
Upgrade Guide

Version 10

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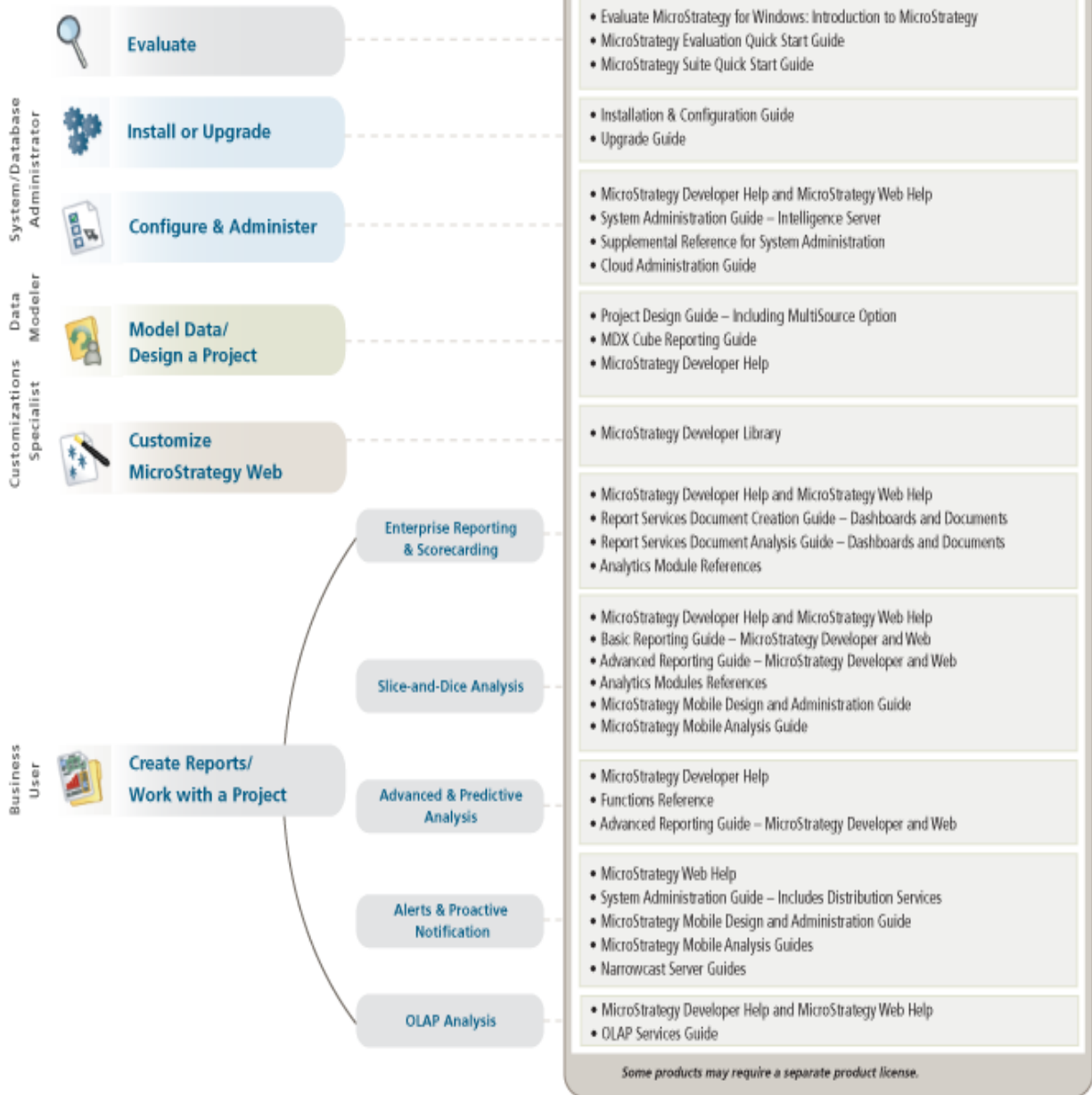
Patent Information

This product is patented. One or more of the following patents may apply to the product sold herein: U.S. Patent Nos. 5,321,520, 5,416,602, 5,748,560, 6,154,766, 6,173,310, 6,260,050, 6,263,051, 6,269,393, 6,279,033, 6,501,832, 6,567,796, 6,587,547, 6,606,596, 6,658,093, 6,658,432, 6,662,195, 6,671,715, 6,691,100, 6,694,316, 6,697,808, 6,704,723, 6,707,889, 6,741,980, 6,765,997, 6,768,788, 6,772,137, 6,788,768, 6,792,086, 6,798,867, 6,801,910, 6,820,073, 6,829,334, 6,836,537, 6,850,603, 6,859,798, 6,873,693, 6,885,734, 6,888,929, 6,895,084, 6,940,953, 6,964,012, 6,977,992, 6,996,568, 6,996,569, 7,003,512, 7,010,518, 7,016,480, 7,020,251, 7,039,165, 7,082,422, 7,113,474, 7,113,993, 7,127,403, 7,174,349, 7,181,417, 7,194,457, 7,197,461, 7,228,303, 7,260,577, 7,266,181, 7,272,212, 7,302,639, 7,324,942, 7,330,847, 7,340,040, 7,356,758, 7,356,840, 7,415,438, 7,428,302, 7,430,562, 7,440,898, 7,457,397, 7,486,780, 7,509,671, 7,516,181, 7,559,048, 7,574,376, 7,617,201, 7,725,811, 7,801,967, 7,836,178, 7,861,161, 7,861,253, 7,881,443, 7,925,616, 7,945,584, 7,970,782, 8,005,870, 8,035,382, 8,051,168, 8,051,369, 8,094,788, 8,130,918, 8,296,287, 8,321,411, 8,452,755, 8,521,733, 8,522,192, 8,577,902, 8,606,813, 8,607,138, 8,645,313, 8,761,659, 8,775,807, 8,782,083, 8,812,490, 8,832,588, 8,943,044, and 8,943,187. Other patent applications are pending.

