| Alignment | Select the placement of the legend relative to the Docking property value. Choose from Near (top or left), Center, or Far (bottom or right). |
| DisableLegend | Set to **True** to disable the legend. If set to False, the legend is displayed. |
| Docking | Select the placement of the legend relative to the chart. Choose from Right, Left, Top, or Bottom.<br>Used in conjunction with the Alignment property. |
| Font | Set properties for text in the legend. For an explanation of each property, see “Font” on page 114. |

| Property | Description |
|---|---|
| InsideChartArea | Set to **True** to display the legend within the area of the chart. |
| Style | Set to **Column**, **Row**, or **Table** to determine how the legend text is ordered (top to bottom or left to right). |

## Chart > ChartSeries

Changes to these properties affect each data series in a chart.

| Property | Description |
|---|---|
| Font | Set properties for text in the chart series. For an explanation of each property, see “Font” on page 114. |
| LabelValueAngle | Use this property if ShowLabelValues is set to True and ShowSmartLabels is set to False. Values from 90 to -90 determine the angle of the label relative to the chart control. 0 degrees is horizontal. Negative values move the label counterclockwise; positive values move the label clockwise. |
| MarkerStyle | Select the geometric shape used to identify each value in a series. Choose None or one of the available geometric shapes in the list. |
| PointWidth | Select the relative width of each bar or column in a chart. A value of 25, for example, is 25% of the possible width.<br>If you are deploying reports from a Console installed on an English locale to a Report Server using a non-English locale, use the Default setting for this property to ensure consistency in how the charts are displayed.<br>If you are deploying reports from a Console installed on a non-English locale to a Report Server using a non-English locale, the point width in the deployed report is always the default, regardless of what value you assign this property in the Console. |

| Property | Description |
|---|---|
| ShowLabelValues | Set to **True** to display a numerical value for each graphical control in a chart (for example, each bar in a bar chart has a label indicating the exact numerical value). |
| ShowSmartLabels | Set to **True** to automatically position data point labels to prevent overlapping. If set to True, LabelValueAngle is ignored. |

## Chart > ChartType

Changes to this property affect the graphical style of the chart.

| Property | Description |
|---|---|
| ChartType | Select the graphical style of the chart, such as Area or Bar.<br>For information on the limitations associated with different types of charts, see “Chart Limitations” on page 138.<br>If you change the chart type after you have created a report, you must click the **Execute Report** button again to ensure your changes. If you do not run a report after making changes, the chart legends may be incorrect. |

## Display

Changes to these properties affect how data is displayed in the report.

| Property | Description |
|---|---|
| (Columns) | The Column Rules dialog box lets you define a separate presentation style for each column of data.<br>Click the **Browse [...]** button to open the Column Rules dialog box. For instructions on using the editor, see “Creating and Modifying Columns” on page 125. |
| (RowFilter) | This field displays a value that represents the custom filtering method applied to rows in the table.<br>The value is derived from the custom filtering equation you apply to the table. For more information, see “Filtering Lists” on page 74. |
| (SortExpression) | This read-only field displays the column name and direction by which the table is sorted.<br>The value is derived from the sorting you apply to a column in a table (ascending or descending). No value is derived from Date/Time columns, and no value is exported for those columns when you deploy a report. |

| Property | Description |
| --- | --- |
| NumericFormat | Set this property to specify the format of numeric data in the report.<br>Enter a string format, including the precision specifier (the number of significant digits to the right of the decimal). For example, `F<N>`, where `N` is a positive number (a value of F2 displays values to the second decimal point (19.55)).<br>**Note** The following formats are supported:<br>• C or c (currency)<br>• D or d (decimal)<br>• E or e (exponential)<br>• F or f (fixed-point<br>• G or g (general)<br>• N or n (number)<br>• P or p (percent)<br>• R or r (round-trip) Guarantees that the string is parsed back to the same numeric value.<br>• X or x (hexadecimal) In this case, the precision specifier indicates the minimum number of digits (for example, X8 creates an output like 0002C45E). |
| RowLimit | Specify the number of rows of data you want to display in the report. Enter 0 to display all rows. |
| ViewMode | Select the way in which you want to display data in the report (in a chart, in a table, or in a chart and table). |

## Display > Threshold

Use these properties to set threshold indicator values. When values exceed the thresholds you set, those values are color-differentiated in the chart and table in the report.

| Property | Description |
|---|---|
| Threshold | This read-only field identifies the type of threshold set for the report. |
| Above | Enter a maximum threshold value. Threshold indicators are displayed in charts and tables for data that exceeds this amount. |
| Below | Enter a minimum threshold values. Threshold indicators are displayed in charts and tables for data that falls below this amount. |
| Color | Highlights the rows or chart values that fail to meet the threshold. For instance, use this property to highlight the data that indicates machine uptime less than 99 percent. To set the color, click the right column next to the color property and select a color from the drop-down list. |

| Property | Description |
|---|---|
| Custom | Enter a Boolean expression that defines the threshold condition (for example, `[column name] > 90`)<br>You can find the column names in the Column Rules dialog box, under **Attributes > Source**. For more information, see “Creating and Modifying Columns” on page 125.<br>To enter thresholds based on multiple columns, use an expression like one of the following:<br>• `[column name] > 35 AND [column name] < 90`<br>• `[column name] > 90 OR [column name] > 50`<br>**Notes**<br>You can configure a report to write an entry to the Windows Event Log when this threshold is exceeded. For more information, see “ThresholdEvent” on page 113.<br>Any values that exceed the threshold are visually distinguished from other values in the table (not in the chart).<br>If your Windows operating system is using a non-English locale, you must enclose decimal values in single quotes, for example `‘4567.8’`. |
| Type | Select a threshold type:<br>• None (no threshold applied)<br>• Above (values above threshold are differentiated)<br>• Below (values below threshold are differentiated)<br>• Both (Above and Below thresholds are observed)<br>• Custom (Custom expression is evaluated to determine threshold) |

# Parameters

Parameters are properties for variables in a report. For example, in a *Top N Computers...* report, use the Parameter property to set the number of computers; in a *Trend and Prediction* report, use it to set the number of days into the future for which values are predicted.

## Creating and Modifying Columns

When you click the [...] button in the Column property field, the Column Rules dialog box opens. Initially, it displays columns in the report that you have selected and generated:

Using this dialog box, you can alter the display of data in a column, create new columns populated from filtered or arithmetically modified data in other columns, and create links to other reports. Set the property controls as indicated below:

| Property | Description |
|---|---|
| **Attributes** | |
| Source | This property determines which column of data is affected by the rule. Specifying a new name creates a new column.<br>Type a name for the column or select one from the list. |
| **Chart** | |
| LineColor | Select a color for the chart control that represents the data. |
| LineType | Select a type for the chart control that represents the data (for example, bar or column). |

| Property | Description |
|---|---|
| **Expression** | |
| Expression | Type a user-defined expression to determine the contents of the column. You can, for example, enter a new column name in the **Source** property<br>*`Sum Columns 1 & 2`*<br>and then enter an expression such as the following to create a new column that presents the sum of columns 1 and 2.<br>*`<MetricDimensionCol1> + <MetricDimensionCol2>`*<br>In the example above, `MetricDimensionCol1` and `MetricDimensionCol2` refer to the metric member dimension name associated with each column in the expression.<br>To determine the name of a column dimension, click the **Source** drop list to display a list of dimension names. |
| ExpressionType | Select the type of value returned by the expression. To use numerical formatting (**Format** property), you must select a numeric expression type. |
| **Format** | |
| Format | Type a .NET format property (for example, F2 displays the data as a floating point value with two decimal places). For details about supported numeric formats, see http://msdn.microsoft.com/library/default.asp?url=/library/en-us/cpguide/html/cpconstandardnumericformatstrings.asp. For details about supported date formats, see http://msdn.microsoft.com/library/default.asp?url=/library/en-us/cpguide/html/cpconstandarddatetimeformatstrings.asp. |
| Hidden | Set to **True** to hide the column. |
| Title | Type a title for the column. |

| Property | Description |
|---|---|
| **Links** | |
| Cell | Use this property to link a report to each cell in the column. Click the **Browse [...]** button to select the report to which you want to link a cell. For information, see “Linking Reports” on page 136.<br>When you click a cell that is a link to another report, the linked report is displayed in the Results pane. |
| Header | Use this property to link a report to the column header. Click the **Browse [...]** button to select the report to which you want to link the column header. For information, see “Linking Reports” on page 136.<br>When you right-click a column header that is a link to another report, the **Drill Into Linked Report** command is displayed. Click that command to display the linked-to report in the Results pane. If the column header is used as the chart legend, you can click the legend to display the linked-to report. |
| Summary | |
| DisplayFormat | |
| DisplayInFooter | Select True or False to display or not display the summary information in the footer. |
| Summary Type | Select the type from the drop-down list:<br>• None - No summary<br>• Average - Display the numeric average of the column data.<br>• Count - Display the total count of the column data.<br>• Max - Display the maximum value for the column data.<br>• Min - Display the minimum value for the column data,<br>• Sum - Display the sum of a number of columns. |

To change the order of column rules (and the order in which columns are displayed in the report), select a rule from the **Members** list, then click the up or down arrow to move the rule to a new position.

To remove a column rule, select the rule from the Members list and then click **Remove**.

# Using the Chart Toolbar

When you display a report in chart form, a chart toolbar is automatically displayed at the top of the chart. The toolbar options work with the cached report, so your changes are displayed right away. You do not have to run the report again to see your changes. You only need to run the report to update the data not the report presentation.

| Toolbar Option | Description |
|---|---|
| Copy Chart | Saves a copy of the chart to the clipboard. From there, you can paste it into another application. |
| Print Chart | Prints the chart. |
| Print Preview | Displays a preview of the chart before you print it. You must have a printer installed. |
| Export Chart | Saves a copy of the chart and opens it in the default viewer for that file type. |
| Toggle Chart Legend | Toggles between displaying or hiding the chart legend. |
| Toggle 3D View | This icon allows you to toggle between three 3D options:<br>• 3D Chart View<br>• Cluster 3D<br>• Right Angle 3D |

| Toolbar Option | Description |
|---|---|
| Select Chart Type | This option allows you to change the type of chart.The drop list shows numerous chart options: see http://www.dundas.com/Products/Chart/RS/Features/index.aspx#Chart_Types__ for visual illustrations of chart types. Certain chart types cannot be combined in one report. For more information, see “Chart Limitations” on page 138. |
| Refresh Chart | Refreshes the chart display. |

# Making Easily Read Charts

How you set the properties for a chart determines how easily the information in the chart is understood. For example, you may be preparing a report about average memory use for the past four weeks in which you are dealing with data based on percentage valuesx.x. If you leave the AxisY > AutoScale property at its default setting of True, you will produce a chart similar to the following:

The maximum value for the Y axis is calculated based upon the maximum value in the report. The chart above gives an accurate representation of the values, but you might be able to provide a more meaningful context in which to present that information by making the following changes to the AxisY properties:

- AxisY > AutoScale = False
- AxisY > Minimum = 0
- AxisY > Maximum = 100

In this case, you are setting the Y axis of the grid to match the possible range of values (0% to 100%). Your chart would then look something like this:

With a chart like the one above, you can quickly see what percent of the maximum is being utilized.

Another change you can make to the properties to make the chart clearer is to limit the number of X axis labels. In a report like this, it might not be essential that each date of the last four weeks is explicitly cited. You might be able to do well with every seventh date, and so change the AxisX > LabelInterval property from 1 to 7:

If you have labels that are especially long, you can also set the AxisX > WrapLabels property to True to have the text wrap.

These are just a few of the ways you can use properties to clarify the information in your charts and make them more easily understood. Before you deploy your reports, take some time to experiment with the chart properties to be sure you are presenting information in the best way for its intended audience.

Once you have the properties set the way you want, be sure to save the report.

# Using Multiple Y Axes in a Chart

You can chart data using a second Y axis. This allows you to chart two metrics for the same data in one report. For instance, if you want to chart both the quantity and percentage of your data you would use multiple Y axis.

**To add a second Y Axis:**

Right-click the column that you want to show in the right hand Y axis and select **Show in Y2 Axis**.

# Exporting and Printing Charts and Tables

You can export the chart and/or table in a report. Charts can be exported to a variety of image formats. Tables can be exported to spreadsheet, Web, and text formats.

**To export a chart:**

1. On the chart toolbar, click **Export Chart**.
2. Type a file name for the chart image.
3. Select the image format in which you want to save the chart. Choose from the following format options: BMP, EMF, GIF, JPEG, PNG, SVG, and TIFF.
4. Click **Save**.

**To export a table:**

1. Right-click in the table and select **Export**.
2. Type a file name for the table.
3. Select the file format for the table. Choose from the following format options:
   - Microsoft Excel Workbook (XLS)
   - Web page (HTML)

- XML file (XML)
- Text file (TXT)

4. Click **Save**.

**To print a chart:**

On the chart toolbar, click **Print Chart**.

**To print a table:**

Right-click in the table and select **Print**.

# Saving, Moving, and Renaming Reports

You can save, rename, or move a report.

## Saving Reports

In order to preserve the original versions of the reports, you cannot save the original set of Analysis Center reports under their default names. When you try to save an original report, you are forced to save it under another name. Once you have saved it under another name, however, you can continue to perform save operations using the new name.

When you save a report, it is saved under its current name with its current context.

To save a report, right-click the report and select **Save Report**.

You can also save a report under another name, which is useful if you want to use an existing report as the basis for another report.

**To save a report under another name:**

1. Right-click the report in the Navigation pane and select **Save Report As**. The Save Report As dialog box is displayed.
2. In the **Save in** tree, select the folder in which you want to save the report.

   **Note**
   You can right-click a folder and select **New Folder** to create additional folders.

3. In the **Report Title** field, type a new title for the report.
4. Click **Save**. The report is saved with its new title in the folder you selected. Its current context is preserved.

**Note**
When you save an AppManager report, the computer and servers that are part of the Group context are referenced according to their current AppManager view/group locations. If a computer or server is moved to a different view or group in AppManager after you have saved the report, you will need to update the Group context to reselect those objects in order to continue including their data in the report.

## Moving Reports

You can move a report from one folder to another in the Navigation pane tree view.

**To move a report:**

1. Right-click the report in the Navigation pane and select **Move Report**.
2. Drag the report to a new folder.
3. Click **Close**.

# Linking Reports

You can use the Column Rules dialog box to create links from one report to another. For example, you may have a report that illustrates HTTP requests for the past year, aggregated by month. You can create links from each monthly value to a report that gives the daily values for that month. You can also link from the daily values to reports about hourly values.

In order to make effective use of this drill-through capability, you must configure the linked reports ahead of time. For example, if you are going to link from a report about monthly HTTP requests to reports about daily HTTP requests, you must configure the daily reports first, and then link to them from the monthly report. By the same token, if you want to link from a daily report to hourly reports, you must configure the hourly reports first.

Each time you follow a link from one report to another, a new Multidimensional Expressions (MDX) query is made of the Data Warehouse based on the context of the new report.

To create links from one report to another, use the Cell and Header properties in the Column Rules dialog box. For more information, see "Cell" on page 127 and "Header" on page 127.

If you want to deploy a report that contains links to other reports, you need to first deploy those other reports. For example, if Report A contains a link to Report B, and Report B contains a link to Report C, then deploy the reports in the following order: Report C, Report B, Report A.

# Understanding the Configuration Card

The Configuration Card allows you to view the current configuration for a report, based on the settings in the Properties and Context tabs when the report was last created. The contents of Configuration Card vary depending on the type of report. The Configuration Card for your report may not contain each object listed here. The following table lists the pane view objects:

| Pane View Object | Description |
|---|---|
| Overview | Displays an overview of the report along with information about the type of data you can present. |
| Type | Displays the database connection type. |
| Database Connection | Displays the database connection name. |
| Title | Displays the report title. |
| Description | Displays the report description. |
| Modify Date | Displays the date of modification. |
| Comments | Displays comments, if any. |
| DashboardReport | This folder contains information about the time context parameters. |
| DashItem | This folder contains the entire tree view for each report in the dashboard. |
| Context Folders | The individual context folders provide specific information about how each context is configured. For example, you can tell how the tree control is used to implement selections, and which specific objects in the tree are selected. The number of folders varies depending on what context controls are available for the report. |
| StandardReport | This folder contains information about the SQL query used to get data for the report. |

You can view the contents of the Configuration Card.

**To view the Configuration Card:**

1. Log on to the Analysis Center computer.
2. Start the Analysis Center Console in the **NetIQ > Analysis Center** program folder.
3. Log on to the Analysis Center Console.
4. In the Navigation pane, select a report.
5. On the **Report** menu, select **Configuration Card**.

The Configuration Card displays the AMCC management groups for a report in the Context Selections parameter. For example, if a report has **MG1** as an AMCC management group, then you see **Group Selection Group MG-MG1** in the Context Selections parameter.

# Chart Limitations

The following table identifies the limitations associated with each chart type (for example, the chart types that cannot be combined in a report).

| Chart Type | Limitations |
|---|---|
| Area | Cannot be combined with the following chart types:<br>• Bar<br>• Doughnut<br>• Pie<br>• StackedBar |
| Bar | Can be combined with *only* the following chart types:<br>• Bar<br>• StackedBar |

| Chart Type | Limitations |
|---|---|
| Bubble | Cannot be combined with the following chart types:<br>• Bar<br>• Doughnut<br>• Pie<br>• StackedBar |
| CandleStick | Cannot be combined with the following chart types:<br>• Bar<br>• Doughnut<br>• Pie<br>• StackedBar |
| Column | Cannot be combined with the following chart types:<br>• Bar<br>• Doughnut<br>• Pie<br>• StackedBar |
| Doughnut | Cannot be combined with *any other* chart type.<br>Can only be used to represent a single series of data. |
| Gantt | Can be combined with *only* the following chart types:<br>• Bar<br>• StackedBar |
| Line | Cannot be combined with the following chart types:<br>• Bar<br>• Doughnut<br>• Pie<br>• Stacked<any type> |
| Pie | Cannot be combined with *any other* chart type.<br>Can only be used to represent a single series of data. |

| Chart Type | Limitations |
| --- | --- |
| Point | Cannot be combined with the following chart types:<br>• Bar<br>• Doughnut<br>• Pie<br>• StackedBar |
| Radar | Cannot be combined with the following chart types:<br>• Bar<br>• Doughnut<br>• Pie<br>Can only be used to represent a single series of data.<br>Does not support scrolling or zooming. |
| Range | Cannot be combined with the following chart types:<br>• Bar<br>• Doughnut<br>• Pie<br>• StackedBar<br>An exception occurs when the Enable3D property is set to True, and one or more of the columns contains no value for the last cell. |
| RangeColumn | Cannot be combined with the following chart types:<br>• Bar<br>• Doughnut<br>• Pie<br>• StackedBar<br>An exception occurs when the Enable3D property is set to True, and one or more of the columns contains no value for the last cell. |

| Chart Type | Limitations |
| --- | --- |
| Spline | Cannot be combined with the following chart types:<br>• Bar<br>• Doughnut<br>• Pie<br>• StackedBar |
| SplineArea | Cannot be combined with the following chart types:<br>• Bar<br>• Doughnut<br>• Pie<br>• StackedBar |
| SplineRange | Cannot be combined with the following chart types:<br>• Bar<br>• Doughnut<br>• Pie<br>• StackedBar<br>An exception occurs when the Enable3D property is set to True, and one or more of the columns contains no value for the last cell. |
| StackedArea | Cannot be combined with the following chart types:<br>• Bar<br>• Doughnut<br>• Pie<br>• StackedBar |
| StackedBar | Can be combined with *only* the following chart types:<br>• Bar<br>• StackedBar |

| Chart Type | Limitations |
| --- | --- |
| StackedColumn | Cannot be combined with the following chart types:<br>• Bar<br>• Doughnut<br>• Pie<br>• StackedBar |
| StepLine | Cannot be combined with the following chart types:<br>• Bar<br>• Doughnut<br>• Pie<br>• StackedBar |
| Stock | Cannot be combined with the following chart types:<br>• Bar<br>• Doughnut<br>• Pie<br>• StackedBar |

# Understanding Report Wizard

Analysis Center provides a wizard to help you generate reports easily and quickly. The Report Wizard allows you to generate reports based on AppManager servers or on AppManager knowledge scripts using suitable report templates. You can access this wizard from the Tools menu in the Console.