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WHAT DO YOU WANT TO DO WITH MICROSTRATEGY?



CONTENTS

Book Overview and Additional Resources	Description of this guide..... ix
	About this bookx
	How to find business scenarios and examplesx
	What's new in this guidexi
	Prerequisites xiii
	Who should use this guide..... xiii
	Resources xiii
	Documentation..... xiv
	Education xxii
	Consulting xxii
	Technical Support..... xxiii
	Feedback xxiii
1. Preparing for the upgrade	Introduction..... 1
	Impact of the upgrade 2
	Client/server interoperability 2
	New features and workflow changes 3
	Upgrade best practices 9
	The upgrade process checklist 10
	Reviewing upgrade prerequisites 11
	Database and driver requirements..... 12
	System sizing guidelines..... 12
	Privileges and access 13
	Checking for supported data types 13
	Backing up the metadata 13
	Updating the project metadata..... 14

	Downgrading metadata projects	14
	Configuring an upgrade test environment.....	14
	Best practices for configuring an upgrade test environment	15
	High-level steps to configure an upgrade test environment...	16
	Upgrade deployment tests	17
	Reference materials.....	18
2. Upgrading Intelligence Server on Windows, UNIX, or Linux	Introduction.....	19
	Before the upgrade	20
	Install and configure Intelligence Server and Developer on a test server	20
	Uninstall the previous version of MicroStrategy	21
	Install and configure Intelligence Server and Developer on a test server	23
	Upgrading the drivers for your data source connections	24
	Establish a connection to the metadata	25
	Update the metadata	25
	Prerequisites for updating a MicroStrategy metadata	26
	Metadata update process	27
	Upgrade the History List database repository	33
	Perform basic stability testing on the test server	34
	Upgrade and configure Intelligence Server in the production environment	34
	Install remaining MicroStrategy products.....	35
	Using a response file with Configuration Wizard	35
	Creating a response file	35
	Executing a response file.....	36
	Response configuration parameters and options	38
	List of updated privileges	50
3. Upgrading other MicroStrategy products	Introduction.....	55
	Recommended upgrade order across multiple machines	56
	Upgrading MicroStrategy Web and Mobile Server	57
	Updating Android widgets from MicroStrategy 9.2.1m.....	58
	Upgrading MicroStrategy Web customizations	59
	Migrate Web delivery subscriptions from Narrowcast Server to Distribution Services	59
	Upgrading Enterprise Manager and Intelligence Server	

	statistics tables	61
	Complete upgrade of Enterprise Manager statistics and repository	62
	Phased upgrade of Enterprise Manager statistics and repository	64
	Updating your pre-upgrade statistics data	66
	Updating the Enterprise Manager project	68
4. Testing the upgrade	Introduction.....	71
	Functional testing.....	72
	Administrative testing.....	72
	End user testing.....	75
	Integrity testing	76
	Best practices for integrity testing.....	76
	Selecting the reports to test	76
	Performance testing.....	78
	Integrity Manager.....	78
	Scheduled report tests	79
	All-hands test	79
	Third-party test tools	79
	Resolving problems encountered during the upgrade	80
5. After the Upgrade	Introduction.....	83
	Verifying your licenses and activating your installation.....	84
	Checking and assigning privileges	84
	Completing the upgrade process.....	86
	Accessing MicroStrategy documentation.....	86
	Migrating Intelligence Server from Windows to UNIX or Linux	86
	Supporting fonts for documents, exported reports, and graphs	88
	Index.....	91

BOOK OVERVIEW AND ADDITIONAL RESOURCES

Description of this guide

This guide contains information and procedures for migrating to MicroStrategy Analytics Enterprise.

The information covers the upgrade process: preparing a MicroStrategy system for an upgrade, upgrading your MicroStrategy system in different environments, and performing important post-upgrade tasks. This book is meant to be used in conjunction with the *MicroStrategy Installation and Configuration Guide*.

This guide provides the following information:

- [Chapter 1, Preparing for the upgrade](#) provides information on how to prepare your MicroStrategy system and projects for the upgrade. It includes a checklist of the major steps involved in upgrading a MicroStrategy system, upgrade tips, compatibility and interoperability information, and the impact of specific version upgrades.
- [Chapter 2, Upgrading Intelligence Server on Windows, UNIX, or Linux](#) walks you through the process of upgrading Intelligence Server and the MicroStrategy metadata.

- [Chapter 3, Upgrading other MicroStrategy products](#) walks you through the process of upgrading other MicroStrategy products, such as MicroStrategy Web, MicroStrategy Mobile, and Enterprise Manager.
- [Chapter 4, Testing the upgrade](#) provides information about a variety of tests that can be performed to ensure that your upgrade proceeds smoothly.
- [Chapter 5, After the Upgrade](#) provides information about the post-upgrade tasks to be performed once the upgrade process is complete, such as license checking, configuration, and tuning.

About this book

The following sections provide the location of examples, list prerequisites for using this book, and describe the user roles the information in this book was designed for.

How to find business scenarios and examples

Within this guide, many of the concepts discussed are accompanied by business scenarios or other descriptive examples.

For examples of reporting functionality, see the MicroStrategy Tutorial, which is MicroStrategy's sample warehouse and project. Information about the MicroStrategy Tutorial, which is included as part of the MicroStrategy Analytics Modules, may be found in the *MicroStrategy Basic Reporting Guide*.

Detailed examples of advanced reporting functionality can be found in the *MicroStrategy Advanced Reporting Guide*.

Business scenarios can be found in the Analytics Modules projects, which include a set of precreated sample reports, each from a different business area. Sample reports present data for analysis in such business areas as financial reporting, human resources, and customer analysis.

What's new in this guide

MicroStrategy 10

- For a list of updates related to MicroStrategy 10, see [New features and workflow changes in MicroStrategy 10, page 4](#).
- The steps to upgrade Enterprise Manager statistics tables and the Enterprise Manager project have been updated (see [Upgrading Enterprise Manager and Intelligence Server statistics tables, page 61](#)).

MicroStrategy 9.5.1

- MicroStrategy helps you secure your analytics applications on the web and through the use of mobile devices, using the Usher security platform. This includes integration with the following Usher products:
 - Usher Security Server: A server system that synchronizes identities with enterprise identity management systems of record, and presents those identities to Usher clients for authentication.
 - Usher Network Manager: An administrative console which you use to manage your network of users, configure access to Usher-enabled systems and resources, and distribute digital badges and keys.
- Usher Analytics: Reporting functionality to analyze and visualize the activity of users in your Usher network, to gain insights into your enterprise security.
- Usher Mobile: The Mobile app and server system lets your users view the activity of nearby users in their Usher network.
- Enterprise Manager: You can store your statistics repository on a MySQL database.
- MicroStrategy Mobile and Web:
 - MicroStrategy Mobile for iPhone allows users in your LDAP directory to log in using Usher.
 - MicroStrategy Web allows users in your LDAP directory to log in using Usher.

MicroStrategy 9.5 (MicroStrategy 9s)

- MicroStrategy 9.5 integrates the MicroStrategy Analytics Platform with MicroStrategy Usher. MicroStrategy Usher is a mobile security platform for the enterprise. Usher enables users to electronically validate their identity using the Usher app and mobile badge on their smartphone, instead of entering a password, displaying a physical ID card, or using a physical key.

MicroStrategy 9.5 supports Usher as a primary authentication method for logging into a project through MicroStrategy Mobile and MicroStrategy Web. Using QR code generation in MicroStrategy, users can scan the code with Usher on their smartphones and gain access to the MicroStrategy project.

Usher is also supported for two-factor authentication in Web.

MicroStrategy 9.5 also provides support for biometric security, location-based access restrictions, and time-based access restrictions.

MicroStrategy Analytics Enterprise

- The name of MicroStrategy Desktop has been changed to MicroStrategy Developer.

MicroStrategy 9.4

Any changes made to this guide were cosmetic or release-specific.

MicroStrategy 9.3.1

- Additional suggestions for resolving any problems you may encounter when upgrading (see [Resolving problems encountered during the upgrade, page 80](#)).
- The functionality for several privileges has been split among new privileges; updating privileges ensures that users retain access to the same functionality (see [List of updated privileges, page 50](#)).
- Update your existing History List to a database-based or hybrid format (see [Metadata update process, page 27](#)).

- Update Android widgets created with MicroStrategy 9.2.1m to the latest version (see [Updating Android widgets from MicroStrategy 9.2.1m, page 58](#)).

Prerequisites

Before using this book, you should be familiar with the following:

- The installation and configuration information provided in the *MicroStrategy Installation and Configuration Guide*.



If you do not review the MicroStrategy hardware and software requirements before upgrading, you may experience problems with the upgrade.

- The *MicroStrategy Readme* for the current version of MicroStrategy.
- The MicroStrategy product suite and architecture, specifically ODBC connectivity and metadata.
- The basic structure of the MicroStrategy system from which you are upgrading.

Who should use this guide

This document is designed for system administrators and managers who intend to upgrade to MicroStrategy 10. For assistance with upgrading from a version of MicroStrategy older than MicroStrategy 9.x, please contact your MicroStrategy account representative.

Resources

This section provides details on how to access books, online help, MicroStrategy Education and Consulting resources, and how to contact MicroStrategy Technical Support.

Documentation

MicroStrategy provides both manuals and online help; these two information sources provide different types of information, as described below:

- **Manuals:** MicroStrategy manuals provide:
 - Introductory information and concepts
 - Examples and images
 - Checklists and high-level procedures to get started

The steps to access the manuals are described in [Accessing manuals and other documentation sources, page xx](#).

Most of these manuals are also available printed in a bound, soft cover format. To purchase printed manuals, contact your MicroStrategy Account Executive with a purchase order number.