Before you use the Report Wizard, configure the AppManager data source and also verify whether the OLAP jobs are processed successfully. Provide the necessary information to the Report Wizard to generate reports as per your requirements. Also provide a folder name on your computer to save the reports. To access Report Wizard, verify whether you have the necessary permissions on the report templates and permissions to create, rename, or delete folders.

From the Console, navigate to the folder to view your reports. You can modify these report from the Analysis Center user interface. For more information about report contexts, see "Setting the Context for a Report" on page 92.

The Report Wizard allows you to select report templates and other parameters for your reports. Along with generating the reports based on your inputs, this wizard also saves the reports in a folder of your choice.

**To use the Report Wizard:**

1. Log on to the Analysis Center computer.
2. Start the Analysis Center Console in the **NetIQ > Analysis Center** program folder.
3. On the **Tools** menu, click **Report Wizard**.
4. In the **Welcome to Report Wizard** dialog box, select **Server Name/Groups** or **Knowledge Script Category** to generate reports.
5. Click **Next**.
6. Complete the wizard by following the instructions on the pages. For more information about the fields on the window, see the Help.
7. Click **Finish**.
8. In the **New Report** dialog box, select a folder to save the reports.

9. Type a report name in the **Report Title** field.

10. Click **Save**.

# Chapter 8
# Understanding Drill-Down Reports

Reports often display large amounts of data. If the data is fairly detailed, displaying every detail in one report might not be possible. The best solution to overcome this problem is to create a Table of Contents (TOC) report and a drill-down report. The TOC report displays computer data for the selected context, and allows navigation to the inter-linked drill-down report to view the underlying data. The drill-down report displays detailed information about the computer you select.

NetIQ Analysis Center provides templates to create drill-down reports. The drill-down reports are linked to the TOC report that lists the names of computers. When you select a multiple-metrics drill-down template and then select multiple metrics, the report displays all the selected metrics. However, when you select a single-metric drill-down template, the report displays only one metric that you have selected. For more information about each drill-down report, see its Configuration Card details. For the multiple-metrics drill-down templates, you can select only one measure. However, for the single-metric drill-down templates, you can select multiple measures.

The following table explains the drill-down templates:

| Template | Purpose |
|---|---|
| Machine Group by Measure | Each row represents a computer group or individual computer and each column represents a measure. A measure is a statistic derived from the data. |
| Machine Group by Multiple Metrics | Each row represents a computer group or individual computer and each column represents a metric derived from the data. |
| Measure by Date Time | Each row represents a time increment and each column represents a measure. |

| Template | Purpose |
| --- | --- |
| Measure by Day of Week | Each row represents a day of the week and each column a measure. |
| Measure by Hour | Each row represents an hour of the day and each column a measure. |
| Measure by Minute | Each row represents an hour of the day expressed in minutes and each column a measure. |
| Metric by Date Time | Each row represents a time increment and each column a metric (data stream or group of data streams). |
| Multiple Metrics by Date Time | Each row represents a time increment and each column represents a metric. |
| Multiple Metrics by Day of Week | Each row represents a day of the week and each column represents a metric. |
| Multiple Metrics by Hour | Each row represents an hour of the day and each column represents a metric. |
| Multiple Metrics by Minute | Each row represents an hour of the day expressed in minutes and each column represents a metric. |
| TOC List by Server | Each row represents Computer details with a link to view the drill-down report and each column represents the computer metric. The TOC report also has links to other reports which are not drill-down reports. |

# Setting the Context for a Drill-Down Report

The context of a drill-down report refers to the Metric, Measure, and Time frame included in the report. The following table describes the three different context controls you can use with a drill-down report:

| Context Control | Purpose |
|---|---|
| Metric | Specifies data for a drill-down report.<br>Each data stream is identified by a string (for example, Memory Utilization). Generally, there are multiple instances of a data stream (for example,% Physical Memory Usage from each of your servers).<br>The **Application(s)** list limits data to specific applications. For example, you can collect AppManager data from NT or from a Report server.<br>The **Metric Type(s)** lists the following specific types of data streams:<br>• AM Event Count<br>• AM Event Occurrence<br>• AM NT Performance Data<br>You can select a single data stream, or multiple individual data streams, or groups of data streams from various levels of the hierarchy. |
| Measures | Specifies statistics to compute for the data:<br>• Average<br>• Count<br>• Maximum<br>• Minimum<br>• Standard Deviation<br>• Sum |
| Time | Specifies the time range for a drill-down report. |

## Setting the Metric Context for a Drill-Down Report

The Metric context lets you select the data for a drill-down report. You can filter your selections by application and by metric type.

**To set the Metric context:**

1. In the Navigation pane, expand **Templates > AppManager Templates > DrillDown** folders and select the drill-down report template.
2. In the Tasks pane, click the Context tab.
3. In the Context tab, click the Metric context.
4. From the **Application(s)** list, select the application or applications.
5. From the **Metric Type(s)** list, select a data stream, or multiple individual data streams, or groups of data streams from various levels of the hierarchy.

   For more information about Showing and Hiding Context Buttons, see "Showing and Hiding Context Buttons" on page 95.

   For more information about Using the Multi-State Tree Control, see "Using the Multi-State Tree Control" on page 96.

## Setting the Measures Context for a Drill-Down Report

The Measures context lets you calculate statistics from the data in a drill-down report. Use the tree control to select the measures in which you are interested.

For more information about setting the measures context, see "Setting the Measures Context" on page 99.

## Setting the Time Context for a Drill-Down Report

The Time context enables you to specify a time frame for your report. The time context for Drill-Down report reports is MDX-based. There is no restriction on the setting of start and end date ranges. Where there is a conflict in date ranges, Analysis Center resolves it in favor of the most restrictive time context. For more information, see "Setting the Time Context" on page 101.

## Setting the Properties for a Drill-Down Report

A drill-down report provides you with the information about a particular computer. Parameters are properties for variables in a drill-down report. Therefore, you need to specify a name of a computer for the **DrillValue** parameter in the Properties pane.

**To set properties for a drill-down report:**

1. In the Tasks pane, click the Properties tab.
2. In the **DrillValue** parameter, enter the name of the server.

For more information about Attributes, Chart, and Display in the Properties tab, see "Setting Report Properties" on page 112.

# Saving the Drill-Down Report

After updating the settings in the Context tab and the Properties tab, you can save the drill-down report using a unique name. To preserve the original version of the report, you cannot save the original drill-down report under its default name. When you try to save an original report, you are prompted to save it under another name. You can run the report after you save it.

---

**Note**
It is not mandatory to update the settings in the Context tab to save the drill-down report. However, saving of the drill-down report is mandatory before you run it. You can view the name of the report only when you select the Column properties when using the TOC Report, and link to the drill-down report.

---

**To save a drill-down report:**

1. In the Tasks pane, click **Save Report As.**
2. ***If you want to create a new folder***, right-click and select **New Folder**.
3. In the **Save in** tree, select the folder in which you want to save the report.

4. In the **Report Title** field, type a new title for the report.

5. Click **Save**.

   For more information about other tasks, see "Saving, Moving, and Renaming Reports" on page 134.

# Understanding the TOC Report

The TOC report is a parent report and the drill-down report is a child report. These two reports are inter-linked. The TOC report displays the summarized data about the computers. Using the link provided for each computer, you can navigate to the particular computer and view the underlying data. In order to run a drill-down report, you must link the TOC report to a drill-down report.

# Setting the Context and Group Context for a TOC Report

The context of a TOC report refers to the Group, Metric, and Time frame included in the report. You can use the Group context to select computers individually or by group.

You must make settings in the Group, Metric, and Time context to run a TOC report. The procedures to make settings in the Metric and Time context are similar to the settings you make for a drill-down report.

For more information about setting the Metric context, see "Setting the Metric Context for a Drill-Down Report" on page 148, and follow the procedures explained.

For more information about setting the Time context, see "Setting the Time Context for a Drill-Down Report" on page 148, and follow the procedures explained.

The Group context specifies groups of servers and individual servers or server instances to include in a TOC report.

---

**Note**

For the TOC report, select only the name of individual computers or the name of All Machines. Analysis Center does not support master view, standard view, custom view, server groups, or management group (MG) as a linked report for TOC List by Server.

---

When a TOC List by Server template is selected in the navigation pane, a **View** list at the top of the Group context pane lists the views from the various repositories from which you have imported data.

**To set the Group context:**

1. In the navigation pane, expand **Templates > AppManager Templates > DrillDown** folders and select the **TOC List by Server** report template.
2. In the Tasks pane, click the Context tab.
3. In the Context tab, click the **Group** context.
4. From the **View** list, select a view to display the computers in the selected view.
5. Select **Show Instances** if you need to list computer instances (for example, SQL Server instances) in the tree control.
6. In the tree control, select the groups and/or computers.

# Saving the TOC Report

After updating the settings, you must save the TOC report using a unique name. To preserve the original version of the report, you cannot save the original TOC List by Server Report under its default name. When you try to save an original report, Analysis Center prompts you to save it under another name. You can run the report after you save it.

**To save a TOC List by Server report under another name:**

1. In the Tasks tab, click **Save Report As.**
2. In the **Save in** tree, select the folder in which you want to save the report.
3. In the **Report Title** field, type a new title for the report.
4. Click **Save**.

   For more information about other tasks, see "Saving, Moving, and Renaming Reports" on page 134.

# Linking Drill-Down Reports

You can use the **Column Rules** dialog box to create inter-links from a drill-down report to a TOC report. For example, you may have a drill-down report that illustrates average CPU utilization by hour for the past year. Before linking the drill-down reports, be sure to save the original drill-down report under another name. For more information, see "Saving the Drill-Down Report" on page 149.

**To link a drill-down report to a TOC report:**

1. In the Navigation pane, select the TOC report.
2. In the Tasks pane, click the Properties tab.
3. In the Properties tab, click **Column Rules [1]** and then click the **[...]** button. Analysis Center displays the **Column Rules** dialog box.
4. Navigate to **Machine Properties > Attributes > Source**. By default, the value of **Source** is `Machine`. For the drill-down reports, you must select the source as `Machine`.
5. In the Links attribute, click **Cell**, and then click the **[...]** button. Analysis Center displays the **Pick Report** dialog box.

a. In the **Pick Report** dialog box, navigate to the appropriate drill-down report and select it.

a. Click **OK** to save the settings and then return to the **Column Rules** dialog box.

6. In the **Column Rules** dialog box, click **OK**.

# Executing and Deploying Drill-Down Reports

After you have saved and linked the drill-down and TOC reports, you are now ready to run the reports.

You can run live (or ad-hoc) and deployed (or scheduled) reports. To run a live report, you set the context, run, and then view the contents of the report in the Analysis Center Console. When you run a live report, that data is cached until you run the report again. If you select a report that has been created, you see the cached data. To see more-recent data, run the report again.

To run deployed reports on a schedule, you configure the report to display the data in which you are interested (the same way you configure a live report), and then deploy the report to SQL Server 2005 Reporting Services Service Pack 2. The scheduling and distribution of the report is handled from the SQL Reporting Services interface.

You must first deploy the drill-down report and then deploy TOC report. When deploying the TOC report, select the drill-down report to be linked.

**Note**

For a standalone drill-down report, you can modify the DrillValue property. However, when you view such a standalone report in SQL Reporting Services, the Parameters attribute is empty. For the Parameters attribute to be visible, you must deploy a drill-down report using the TOC report and then traverse to the child report through the TOC report.

For more information about deployed reports, see “Deploying Reports to SQL Reporting Services” on page 155.

**To run the drill-down reports:**

1. In the navigation pane, select the TOC report which is linked to a drill-down report.
2. In the Tasks pane, click **Execute Report**.
   The TOC report displays details of computers performance, both graphically and in table format as per the settings in the TOC report.
3. To view the drill-down report for a particular computer, click the computer link in the report table.
   The drill-down report displays details of the particular computer, both graphically and in table format as per the settings in the drill-down report.

# Chapter 9

# Deploying Reports to SQL Reporting Services

Once you have configured a report to provide the information in which you are interested, you can then deploy that report to Microsoft SQL Server 2005 Reporting Services Service Pack 2 to have it run periodically on the schedule you choose, and have each iteration of the report delivered via subscription (by email or written to a file share).

Once you have deployed a report to SQL Reporting Services, further management of that report is carried out from the SQL Reporting Services interface. In order to successfully manage reports you have deployed, you need to have a thorough working knowledge of SQL Reporting Services. Consult *Reporting Services Books Online*, the Microsoft documentation, which is provided with a default installation of SQL Reporting Services.

## Security Considerations for Deploying a Report

Be aware that when setting report permissions in the Analysis Center console, in order for a user to deploy reports to Reporting Services, they must have permission to deploy a report from the console and have Administrator level permissions on the Reporting Services computer.

# Unsupported Chart Properties

Several of the chart properties that you can configure for live reports in Analysis Center are not supported in SQL Reporting Services. These include:

- BoxPlot
- Point
- RangeColumn
- StepLine
- ChartMovingAverage
- PointGapDepth (for values other than 10)
- CandleStick
- Radar
- SplineArea
- Stock
- LabelValueAngle
- PointDepth (for values other than 50)
- Gantt
- Range
- SplineRange
- ChartForecasting
- ShowSmartLabels=False

When you deploy a report with any of these properties, you are issued a warning that the property is not supported in SQL Reporting Services, but you can proceed with the deployment. For Analysis Center chart types that are not supported, SQL Reporting Services substitutes a chart type. Other unsupported properties are simply left out of the SQL Reporting Services version of the report.

# Difference in Column Display

The Analysis Center console removes empty columns from charts. Empty columns may exist, for example, because you have selected a computer in the Group context that is not yet supplying data for a selection you have made in the Metric context.

When you deploy a report, SQL Reporting Services includes any empty columns in the charts. This is necessary so that columns that might be empty at the time of deployment can include data when it later becomes available.

# Deploying Linked Reports

If you want to deploy a report that contains links to other reports, you need to first deploy those other reports. For example, if Report A contains a link to Report B, and Report B contains a link to Report C, then deploy the reports in the following order: Report C, Report B, Report A.

For details, see "Linking Reports" on page 136.

# Deploying a Report

You cannot deploy a report that does not run properly, for example, due to an invalid context setting.

In order to deploy a report with its current properties, save the report before you deploy it. If you do not save the report with its current properties, it will be deployed with whatever properties were last saved.

**To deploy a report to SQL Reporting Services:**

1. Right-click the report in the Navigation pane and select **Deploy Report**.

   The Report Server Credentials pane is part of the Deploy Report dialog.

2. Complete the fields on the Deploy Report dialog including the Report Server Credentials pane as instructed below:

| Field | Description |
|---|---|
| Report Name | Type the name you want for the report. |
| Report Server Location | Select a URL for a Report Server.<br>If the URL you want is not listed, select **New** from the drop-down list to open the New Report Server Location dialog box, enter the URL in the dialog box, and then click **OK**.<br>Select **My Reports** radio button to have the report listed in the My Reports folder assigned to the account under which the Analysis Center console is running.<br>Select **Folder** radio button to enter a specific public folder name in which to list the report. The default is NetIQ\Analysis Center\XXX\XXX\...<br>where XXX\XXX\... is the names of the sub-items under the report tree.<br>Click the **Show last deployment information** link to expand the Deploy Report dialog box and display the information that was entered the last time the report was deployed. |

| Field | Description |
| --- | --- |
| Report Server Credentials<br><br>**Note** The account used to connect to Analysis Center must be an Analysis Center account with **Execute a report** permission. | Select the method by which SQL Reporting Services connects to Analysis Center to run the report.<br><br>• Select the **Credential supplied by the user running the report** radio button to have that user prompted for a user name and password when the report is run.<br>• Select the **Windows NT Integrated Security** radio button to use the credentials of the user running the browser in which SQL Reporting Services is running.<br><br>**Note** If you use this option in an environment where the Analysis Center components are distributed among different computers, you may encounter a report-processing error due to the Windows “double-hop” issue in which Windows security credentials are not recognized for more than one connection (credentials are recognized from Server A to Server B, but not from Server B to Server C). If multiple connections are required to process the report, use the *Select shared Report Server Data Source* option, or for information about storing credentials on the Report Server, see “Reporting Services error “An error has occurred during report processing ...”” on page 197.<br><br>• Select the **Select shared Report Server Data Source** radio button to select from a list of shared Data Sources specific to the Report Server to which you are deploying the report. If a shared Data Source does not exist, you can create one.<br><br>**Note** Use this option if you want to also enable a subscription. For more information, see the next parameter and description.<br><br>• Click the **Edit** link to open a browser displaying the SQL Reporting Services interface for editing the shared Data Source. You can then modify the credentials used by the Data Source. |
| Include report configuration card | Select the check box to include the configuration card with the deployed report. |
| Enable subscription | Select the checkbox to distribute the report by means of a subscription (via email or file share). |

| Field | Description |
| --- | --- |
| Delivery Method tab | Use the options on this tab to determine the manner in which the report subscription is delivered to recipients. |
| Delivered by | Select **Report Server File Share** from the drop-down list to have the report delivered to a folder on a file share.<br>Select **Report Server E-Mail** from the drop-down list to have the report delivered by email to a list of recipients. |
| File Name | Type the file name you want to use for the report. The default file name is the report name. |
| Add a file extension when the file is created | Select this check box to add a three-character file extension to the file name. The extension is determined by the render format you select. |
| Path | Type the UNC path to the file location (for example, `\\computer name\C$\report folder`).<br>Specify an existing folder. |
| Render Format | Select the type of file that will be created. Select a type that corresponds to the application in which the report will be viewed. |
| Credentials used to access the file share | Supply the credentials used to write to the file share.<br>• For User Name, enter the user name for the account used to write to the file share. Use the format *domain\username*.<br>• For Password, enter the password for the account used to write to the file share.<br>**Note** The account you identify must have write permissions to the folder. The user name and password must be correctly identified in the properties of the Report Server Data Source you are using for the report. |

| Field | Description |
| --- | --- |
| Overwrite options | Select the manner in which subsequent iterations of the report are saved.<br>• Select the **Overwrite an existing file with a newer version** radio button to overwrite an existing version of the report with a new version.<br>• Select the **Do not overwrite the file if a previous version exists** radio button to prevent an existing version of the report from being overwritten.<br>• Select the **Increment file names as newer versions are added** radio button to add a time stamp or version number to each iteration of a file with that has the same name. |
| **Report Server E-Mail** options | |
| To<br>CC<br>Bcc | Type the email address of each recipient of the report (primary, copy, or blind copy). Separate multiple addresses with a semicolon (;). |
| Reply-To | Type the email address to which replies are sent. |
| Subject | Type the subject line of the email. |
| Include Report | Select this option to embed or attach a copy of the report.<br>**Note** If you do not select either this option or the Include Link option, only the text in the Subject line is sent. |
| Render Format | Select the type of file that will be created. Select a type that corresponds to the application in which the report will be viewed. |
| Include Link | Select this option to include the URL for the report in the email.<br>**Note** If you do not select either this option or the Include Report option, only the text in the Subject line is sent. |
| Priority | Select the importance level of the email (Low, Normal, or High). |

| Field | Description |
|---|---|
| Comment | Type the text you would like as the body of the email. |
| Schedule tab | Use the options on this tab to determine the schedule on which the report is rendered and delivered to recipients. |
| Once | Select this option to render and deliver the report only once. |
| Repeat after this number of weeks | Specify the weekly frequency at which the report will run (for example, a value of 1 means the report will run every one week; a value of 2 means the report will run every second week). |
| On day(s) | Select the days of the week on which the report will run. |
| Start time | Select this option to specify the time at which the report will run.<br>Specify hour and minute values, and select either AM or PM. |
| Run Now | Select this option to run the report immediately. |
| Start on | Specify the date on which the schedule begins. Use the format `mm/dd/yyyy`. |
| End on | Specify the date on which the schedule ends. Use the format `mm/dd/yyyy`. |