- **Help:** MicroStrategy online help provides:
 - Detailed steps to perform procedures
 - Descriptions of each option on every software screen

Additional formats

MicroStrategy manuals are available as electronic publications, downloadable on the Apple iBooks Store or Google Play, and can be read on your iOS or Android device respectively. To download a book, search for the book's title in the iBookstore or Google Play. To view a list of manuals that are currently available, scan the following QR codes using your device's camera:

- For iOS devices, scan the following QR code:



- For Android devices, scan the following QR code:



For new MicroStrategy releases, it may take several days for the latest manuals to be available on the iBookstore or Google Play.

Translations

For the most up-to-date translations of MicroStrategy documentation, refer to the MicroStrategy Knowledge Base. Due to translation time, manuals in languages other than English may contain information that is one or more releases behind. You can see the version number on the title page of each manual.

Finding information

You can search all MicroStrategy books and Help for a word or phrase, with a simple Google™ search at <http://www.google.com>. For example, type “MicroStrategy derived metric” or “MicroStrategy logical table” into a Google search. As described above, books typically describe general concepts and examples; Help typically provides detailed steps and screen options. To limit your search to MicroStrategy books, on Google’s main page you can click **More**, then select **Books**.

Manuals for MicroStrategy overview and evaluation

- *Introduction to MicroStrategy: Evaluation Guide*

Instructions for installing, configuring, and using the MicroStrategy Evaluation Edition of the software. This guide includes a walkthrough of MicroStrategy features so you can perform reporting with the MicroStrategy Tutorial project and its sample business data.

- *MicroStrategy Evaluation Edition Quick Start Guide*

Overview of the installation and evaluation process, and additional resources.

Resources for security

- *Usher Help*

Steps to perform mobile identity validation using the Usher mobile security network to issue electronic badges for identifying users.

Manuals for query, reporting, and analysis

- *MicroStrategy Installation and Configuration Guide*

Information to install and configure MicroStrategy products on Windows, UNIX, Linux, and HP platforms, and basic maintenance guidelines.

- *MicroStrategy Upgrade Guide*

Steps to upgrade existing MicroStrategy products.

- *MicroStrategy Project Design Guide*

Information to create and modify MicroStrategy projects, and create the objects that present your organization's data, such as facts, attributes, hierarchies, transformations, advanced schemas, and project optimization.

- *MicroStrategy Basic Reporting Guide*

Steps to get started with MicroStrategy Web, and how to analyze and format data in a report. Includes the basics for creating reports, metrics, filters, and prompts.

- *MicroStrategy Advanced Reporting Guide: Enhancing Your Business Intelligence Application*

Steps to create Freeform SQL reports, Query Builder reports, complex filters and metrics, use Data Mining Services, and create custom groups, consolidations, and complex prompts.

- *Document and Dashboard Analysis Guide*

Steps to execute, analyze, and format a dashboard in MicroStrategy Web.

- *MicroStrategy Report Services Document Creation Guide: Creating Boardroom Quality Documents*

Steps to create Report Services documents, add objects, and format the document and its objects.

- *MicroStrategy Dashboards and Widgets Creation Guide: Creating Interactive Dashboards for Your Data*

Steps to create MicroStrategy Report Services dashboards and add interactive visualizations.

- *MicroStrategy In-memory Analytics Guide*

Information to use MicroStrategy OLAP Services features, including Intelligent Cubes, derived metrics, derived elements, dynamic aggregation, view filters, and dynamic sourcing.

- *MicroStrategy Office User Guide*

Instructions to use MicroStrategy Office to work with MicroStrategy reports and documents in Microsoft® Excel, PowerPoint, and Word, to analyze, format, and distribute business data.

- *MicroStrategy Mobile Analysis Guide: Analyzing Data with MicroStrategy Mobile*

Steps to use MicroStrategy Mobile to view and analyze data, and perform other business tasks with MicroStrategy reports and documents on a mobile device.

- *MicroStrategy Mobile Design and Administration Guide: A Platform for Mobile Intelligence*

Information and instructions to install and configure MicroStrategy Mobile, as well as steps for a designer working in MicroStrategy Developer or MicroStrategy Web to create effective reports and documents for use with MicroStrategy Mobile.

- *MicroStrategy System Administration Guide: Tuning, Monitoring, and Troubleshooting Your MicroStrategy Business Intelligence System*

Steps to implement, deploy, maintain, tune, and troubleshoot a MicroStrategy business intelligence system.

- *MicroStrategy Supplemental Reference for System Administration: VLDB Properties, Internationalization, User Privileges, and other Supplemental Information for Administrators*

Steps for administrative tasks such as configuring VLDB properties and defining data and metadata internationalization, and reference material for other administrative tasks.

- *MicroStrategy Functions Reference*

Function syntax and formula components; instructions to use functions in metrics, filters, attribute forms; examples of functions in business scenarios.

- *MicroStrategy MDX Cube Reporting Guide*

Information to integrate MicroStrategy with MDX cube sources. You can integrate data from MDX cube sources into your MicroStrategy projects and applications.

- *MicroStrategy Operations Manager Guide*

Instructions for managing, monitoring, and setting alerts for all of your MicroStrategy systems from one console. This guide also includes instructions for setting up and using Enterprise Manager to analyze your MicroStrategy system usage.