3. Click **Deploy.**

**Notes**

If you make changes to a report in the Analysis Center Console, you will have to deploy the report again before those changes are displayed in the deployed version of the report. From the Console, if you delete reports that are already deployed, then Reporting Services and Web Part may not display such reports correctly.

# Chapter 10
# Configuring Reports to Display in a SharePoint Web Part

Analysis Center supports Microsoft SharePoint technology. The Analysis Center SharePoint web part can be added to any web part page. It allows you to display individual reports or create dashboards using multiple Analysis Center web parts on a page. You can build and customize these dashboards using drag and drop, like any SharePoint web part, and you can mix Analysis Center data with other content in a web part page. This chapter explains how to configure the Analysis Center Web Part to display reports at a SharePoint.

## Displaying Reports Within a SharePoint

If you have the Analysis Center Web Part and SharePoint installed, you can display your reports within a SharePoint Web Part. For more information on installing and configuring the Analysis Center Web Part, see "Installing the Web Part" on page 47.

**To display a report in SharePoint Web Part:**

1. Go to the SharePoint web page where you want to display your report.
2. Click **Modify Shared Page > Add Web Parts > Browse**.
3. Click **Virtual Server Gallery**.
4. From the Web Part List, select **NetIQ Analysis Center** and drag the link onto the page. A section entitled Analysis Center Web Part is displayed on the page.
5. To configure the web part for displaying reports, click **Configure**. The Analysis Center Navigation Pane is displayed.
6. Expand the Reports folder and find the report you want to display on this Web Part.

7. Select the report and click **Apply** or **OK** located at the bottom of the Configuration pane. The report displays within the Analysis Center Web Part. You can configure the display of your report through the Configuration pane.

8. To modify the report display, click **Configure**. For instructions on customizing the web part, see the SharePoint documentation.

# Working with Analysis Center Reports that are Displayed on the SharePoint Web Part

SharePoint provides the ability to modify the look and feel of your report through the Configuration pane; however modifications made to the report data, or deleting a report and adding a new one are all tasks handled by the Analysis Center Console.

## Adding and Modifying New Reports

When you add or save a new report in the Analysis Center Console, the new report shows up in the NetIQ Analysis Center Web Part Navigation Tree within the SharePoint Configuration pane. Select the report from the Navigation Tree and add it to the Analysis Center Web Part.

If you modify the context of a report from the Analysis Center Console, the context changes are not seen in the same report on SharePoint. You must save the modified report under a new name and display that report separately on the Web Part.

## Deleting Reports

If you delete a report from the Analysis Center Console that is being displayed within the Web Part, the Analysis Center Web Service returns an error code and a message is displayed at the Web Part stating that the report is no longer available. To fix this, you can either select a different report to display at the Web Part or remove the Web Part from the Web Part page.Modifying Report Context in the Analysis Center Console

# Chapter 11
# Using Dashboards

The Analysis Center Dashboard feature allows you to group a number of reports together on the same page, which makes it easy to see related data at a glance. For your convenience, Analysis Center offers several out-of-the-box dashboard reports. In the Navigation pane, the AppManager dashboards are located under **Reports > AppManager > Dashboards**.

For more information about specific dashboards, see the respective management guide. AppManager dashboards are listed in the *NetIQ Analysis Center for AppManager Management guide*.

Although there are dashboard reports specific to each product, it is possible to create a dashboard that includes reports from more than one product. For more information on creating your own dashboard, see "Configuring a New Dashboard" on page 166.

An open dashboard displays a thumbnail version of each of its member reports. From within the dashboard, click the title of a member report to view the full report. If you change a report in a dashboard, and then redeploy the report, you also need to redeploy the dashboard report.

You can use any dashboard as the basis for another by saving it as another name, and then adding and deleting the reports in which you are interested.

You can display either a chart or a table for each individual report.

You can set a context for the dashboard as a whole, and then set the properties for each individual report to observe either the dashboard context or the individual report context. If you are going to have any report use its own context, configure that context and save the report before including it in the dashboard.

# Configuring a New Dashboard

You use an existing dashboard as the basis for a new one.

**To configure a dashboard:**

1. In the Navigation pane, expand the Reports folder.
2. Expand the **AppManager** folder, depending on the product dashboards with which you are working.
3. Expand the **Dashboards** folder for the selected product.
4. Select an existing dashboard to use as the basis for your new one.
5. Set the context for the dashboard the same way you set the context for an individual report. For more information, see "Setting the Context for a Report" on page 92.

---

**Notes**

In order to display the context controls for a dashboard, at least one of the reports included in the dashboard must share at least one context with the overall dashboard. For example, the Group or Time context. To configure a report to share a context with the overall dashboard, use the Configure Dashboard Members dialog box. For more information, see "Adding Reports to a Dashboard" on page 168.

When you configure individual reports to share contexts with the dashboard as a whole, you can, for example, compare different types of data for the same group of computers over the same time range. For example, CPU and memory use for 10 different Web servers over the last month.

---

6. Set the properties for the dashboard to determine such attributes as the layout of the dashboard, which reports are included in the dashboard, and whether those reports use the context set for the dashboard or their own specific context settings.

| Property | Description |
|---|---|
| **Attributes** | General attributes for the dashboard |
| (ID) | A read-only string identifier used internally by Analysis Center |
| Comments | Click in the field and enter any text string. |
| Description | Click in the field and enter a brief description of the dashboard |
| LastModifiedBy | A read-only attribute that identifies the last person to save the report |
| ModifyDate | A read-only attribute that identifies the last time the report was modified in the database |
| ThresholdEvent | Set to **True** to enable events when reports contain values that exceed the threshold you set. Events are written to the Windows Event Log on the Web Service computer. |
| **Dashboard** | Layout, reports, and context usage. |
| (DashItems) | Indicates the number of reports included in the dashboard.<br>Click the **Browse [...]** button to open the Configure Dashboard Members dialog box. For instructions adding reports to a dashboard, see “Adding Reports to a Dashboard” on page 168.<br>**Note**<br>The Configure Dashboard Members dialog box lets you select reports for the dashboard, determine how a report is displayed in the dashboard, and which dashboard context settings are observed by the report. |

# Adding Reports to a Dashboard

You use the Configure Dashboard Members dialog box to add reports to a dashboard. From the Properties tab for a selected dashboard report, click the **Browse [...]** button in the **DashItems** field.

The Configure Dashboard Members dialog box lists the reports that are currently included in the dashboard. When you select one of those reports, its dashboard properties are displayed.

**To add a new report to the dashboard:**

1. Click **Add**.
2. In the **Attributes > Report** property, click **Browse [...]**.
3. Select a report from the tree view, then click **OK**. The tree view of reports displayed in the Pick Report dialog box is the same as the one displayed under the Reports folder in the Navigation pane.

**To remove a report from the dashboard:**

1. Select the report in the Members list.
2. Click **Remove** and then click **OK**.

**To set the dashboard properties for a report:**

Select the report in the Members list to display its properties.

| Property | Description |
|---|---|
| **Attributes** | General attributes for the report as it is displayed in the dashboard. |
| FullRow | Set to **True** to display a report across a full row of the Results pane.<br>For dashboards, the Results pane is effectively divided into two columns and an infinite number of rows. If the FullRow value is True, a report is displayed across a full row, or both columns. |

| Property | Description |
| --- | --- |
| Report | Click the **Browse [...]** button, and then select a report name from the list.<br>Use this list to select a report after you click the **Add** button. |
| RowLimit | Indicates the number of rows of data from the recordset to display in the report.<br>Enter a positive or negative number.<br>• Use a positive value to display the first N rows in the recordset (for example, 5 displays the first five rows in the recordset).<br>• Use a negative value to display the last N rows in the recordset (for example, -5 displays the last five rows in the recordset). |
| Viewable | This read-only field indicates view permissions:<br>• Allowed: the current user has permissions to view the report.<br>• Denied: the current user does not have permission to view the report.<br>• Not Available: the report is not available because it has been deleted. |
| ViewMode | Select whether the report is displayed as a **Chart** or **Table**. If you want to have both a chart and table for a report, you have to add two instances of the report to the dashboard, and then display a chart for one and a table for the other. |
| Visible | Set to **True** to determines whether a report is visible in the dashboard. |
| **Context** | Context settings for the report as it is displayed in the dashboard |

| Property | Description |
| --- | --- |
| <any context> | Select whether the report uses the dashboard context setting (**Shared**) or its own context setting (**Not Shared**).<br>For example, you might want the report to use the dashboard Time context (Shared), but use its own Group context (Not Shared). |

# Drilling Through Dashboard Reports

If you want to see the full version of a report that is part of a dashboard, simply click the title of the report. The full version of the report is then displayed in the Results pane, allowing you to see both the chart and table if they are included. You can also drill further into the individual report if you have any linked reports that provide more detail. For more information, see "Linking Reports" on page 136.