Manual for the Human Resources Analytics Module

- *Human Resources Analytics Module Reference*

Software Development Kits

- *MicroStrategy Developer Library (MSDL)*

Information to understand the MicroStrategy SDK, including details about architecture, object models, customization scenarios, code samples, and so on.

- *MicroStrategy Web SDK*



The Web SDK is available in the MicroStrategy Developer Library, which is part of the MicroStrategy SDK.

Documentation for MicroStrategy Portlets

- *Enterprise Portal Integration Help*

Information to help you implement and deploy MicroStrategy BI within your enterprise portal, including instructions for installing and configuring out-of-the-box MicroStrategy Portlets for several major enterprise portal servers.

This resource is available from <http://www.microstrategy.com/producthelp>.

Documentation for MicroStrategy GIS Connectors

- *GIS Integration Help*

Information to help you integrate MicroStrategy with Geospatial Information Systems (GIS), including specific examples for integrating with various third-party mapping services.

This resource is available from <http://www.microstrategy.com/producthelp>.

Help

Each MicroStrategy product includes an integrated help system to complement the various interfaces of the product as well as the tasks that can be accomplished using the product.

Some of the MicroStrategy help systems require a web browser to be viewed. For supported web browsers, see the MicroStrategy Readme.

MicroStrategy provides several ways to access help:

- **Help button:** Use the Help button or ? (question mark) icon on most software windows to see help for that window.
- **Help menu:** From the Help menu or link at the top of any screen, select MicroStrategy Help to see the table of contents, the Search field, and the index for the help system.
- **F1 key:** Press F1 to see context-sensitive help that describes each option in the software window you are currently viewing.



For MicroStrategy Web, MicroStrategy Web Administrator, and MicroStrategy Mobile Server, pressing the F1 key opens the

context-sensitive help for the web browser you are using to access these MicroStrategy interfaces. Use the Help menu or ? (question mark) icon to access help for these MicroStrategy interfaces.

Accessing manuals and other documentation sources

The manuals are available from <http://www.microstrategy.com/producthelp>, as well as from your MicroStrategy disk or the machine where MicroStrategy was installed.



Adobe Reader is required to view these manuals. If you do not have Adobe Reader installed on your computer, you can download it from <http://get.adobe.com/reader/>.

The best place for all users to begin is with the *MicroStrategy Basic Reporting Guide*.

To access the installed manuals and other documentation sources, see the following procedures:

- *To access documentation resources from any location, page xx*
- *To access documentation resources on Windows, page xx*
- *To access documentation resources on UNIX and Linux, page xxi*

To access documentation resources from any location

- 1 Visit <http://www.microstrategy.com/producthelp>.

To access documentation resources on Windows

- 1 From the Windows **Start** menu, choose **Programs** (or **All Programs**), **MicroStrategy Documentation**, then **Product Manuals**. A page opens in your browser showing a list of available manuals in PDF format and other documentation sources.

- 2 Click the link for the desired manual or other documentation source.



If bookmarks are not visible on the left side of a product manual, from the **View** menu click **Bookmarks and Page**. This step varies slightly depending on your version of Adobe Reader.

To access documentation resources on UNIX and Linux

- 1 Within your UNIX or Linux machine, navigate to the directory where you installed MicroStrategy. The default location is `/opt/MicroStrategy`, or `$HOME/MicroStrategy/install` if you do not have write access to `/opt/MicroStrategy`.
- 2 From the MicroStrategy installation directory, open the `Help` folder.
- 3 Open the `Product_Manuals.htm` file in a web browser. A page opens in your browser showing a list of available manuals in PDF format and other documentation sources.
- 4 Click the link for the desired manual or other documentation source.



If bookmarks are not visible on the left side of a product manual, from the **View** menu click **Bookmarks and Page**. This step varies slightly depending on your version of Adobe Reader.



Documentation standards

MicroStrategy online help and PDF manuals (available both online and in printed format) use standards to help you identify certain types of content. The following table lists these standards.



These standards may differ depending on the language of this manual; some languages have rules that supersede the table below.

Type	Indicates
bold	<ul style="list-style-type: none"> Button names, check boxes, options, lists, and menus that are the focus of actions or part of a list of such GUI elements and their definitions <p>Example: Click Select Warehouse.</p>
<i>italic</i>	<ul style="list-style-type: none"> Names of other product manuals and documentation resources When part of a command syntax, indicates variable information to be replaced by the user <p>Example: Type <code>copy c:\filename d:\foldername\filename</code></p>

Type	Indicates
Courier font	<ul style="list-style-type: none"> • Calculations • Code samples • Registry keys • Path and file names • URLs • Messages displayed in the screen • Text to be entered by the user <p>Example: <code>Sum(revenue)/number of months.</code></p> <p>Example: Type <code>cmdmgr -f scriptfile.scp</code> and press Enter.</p>
+	A keyboard command that calls for the use of more than one key (for example, SHIFT+F1).
	A note icon indicates helpful information for specific situations.
	A warning icon alerts you to important information such as potential security risks; these should be read before continuing.

Education

MicroStrategy Education Services provides a comprehensive curriculum and highly skilled education consultants. Many customers and partners from over 800 different organizations have benefited from MicroStrategy instruction. For a detailed description of education offerings and course curriculums, visit <http://www.microstrategy.com/Education>.