# Deploying Dashboard Reports

You deploy a dashboard report the same way you deploy an individual report. For more information, see "Deploying Reports to SQL Reporting Services" on page 155.

**Notes**

You cannot deploy a dashboard that contains no individual reports.

You cannot deploy a dashboard that contains any individual reports that will not run properly, for example, due to an invalid context setting.

# Chapter 12
# Performing Administrative Tasks

This chapter discusses the tools you can use to perform tasks associated with the administration of Analysis Center.

## Setting Data Warehouse Properties

You can configure the following Data Warehouse options:

- The first month of the first quarter. You can use this to define a calendar or fiscal year
- Whether to enable the Analysis Center (OLAP Processing) job
- The schedule on which the OLAP Processing job runs

**To set Data Warehouse options:**

1. On the Tools menu, click **Options**.
2. From the list of Enterprise Options, select **Data Warehouse**.
3. Complete the fields on the window. For more information about fields on a window, see the Help.
4. Click **OK**.

# Setting Default Data Source Values

Use the Default Values options to set default values for fields in the Add Data Source wizard.

**To set default values:**

1. On the Tools menu, click **Options**.
2. From the list of Enterprise Options, select **Default Values**.
3. Complete the fields on the window. For more information about fields on a window, see the Help.
4. Click **OK**.

# Setting Holiday Options

The Holiday options allow to you manipulate two sets of holidays:

- U.S. Business Holidays
- U.S. Government Holidays

## Managing a Holiday Set

You can rename a holiday set, and you can edit the individual days that make up the holiday set. You can also delete an existing holiday set.

**To rename a holiday set:**

1. On the Tools menu, click **Options**.
2. From the list of Enterprise options, select **Holidays**.
3. ***If you want to modify a holiday set other than the displayed set***, select the set under the **Select Holiday Set** list.

4. Click **Rename.**
5. Type the new name of the holiday set and then click **OK**.

**To edit an existing member of a holiday set:**

1. On the Tools menu, click **Options**.
2. From the list of Enterprise Options, select **Holidays**.
3. From the list of holidays, select the one you want to edit (for example, Labor Day), and then click **Edit**.
4. Type a date and description of the holiday.
5. Click **Update**, and then click **OK**.

**To add a holiday:**

1. On the Tools menu, click **Options**.
2. From the list of Enterprise options, select **Holidays**.
3. ***If you want to add a holiday set***, select the set under the **Select Holiday Set** list.
4. Type the date and description of the holiday you want to add in the **Holiday Date** and **Holiday Description** fields.
5. Click **Add** and click **OK**.

**To delete a holiday:**

1. On the Tools menu, click **Options**.
2. From the **Select Holiday Set** drop list, select the set from which you want to delete a holiday.
3. Select the holiday from the list, and then click **Delete**.
4. Click **OK** to close the Options dialog box.

# Setting Report Management Options

The Report Management options let you:

- Restore folders and reports you have deleted from the `Reports` folder.
- Export reports to edit the XML, perhaps to make a change in a test or laboratory environment.
- Import reports, perhaps to include any altered reports in the Navigation pane.
- Migrate Analysis Center version 2.6 reports to their equivalent Analysis Center version 2.7 reports.

**To use the Report Management options:**

From the list of Enterprise Options, select **Report Management**.

**To restore folders or reports you have deleted:**

1. Select **Restore report(s)**.
2. Expand the tree view to display the folders and/or reports you have deleted.

   Deleted folders and reports are identified by a red X and a cleared check box.

   Folders and reports that are currently displayed in the Console are identified by selected check boxes. You cannot change the selection state for these items.
3. Select the reports and folders you want to restore.
4. Click **Restore** and then click **OK**. The folders and reports are restored to their original locations under the `Reports` folder in the Navigation pane.

**To export reports:**

1. Select **Export report(s)**.

   **Note**
   By default, the Export Reports option is disabled in a distributed environment. For more information, see the *NetIQ Analysis Center Release Notes*.

2. Expand the tree view to display the reports you want to export.
3. Select the check box for each report you want to export.
4. Click **Export**.
5. Navigate to the folder in which you want to save the reports.
6. Click **Save**, and then click **OK** to close the Options dialog box.

   **Note**
   If you are exporting multiple reports, they are saved as a single file, with a single file name. The XML for each report is contained in that file. Edit that file to edit the reports, and then import that file to make the new versions of the reports available in the Console.

**To import reports:**

1. Click **Import**.
2. Navigate to the folder that contains the reports you want to import, and select those reports.
3. Click **Open**, and then click **OK** to close the Options dialog box.

   **Note**
   Imported report contexts and properties are not reflected immediately in the Console. You will see any changes after you select any other report in the Navigation pane, and then return to and run the imported report.

**To migrate reports:**

1. Click **Migrate**.
2. After the Analysis Center 2.6 reports are migrated, a notepad file displays the following details:
   - Details of the migrated reports.
   - Reports that are not migrated.
3. Click **OK** to close the Options dialog box.

---

**Note**

- This process does not migrate any custom reports.
- In **x86** computers, migration of reports is performed only after a successful upgrade from Analysis Center version 2.6. The reports that you have saved using the **Saved As** option from Analysis Center version 2.6 are migrated to their equivalent Analysis Center version 2.7 reports.
- Migration is not associated with the tree-view in the Report Management section. Clicking **Migrate** migrates all the reports in the database that are not compatible with Analysis Center 2.7, and were originally supplied with Analysis Center.

---

# Setting SQL Server Reporting Services Options

You can configure four SQL Server Reporting Services options:

- The URL of the Report Server (the Report Server is created when you install SQL Reporting Services)
- The default folder on the Report Sever to which deployed reports are saved
- Whether threshold exceptions in reports generate events
- Whether to include the report configuration card

**To set Reporting Services options:**

1. From the list of Enterprise Options, select **Reporting Services**.
2. Complete the fields as instructed below:

| Field | Description |
|---|---|
| Default Report Server Location | Type the URL of the Report Server.<br>**Note** If the Data Extension and SQL Reporting Services are installed on a computer whose IIS Server has Secure Sockets Layer implemented, make sure the URL begins with **https** (not http). |
| Default Report Server Root Folder | Type the name of the default folder in which deployed reports are saved on the Report Server. |
| Enable report threshold event notification | Select this option to enable events when reports contain values that exceed the threshold you set. Events are written to the Windows Event Log on the Web Service computer.<br>For more information about setting event thresholds for reports, see “Attributes” on page 113 and “Display > Threshold” on page 123. |
| Include report configuration card | Select this option to include a configuration card with each deployed report. |

3. Click **OK**.

# Setting Console Options

You can configure several Analysis Center Console options:

- Color scheme
- Display of cached reports
- Display of report date range under Report title
- Display of tooltips in the context tree
- Display of the Logon dialog box
- Message logging associated with the operation of the Console

**To set the Console options:**

1. Click **Tools > Options**. The Options dialog box is displayed.
2. From the list of User Options, select **Console**.

3. Complete the fields as instructed below:

| Field | Description |
|---|---|
| Color Scheme | Select a color scheme for the background color of the Console. |
| Show cached reports | Select to display the cached dataset for a report when you select the report. The location of the cached datasets is:<br>`C:\Documents and Settings\<user>\Local Settings\Application Data\NetIQ\Analysis Center\ReportCache`<br>Clear to always run the report for the most-recent dataset.<br>Click **Delete Files** to delete all cached datasets. |
| Show report date range selection | Select to display the date range of the report beneath the report title in the created report. |
| Show report context tree tooltips | Select to display tooltips for the report context tree control.<br>Clear to hide tooltips for the report context tree control. |
| Show Logon dialog | Select to display the Logon dialog box when you start the Analysis Center Console.<br>You do not have to display the Logon dialog box if:<br>• You always connect to the same Web service.<br>• You use your current Windows credentials to connect to the Web service.<br>For more information, see “Starting the Console” on page 61. |

| Field | Description |
| --- | --- |
| File Logging Level | Select a logging level from the menu:<br>• Off (no messages are logged)<br>• Error (only error messages are logged)<br>• Warning (error and warning messages are logged)<br>• Info (error, warning, and informational messages are logged)<br>• Verbose (all messages are logged)<br>Messages are written to `NetIQTrace.log` (Typically, the default location is `C:\Documents and Settings\All Users\Application Data\NetIQLOG` |

| Field | Description |
|---|---|
| Event Logging Level | Select the logging level from the menu:<br>• Off (no messages are logged)<br>• Error (only error messages are logged)<br>• Warning (error and warning messages are logged)<br>• Info (error, warning, and informational messages are logged)<br>Messages are written to the Windows Event Log. |
| Data Warehouse Logging Level | Select the logging level from the menu:<br>• Off (no messages are logged)<br>• Error (only error messages are logged)<br>• Warning (error and warning messages are logged)<br>• Info (error, warning, and informational messages are logged)<br>• Verbose (all messages are logged)<br>Messages are written to the `AC_Configuration` database when tracing is enabled for the Web Service *and* the level of trace messages is equal to or greater than the level specified here.<br>Tracing for the Web Service is set in the Web.config file. For more information, see “Enabling Tracing” on page 185. |

4. Click **OK**.

# Managing SQL Server Agent Jobs

When you select a Data Source in the Navigation pane, the list of associated SQL Server Agent job instances is displayed in the upper portion of the Results pane. When you select a job instance in the list, the job steps that make up the instance are listed in the lower portion of the Results pane.

You can right-click any job instance to issue the following commands:

- Start job (starts the SQL Server Agent job)
- Stop job (stops the SQL Server Agent job)
- Enable job (enables the SQL Server Agent job)
- Disable job (disables the SQL Server Agent job)
- Show Detail Log (displays details of how each step of the jobs was created)

If there is a problem with a job, you can use SQL Server Enterprise Manager to investigate the cause.