Consulting

MicroStrategy Consulting Services provides proven methods for delivering leading-edge technology solutions. Offerings include complex security architecture designs, performance and tuning, project and testing strategies and recommendations, strategic planning, and more. For a detailed description of consulting offerings, visit <http://www.microstrategy.com/services-support/consulting>.

Technical Support

If you have questions about a specific MicroStrategy product, you should:

- 1 Consult the product guides, Help, and readme files. Locations to access each are described above.
- 2 Consult the MicroStrategy Knowledge Base online at <https://resource.microstrategy.com/support>.



A technical administrator in your organization may be able to help you resolve your issues immediately.

- 3 MicroStrategy Technical Support can be contacted by your company's Support Liaison. Contact information and the Technical Support policy information is available at <http://www.microstrategy.com/services-support/support/contact>.

Feedback

Please send any comments or suggestions about user documentation for MicroStrategy products to:

`documentationfeedback@microstrategy.com`

Send suggestions for product enhancements to:

`support@microstrategy.com`

When you provide feedback to us, please include the name and version of the products you are currently using. Your feedback is important to us as we prepare for future releases.

PREPARING FOR THE UPGRADE

Introduction

Taking the time to prepare your MicroStrategy system for an upgrade to the latest version of MicroStrategy helps ensure both the success of the upgrade and the safe migration of your MicroStrategy projects. This chapter provides a list of things to consider before upgrading and lists some possible effects of the upgrade on your system and your users. It also provides information about important upgrade prerequisites and the steps you must take before upgrading your MicroStrategy system.

MicroStrategy strongly recommends that you carefully review the upgrade information covered in this chapter before beginning your upgrade.

This chapter has the following sections:

- *Impact of the upgrade, page 2*
- *Upgrade best practices, page 9*
- *The upgrade process checklist, page 10*
- *Reviewing upgrade prerequisites, page 11*
- *Backing up the metadata, page 13*

- [Configuring an upgrade test environment, page 14](#)
- [Reference materials, page 18](#)

Impact of the upgrade

Upgrading to MicroStrategy 10 can have a significant effect on your system. The list below covers some of the specific effects of upgrading:

- Every MicroStrategy release introduces new features and workflow changes that may affect the users' experience. Some of these changes are in [New features and workflow changes, page 3](#).
- For important information about interoperability between MicroStrategy 10 and previous releases, see [Client/server interoperability, page 2](#).
- When the project metadata is upgraded, all preferences stored in the metadata are migrated to the new version as well.
- Depending on the type of upgrade you are performing, upgrading can have a significant effect on your current MicroStrategy Web customizations. For steps to upgrade your Web customizations, see [Upgrading MicroStrategy Web customizations, page 59](#).

Client/server interoperability

MicroStrategy 10 features significant new products and major architectural extensions to the MicroStrategy Platform. Therefore, MicroStrategy 10 is not interoperable with pre-10 releases. For any product-specific interoperability information, see the *MicroStrategy Readme* for each MicroStrategy product.

MicroStrategy 9.3.x, 9.4.x, and 9.5.x products can be upgraded directly to MicroStrategy 10.

If you installed MicroStrategy 9.5.x and MicroStrategy Usher, and are upgrading to MicroStrategy 10, your existing Usher installation and database is overwritten.

If you installed Usher Analytics with MicroStrategy 9.5.1, your Usher Analytics project is upgraded to MicroStrategy 10.

MicroStrategy Integrity Manager is designed to be used with the current and earlier versions of MicroStrategy Intelligence Server for testing. Therefore, the interoperability between Integrity Manager and Intelligence Server is different from the rest of the MicroStrategy products



All MicroStrategy components on a machine must use the same version of MicroStrategy. Do not install or upgrade only some MicroStrategy 10 components on a machine containing older versions of other MicroStrategy components. For example, if you upgrade your Intelligence Server to MicroStrategy 10, and the Intelligence Server machine contains a copy of Developer, make sure that you also upgrade Developer on that machine to MicroStrategy 10.

MicroStrategy Mobile client/server interoperability

MicroStrategy Mobile clients from MicroStrategy 10 can communicate with Intelligence Server or MicroStrategy Mobile Server from 9.2.1 releases and up. However, full feature support may not be available when the MicroStrategy Mobile client and server are different versions. To ensure full feature support, upgrade all clients and servers to MicroStrategy 10.

MicroStrategy Mobile Server 10 and later is not interoperable with pre-9.2.1 client releases. That is, MicroStrategy Mobile clients and apps from before version 9.2.1 cannot communicate with Intelligence Server 10 or MicroStrategy Mobile Server 10.

New features and workflow changes

This section describes some of the changes in MicroStrategy 10 and earlier that may affect your users' workflows.

For a complete list of new products, new features, and updates in MicroStrategy, see the MicroStrategy Tech Note "New Features in MicroStrategy 10." If you are not upgrading from version 9.5x, you may wish to consult the "New Features" MicroStrategy Tech Note for all intervening releases as well.



The default options for VLDB settings may change between releases. You can determine what VLDB default settings have changed by creating a VLDB settings report for your database type before the upgrade, and comparing it to a VLDB settings report created after the upgrade. For instructions on how to create a default VLDB settings

report, see the section on *Default VLDB settings for specific data sources* in the *Supplemental Reference for System Administration*.