**To view the history of a job in SQL Server Enterprise Manager:**

1. Open SQL Server Enterprise Manager.
2. Expand the appropriate SQL Server.
3. Expand **Management**.
4. Expand **SQL Server Agent**.
5. Select **Jobs**.
6. Right-click the appropriate job and select **View Job History**.
7. Select **Show step details**.
8. Scroll through the list of steps to find the one on which the job failed and select that step.
9. Review the text in the **Errors and/or messages** field.

# Editing the Web.config File

The `Web.config` file is used to configure the Analysis Center Web Service. The default location for the file is:

```
Program Files\NetIQ\Analysis Center\WebService\Web.config
```

You can modify the configuration of the Web Service by editing different portions of `Web.config`.

## Adding Users

By default, each time a user connects to the Web Service, Analysis Center first checks to see whether that user is identified in the `AC_Configuration` database as an Analysis Center user.

If the connecting user is an Analysis Center user, authentication proceeds based upon the Analysis Center permissions assigned to that user.

If the connecting user is not an Analysis Center user, Analysis Center looks at the local Windows user groups *Administrators* and *Users*. If the connecting user is a member of *Administrators*, then that user is added to the `AC_Configuration` database as an Analysis Center user with administrative permissions (full permissions for Analysis Center). If the connecting user is a member of *Users*, then that user is added to the `AC_Configuration` database as a non-administrative Analysis Center user.

The `<appSettings>` element allows you to enable or disable this process, and to specify a list of Analysis Center users with administrative permissions.

Using `Web.config` to add users to Analysis Center gives you a method of recreating users in the event someone deletes all users and groups from the Analysis Center Console.

The `<appSettings>` element is near the beginning of `Web.config`:

```
<appSettings>

<!--Add following Entry to remove nt group check entirely, no
automatic group additions-->

<!--<add key="NO NT GROUP CHECK" value="true" />-->

<!--When the following users connect, they are automatically added-
->

<!--<add key="AC Administrators"
value="{localcomputer}\{account},{domain}\{account}" />-->

</appSettings>
```

Group checking is enabled by default. To disable this process, remove the comment tags from the following line:

```
<!--<add key="NO NT GROUP CHECK" value="true" />-->
```

so that it reads

```
<add key="NO NT GROUP CHECK" value="true" />
```

**To add users with administrative permissions to Analysis Center:**

1. Remove the comment tags from the following line:

   ```
   <!--<add key="AC Administrators"
   value="{localcomputer}\{account},{domain}\{account}" />-->
   ```

   so that it reads

   ```
   <add key="AC Administrators"
   value="{localcomputer}\{account},{domain}\{account}" />
   ```

2. Replace `{localcomputer}\{account},{domain}\{account}` with the appropriate account information.

   - Use the `{localcomputer}\{account}` format for accounts local to the Web Service computer.
   - Use the `{domain}\{account}` format for domain accounts.
   - Separate multiple accounts with commas and no spaces.

## Enabling Tracing

You can enable the logging of trace messages by editing the `<switches>` and `<listeners>` elements.

---

**Note**

Any given instance of the `Web.config` file may vary from the example used here, but you must make changes to the file exactly as illustrated.

---

Find the `<switches>` element near the end of the file:

```
<switches>
<!--Trace Level  0=Off, 1=Error, 2=Warning, 3=Information,
4=Verbose-->
<add name="NQLOGSQL" value="0" />
<add name="NQLOGEVENT" value="1" />
<add name="NQLOGFILE" value="1" />
</switches>
```

You can log trace messages in three places:

- The `NQLOGSQL` switch enables the logging of trace messages to the `AC_Configuration` database `LogMessage` table. You can open the `LogMessage` table using SQL Server Enterprise Manager.
- The `NQLOGEVENT` switch enables the logging of trace messages to the Windows Application Log. You can open the Application Log using the Windows Event Viewer.
- The `NQLOGFILE` switch enables the logging of trace messages to the `NetIQTrace.LOG` file. You can open `NetIQTrace.LOG` using a text editor like Notepad.

To set the level of logging to any destination, use the trace level values 0 - 4. For example, to log verbose messages to all destinations, edit the following lines as follows:

- `<add name="NQLOGSQL" value="4" />`
- `<add name="NQLOGEVENT" value="4" />`
- `<add name="NQLOGFILE" value="4" />`

After you edit the `<switches>` section, you then need to edit the `<listeners>` section, which is just below `<switches>`.

For each switch that you have enabled, you need to instantiate a corresponding listener. The SQL listener is instantiated by default. You need to explicitly instantiate the `NQLOGEVENT` and `NQLOGFILE` listeners. To instantiate those, add the following lines to the `<listeners>` element:

```
<add name="NQLOGEVENT"
type="NetIQ.Diagnostics.NQEventLogListener,NQACSHARED2,
Culture=neutral, PublicKeyToken=990b740647d733f3"/>

<add name="NQLOGFILE"
type="NetIQ.Diagnostics.NQFileLogListener,NQACSHARED2,
Culture=neutral, PublicKeyToken=990b740647d733f3"/>
```

**Note**

To successfully enable the `NQLOGFILE` switch and listener, the Web Service must be using an account that has sufficient permission to write to `NetIQTrace.LOG`.

## Changing Timeout Values

The timeout values for connections to the various Analysis Center databases are defined in the `<Connections>` element. If you are running reports that return large datasets, the time required for the queries to fully run may exceed those connection timeout settings, causing the queries to abort. You can increase the timeout setting by editing the value for the `TimeOut` attribute for each `<Connection>` element. You should also edit the connection timeout value for the Web Service Web site. For more information, see "Adjusting the Connection Timeout for the Web Service Web Site" on page 188.

```
<Connections>

<Connection Name="ACOLAP" Server="localhost" OLAPCatalog="AC_OLAP"
ConnectionType="OLAP" TimeOut="3600" />

<Connection Name="AC" Server="localhost" Database="AC_Warehouse"
ConnectionType="SQL" TimeOut="3600" />

<Connection Name="AC_Config" Server="localhost"
Database="AC_Configuration" ConnectionType="SQL" TimeOut="3600" />

</Connections>
```

You can also increase the value for the `executionTimeout` attribute of the `<httpRuntime>` element, which governs the length of time a request is allowed to run before being automatically shut down by ASP.NET.

Find the `<httpRuntime>` element about two-thirds of the way through the `Web.config` file:

```
<httpRuntime executionTimeout="3600"

maxRequestLength="4096"

useFullyQualifiedRedirectUrl="false"

minFreeThreads="8"

minLocalRequestFreeThreads="4"

appRequestQueueLimit="100" />
```

Set the `executionTimout` value to match the `TimeOut` values you set for the `<Connection>` elements above.

---

**Note**

If you continue to have report failures due to connection errors, try increasing these timeout values.

---

# Adjusting the Connection Timeout for the Web Service Web Site

In addition to adjusting timeout values in `Web.config` to address problems with the time required for the report queries to fully run, you should also adjust the connection timeout value for the Web site that hosts the Web Service virtual directory. For more information, see "Changing Timeout Values" on page 187.

**To adjust the connection timeout value:**

1. On the computer where you have installed the Web Service, click **Start > Programs > Administrative Tools > Internet Services Manager**.
2. Expand the appropriate IIS Server.
3. Right-click the Web site hosting the Web Service virtual directory and select **Properties**.
4. Enter an appropriate value in the **Connection Timeout: ____ seconds** field.

   The value you use depends entirely on your Analysis Center environment (for example, the system resources of each Analysis Center computer and the speed of your network) and the amount of data being returned by your report queries. If you continue to have report failures due to connection errors, try increasing this value.
5. Click **OK**.

# Chapter 13
# Customizing Reports

This chapter provides information about customizing the Analysis Center reports.

## Customizing Reports with Analysis Center Console

The simplest way to create a custom version of a report is to open the report in the Console, and then set the context and properties so that your information is presented in the appropriate format. Once you have configured the report exactly as you like it, you can then save it under a new name.

For more information about setting the context and properties for a report, and saving different versions of a report, see "Generating Live Reports" on page 91.

## Editing the Report XML

You can also customize a report by editing its XML file. The XML files for Analysis Center reports are located in the following folders on the Analysis Center Console computer:

- `\Analysis Center\Config\Reports\AC20` (reports that are displayed under the Reports folder in the Navigation pane)
- `\Analysis Center\Config\Reports\Templates` (report templates that are displayed under the Templates folder in the Navigation pane)

The following example describes the XML tags and how to modify them for the CPU Utilization By Server report.

The report file name is: `Performance.AverageCPUUtilizationByServer.XML`

You can open the file using Internet Explorer or any text editor.

## XML Tags

The CPU Utilization By Server report has the following XML tags:

**`<REPORTSET FOLDER="Performance">`**

The `FOLDER` attribute determines the folder location of the report under the `Reports` folder. In this case, it is located under `Reports\Performance`.

**`<VIEW>Master</VIEW>`** determines which view is selected by default for the Group context. In this case, the Master view is selected. `<VIEW/>` is a child folder of the `<REPORTSET/>`

**`<NQREPORT ID="CPU Utilization by Server" Title="CPU Utilization by Server" Description="Average CPU Utilization by Server">`**

- `<NQREPORT/>` folder is a child folder of the `<REPORTSET/>`.
- The `ID` attribute is a unique string identifier for a report within Analysis Center. If you make changes to the report and save it with a different name, you must edit this attribute to ensure that it is unique.
- The `Title` attribute is the name of a report as it is displayed in the Navigation pane and Results pane.
- The `Description` attribute is a description of the report that is displayed under the title of the report in the Results pane.