New features and workflow changes in MicroStrategy 10

Some of the new features of MicroStrategy that may affect your users' workflows are as follows:

- The MicroStrategy 10 installation for Unix and Linux includes MicroStrategy Usher. For steps to install MicroStrategy Usher, see the *Installation and Configuration Guide*.

For steps to create an Usher network and badges for your users, see the [Usher Help](#).

- MicroStrategy Mobile for BlackBerry is no longer supported. Any supporting files are removed when upgrading to MicroStrategy 10.
- Because of enhancements to MicroStrategy Certificate Server, if you secure your MicroStrategy Mobile connections through Certificate Server, you must upgrade your Certificate Server to support MicroStrategy 10 Mobile applications.
- If you set up a firewall between Intelligence Server and your MicroStrategy Web server, you must configure your firewall to allow MicroStrategy Web products to communicate with Intelligence Server using port 3333. This is in addition to the standard port configured for Intelligence Server.
- The look and feel of the Visual Insight interface and dashboards have been updated to support HTML5. By default, dashboards that previously were created using Flash are updated to use HTML5 when upgrading to MicroStrategy 10. You can update how dashboards are created by defining the default dashboard renderer in the MicroStrategy Web preferences. For information on the available options, see the *MicroStrategy Web Help*.
- The event number used to authenticate connections to data sources such as Salesforce.com through Data Import has changed. Previously the event number was 3137. The new required event number is 3172. This event number is part of the callback URL defined for the data source when using Data Import. For steps to configure third-party data sources for importing data into MicroStrategy, see the *Installation and Configuration Guide*.
- MicroStrategy 10 includes support for 64-bit drivers for connections made on Windows, Linux, AIX, and Solaris operating systems. To

upgrade these drivers and maintain a connection to your data sources, see [Upgrading the drivers for your data source connections, page 24](#).

- MicroStrategy Operations Manager, introduced in MicroStrategy 10, is a tool for monitoring and administering your MicroStrategy environment. This includes logging statistics about your MicroStrategy environment using Enterprise Manager. Operations Manager is provided to configure these Enterprise Manager statistics data loads, which had been configured in earlier releases using the Enterprise Manager Console. The Enterprise Manager Console is no longer needed in MicroStrategy 10.

For steps to enable Operations Manager when installing MicroStrategy 10, see the *Installation and Configuration Guide*.

New features and workflow changes in MicroStrategy 9.5.1

- MicroStrategy helps you secure your analytics applications on the web and through the use of mobile devices, using the Usher security platform. This includes integration with the following Usher products:
 - Usher Security Server: A server system that synchronizes identities with enterprise identity management systems of record and presents those identities to Usher clients for authentication.
 - Usher Network Manager: An administrative console that you use to manage your network of users, configure access to Usher-enabled systems and resources, and distribute digital badges and keys.
- Usher Analytics: Reporting functionality to analyze and visualize the activity of users in your Usher network to gain insights into your enterprise security.
- Usher Mobile: The Mobile app and server system lets your users view the activity of nearby users in their Usher network.
- Enterprise Manager: You can store your statistics repository in a MySQL database.
- MicroStrategy Mobile and Web:
 - MicroStrategy Mobile for iPhone allows users in your LDAP directory to log in using Usher.
 - MicroStrategy Web allows users in your LDAP directory to log in using Usher.
- For MicroStrategy 9.5.1 and later, MicroStrategy Mobile for BlackBerry is no longer supported.

New features and workflow changes in MicroStrategy Analytics Enterprise

Some of the new features of MicroStrategy Analytics Enterprise that may affect your users' workflows include:

- The name of MicroStrategy Desktop has been changed to MicroStrategy Developer.
- The following predefined security roles have been renamed:
 - The Desktop Analyst security role has been changed to Analyst.
 - The Desktop Designer security role has been changed to Developer.
- The following privilege groups have been renamed:
 - The Desktop Analyst privilege group has been changed to Analyst.
 - The Desktop Designer privilege group has been changed to Developer.

New features and workflow changes in MicroStrategy 9.4

Some of the new features of MicroStrategy 9.4 that may affect your users' workflows include:

- In a document, if you no longer display an attribute that is used to sort data, the data is no longer sorted by that attribute. You can still select that attribute to sort data.
- When importing data from a file, the Select Linking Object panel is now the Select Attribute Form dialog box.
- When creating a new Visual Insight dashboard, the Dataset Objects panel is now opened by default.
- When creating a new Visual Insight dashboard, you are no longer immediately prompted to select a visualization type to add to the dashboard. Instead, a blank visualization is added to the dashboard and displayed.
- The menu options for adding a new metric to a Visual Insight dashboard have been reorganized. For detailed steps to add new metrics to a Visual Insight dashboard, see the MicroStrategy Web Help.
- When defining a threshold condition to display data in a visualization, to create a new metric value band, click the horizontal slider bar in the Thresholds Editor.