**`<PARAMETERS />`**

Determines which parameters are available for a report. In this case, there are none. Analysis Center uses parameters for defining N for Top N ... reports. The Console displays parameters in the Properties tab of the Tasks pane.

```
<CONTEXT TYPE="NetIQ.ACLib.Metrics.MetricContext,NQACLib" ID="1"
IsAggregate="false" Title="Metric:CPU Utilization"
MetricFilter="Application:NT,Unix;
Description1:%Performance Data;Description2:%Processor
Utilization%;" />
```

```
<CONTEXT TYPE="NetIQ.ACLib.Times.TimeContext,NQACLib" ID="1"
IsAggregate="true" IsMultiple="true" TimeRangeName="Last 28 Days"
Interval="Day" />
```

The `CONTEXT` tags determine which contexts are available for a report, in this case the Metric and Time contexts also include the Group context, which is not shown here.

- The `TYPE` attribute identifies the context control, in this case, the `MetricContext` and `TimeContext` controls.
- The `ID` attribute identifies the instance of the context control. In most cases the value for this attribute is `1` because there is usually only one instance of a context control for a report. There can be multiple instances of a control, for example, when reports contain two time contexts. If there is more than one instance of a control, the second control would have an `ID` value of `2`, and so on.
- The `IsAggregate` attribute determines whether data is aggregated in the time context. For example, the time range selected is Last 28 Days, and the data is aggregated by day.
- The `IsMultiple` attribute determines whether you can select multiple items within the context. For example, in the Time context, you can select a time range and the interval at which the data is aggregated.

The Metric context has some additional attributes that identify which data you can select for the report.

- The `Title` attribute sets a title for the context, which the Console displays in the title bar for the context control. The title is only informational, and does not determine which data can be selected. In the case of the Metric context, the title is `Metric:CPU Utilization`.
- The `MetricFilter` attribute determines which data is available for selection. The values for this attribute identify the cube dimensions from which you can select.

  The `Application` value determines which categories of AppManager Knowledge Script data you can select from the Application dimension. For example, Exchange, NT, or SQL.

The `Description1` value determines which type of data within the application you can select from the Metric dimension. For example, performance or event data.

The `Description2` value further filters the type of data you can select. For example, within performance data, you can limit the selection to Processor Utilization data.

```
<QUERY TYPE="NetIQ.ACLib.ACQUERY,NQACLib">
<CONTEXTS>
<CONTEXT TYPE="NetIQ.ACLib.Cubes.CubeContext,NQACLib"
ID="1" CubeName="vAMGeneric" />
</CONTEXTS>
<Template> WITH {TimeContext[1].MDX} {MetricContext[1].MDX}
{GroupContext[1].MDX} MEMBER [Measures].[Average Utilization] as
'([Measures].[MetricSum])/ ([Measures].[MetricCount])' SELECT {
{GroupContext[1].Name} } on Rows, {{MetricContext[1].Name} } on
COLUMNS FROM [{CubeContext.Name}{TimeContext[1].UTC}] WHERE
({MetricContext[1].AppFilter},[Measures].[Average
Utilization],{TimeContext[1].Name}, {TimeContext[1].filter} ) </
Template>
```

The `QUERY` tag defines the query run by the report.

- The `TYPE` attribute determines the type of query. In general, these reports run an MDX query (`ACQUERY`).
- Within the `QUERY` tag, the `CONTEXTS` tag determines which contexts identify the source of data. Each individual `CONTEXT` tag identifies a single context and context control.

  The `TYPE` attribute for the `CONTEXT` tag identifies the context control, in this case, the `CubeContext` control.

  The `ID` attribute identifies the instance of the `CubeContext` control. In most cases the value for this attribute is `1` because there is usually only one instance of this control for a report

  The `CubeName` attribute identifies the cube that is queried.
- Within the `QUERY` tag, the `TEMPLATE` tag identifies the query template used for the report.

Variables in the query template are identified by braces (for example, `{TimeContext[1].MDX}`). The values for those variables are determined by the context settings you make in the Console.

## Modifying the XML

By modifying the report XML, you can, for example, take the CPU Utilization by Server report, which uses data collected by the NT_CpuLoaded Knowledge Script, and create a report about the CPU utilization of SQL Server processes based on data collected by the SQL_CPUUtil Knowledge Script.

**To modify the XML:**

1. Change the value for the `VIEW` tag to `<VIEW>SQL</VIEW>`
2. Change the first three attributes of the `<NQREPORT>` tag as follows:
   - `ID="CPU Utilization by SQL Server Services".` The ID value must be unique for Analysis Center reports.
   - `Title="CPU Utilization by SQL Server Services"`
   - `Description="Average CPU Utilization by SQL Server Processes"`
3. For the metric context, make the following changes:
   - `Title="Metric:SQL CPU Utilization"`
   - `MetricFilter="Application:SQL;Description1%Performance Data;Description2%Process CPU Utilization%;"`

   **Note**
   You can find the `MetricFilter Description` values by using Analysis Manager to open the `AC_OLAP` database, and view the data in the `vAMGeneric` cube. Under `Metric`, expand the `All Metrics`, and then `AM NT Performance Data`; you will see `% Process CPU Utilization`, which contains the data streams collected by the SQL_CPUUtil Knowledge Script.

4. In the `Analysis Center\Config\Reports\AC20` folder, save the file under the name `Performance.AverageCPUUtilizationBySQLProcesses.XML`.

5. Use `XMLCheckIn.exe` to check the file in to the AC_Configuration database. `XMLCheckIn.exe` is located in `\Analysis Center\bin`.

   Use the following syntax:
   ```
   xmlcheckin <path to file>\<file name>
   ```

   The report is listed under `Reports\Performance` in the Navigation pane of the Console.

# Using Report Designer to Edit RDL Files

Another option you have for customizing reports is to use Report Designer to edit the Report Definition Language (RDL) files for reports you have deployed to SQL Reporting Services. A thorough working knowledge of Report Designer is necessary for making this sort of modification to a report. For more information about using Report Designer, see the *Reporting Services Books Online* and *Microsoft Visual Studio .NET Documentation*.

# Appendix A
# Troubleshooting

This appendix includes solutions for some problems that you may encounter. If you see any of the following error messages, try the accompanying solutions to rectify the underlying problems.

## Database open error

The Remote Registry service should run on all Analysis Center computers. Otherwise you can get this error message:

```
###--> ERROR: » - Error: -2147467259
Description: Cannot open database requested in login
'AC_Configuration'. Login fails.
```

## Invalid URL, Server unavailable

You may encounter this message when attempting to log on to the Console when the Web Service is installed on a computer running Windows 2003. One known cause of this problem is a change in the password for the domain account used for the Analysis Center Application Pool identity, which prevents the Web Service from connecting to the Data Warehouse. If the password for the domain account changes, it must be updated in the properties for `ACAppPool`.

**To update the Application Pool identity:**

1. On the Windows 2003 computer that is hosting the Web Service, click **Start > Programs > Administrative Tools > Internet Information Services (IIS) Manager**.
2. Expand **Application Pools**.
3. Right-click **ACAppPool** and select **Properties**.
4. Click the Identity tab.
5. Verify that the **Configurable** option is selected and that the correct domain account is displayed in the **User name** field.
6. In the **Password** field, enter the correct password for the domain account.

## The underlying connection was closed: Unable to connect to the remote server

You will see this error message when connections are lost between Analysis Center components, for example, if a physical network connection is lost due to, perhaps, a down router or switch, or the computer being unplugged from the network, or if the IIS server hosting the Web Service is not running because, for example, one of the component IIS services is not running, or the computer hosting the IIS server is not running.

## Reporting Services error “An error has occurred during report processing ...”

The following error message is displayed in Report Manager when the connections required to process a report cannot be made SQL Reporting Services to Data Extension to Web Service to Data Warehouse:

```
“An error has occurred during report processing ... Cannot create a
connection to data source ... The request failed with HTTP status 401:
Access Denied.”
```

This error occurs when:

- You have selected Windows NT Integrated Security as the Report Server Credentials when deploying a report.
- Analysis Center components are distributed among a number of computers.

  Under these circumstances, you encounter the Windows “double-hop” issue in which Windows security credentials are not recognized for more than one connection. Credentials are recognized from Server A to Server B, but not from Server B to Server C.

You can overcome this problem by using the **Select shared Report Server Data Source** option for Report Server Credentials when deploying a report, and selecting the **Credentials stored securely in the report server** property for either the shared data source or the individual deployed report.

For more information about deploying a report, see “Deploying a Report” on page 157.

**To set the Credentials stored securely in the report server property for a data source, use Report Manager to edit the data source properties:**

1. Select the data source in Report Manager.
2. In the Connect Using section, select the **Credentials stored securely in the report server** option.
3. Enter the **User name** (`<domain\user>`) and **Password**.

Do not select either of the following options: **Use as Windows credentials** or **Impersonate the authenticated user**. The Analysis Center Web Service handles authentication of the user to the Data Warehouse.

4. Click **Apply**.

**To set the Credentials stored securely in the report server property for a deployed report:**

1. Open the Properties page for the report in Report Manager.
2. Click the **Data Sources** link on the Properties page.
3. Select **A custom data source**.
4. In the Connect Using section, select **Credentials stored securely in the report server**.
5. Enter the user name (`<domain\user>`) and password.

   Do not select either of the two options **Use as Windows credentials** or **Impersonate the authenticated user**. The Analysis Center Web Service handles authentication of the user to the Data Warehouse.

6. Click **Apply**.

## OLAP processing job fails: Inaccessible Data Mart

If you add a Data Source for which the Data Mart does not exist or is inaccessible, you may run into problems when you try to delete the Data Source. In this scenario, the first run of the OLAP processing job fails after you delete the Data Source.

This failure causes no real problem in Analysis Center. The second run of the OLAP processing job succeeds.

To avoid the OLAP job failure, when deleting a Data Source that has an inaccessible Data Mart, do not delete the Data Mart database. The Data Mart may be inaccessible because the wrong authentication credentials were provided when creating the Data Source.

When prompted to remove the Data Mart database, select **No**.