- When enabling a visualization to update the data displayed in another visualization, the Enable Filtering on Selection option is selected by default.
- The options to export a Visual Insight dashboard are now available in the Tools menu, under Export.
- The Graph Matrix visualization has been combined with the Graph visualization.
 - The graph styles previously available for the Graph Matrix visualization (Bar, Area, Line, Scatter, Bubble, and Grid) are now available as styles for the Graph visualization.
 - In the Graph panel, the Rows and Y-axis areas have been combined into the Vertical Axis area.
 - In the Graph panel, the Columns and X-axis areas have been combined into the Horizontal Axis area.
- In a Grid visualization, in the Properties panel, the Fit To option is now the Width option.
- Integrity Manager now retrieves all rows of a report or document at once.
- In MicroStrategy Office, many locales no longer require the Microsoft Office Multi-Lingual User Interface (MUI) to correctly display prompt values during internationalization.
- In MicroStrategy Office, if you add multiple outline reports with dynamic grouping to a single Excel worksheet, all those outline reports retain their dynamic grouping. Previously, only the first outline report retained its dynamic grouping.

New features and workflow changes in MicroStrategy 9.3.1

Some of the new features of MicroStrategy 9.3.1 that may affect your users' workflows include:

- In Windows, the **MicroStrategy** folder in the **Start** menu has been replaced by two other folders. The **MicroStrategy Products** folder contains the following items:
 - Command Manager
 - Developer
 - Integrity Manager

- Object Manager
- System Manager
- MicroStrategy Web

All other MicroStrategy applications can be found in the **MicroStrategy Tools** folder in the **Start** menu.

- In MicroStrategy Web, the look and feel of the interface has been updated. A new navigational icon bar has been added to the Web interface, with options to create quick dashboards, reports, documents, and more. For detailed instructions on using this new interface, see the MicroStrategy Web Help.
- In MicroStrategy Web, on the toolbar, the floppy disk is now **Save** for reports and documents. Previously the floppy disk was **Save As**.
- In MicroStrategy Web, to share a link to an object, in your personal folder, right-click the object and select **Share**, then click **Email Link**.
- Visual Insight analyses are now referred to as quick dashboards.
- In Distribution Services, the Use Send Now privilege is no longer required to send a preview of a subscription. The new privilege Use Send A Preview Now is now required to send a preview of a subscription.
- The MicroStrategy SDK is no longer available to be installed with the MicroStrategy release. The most recent version of the MicroStrategy SDK is available as a free download from the MicroStrategy support site <https://resource.microstrategy.com/msdz/default.asp>.
- Update packages can now be hosted on remote servers. Before MicroStrategy 9.3.1, update packages were required to be hosted on the Intelligence Server machine. For information about importing update packages, see the *Managing Your Projects* chapter of the *MicroStrategy System Administration Guide*.
- If you are upgrading from MicroStrategy 9.2.1m or earlier, some widgets that were previously created to display on Android tablets may display as grids or graphs on the mobile device. To display these widgets correctly on Android tablets, see [Updating Android widgets from MicroStrategy 9.2.1m, page 58](#).

Upgrade best practices

Review the following recommendations to help ensure the success and stability of your MicroStrategy system and projects when upgrading to the latest version of MicroStrategy.

- Follow the upgrade order and recommendations outlined in this guide, in particular the upgrade checklist at [The upgrade process checklist, page 10](#). Always upgrade Intelligence Server before upgrading client applications such as MicroStrategy Web or Developer.
- Create an upgrade test environment by duplicating your production environment and production metadata. Upgrade this test environment and test it before upgrading your production environment. For guidelines on creating a test environment, see [Configuring an upgrade test environment, page 14](#). For guidelines on how to test your system, see [Chapter 4, Testing the upgrade](#).
- Do not downgrade MicroStrategy products or components on a machine to previous versions if you have already installed the most recent version of another MicroStrategy product on that machine.
- All MicroStrategy products on a machine must use the same version of MicroStrategy. Do not install or upgrade only some MicroStrategy 10 products on a machine containing older versions of other MicroStrategy products.
- Avoid installing MicroStrategy products using services such as Windows Terminal Services, that create a virtual session on the host machine. Always install MicroStrategy directly on the server machine's physical interface, or by using a remote connection tool (such as Microsoft Netmeeting or Virtual Private Network) that takes full control of the server machine's interface.
- If you are using clustered Intelligence Servers, to retain stability in your Intelligence Server cluster while upgrading, shut down Intelligence Server on all nodes in the cluster before proceeding with the upgrade. For more information about clustering Intelligence Servers, see the *Clustering* chapter in the *System Administration Guide*.



Every node in the MicroStrategy cluster must run the same version of MicroStrategy for the cluster to work properly.

The upgrade process checklist

The upgrade process described in the rest of this guide involves the following high-level steps. To help ensure a successful upgrade, follow these steps in the order they are presented in this guide.

1 Prepare the MicroStrategy system and projects for upgrade

Preparing a MicroStrategy system for an upgrade involves reviewing information specific to your version upgrade, pre-upgrade information and prerequisites, checking for supported warehouse data types, and backing up the production metadata. It may also involve creating an upgrade test environment that duplicates your production environment.

This is covered in the remainder of this chapter.

2 If you made customizations to MicroStrategy Web using the MicroStrategy SDK, back up your customizations. For detailed instructions on using the Customization Upgrade Wizard to upgrade your MicroStrategy Web customizations, see the MicroStrategy Developer Library (MSDL), located at <https://resource.microstrategy.com/msdz/default.asp>.

3 Install and configure Intelligence Server 10 and Developer 10 on a test server

In this step, you install and configure MicroStrategy Intelligence Server 10 and MicroStrategy Developer 10 on a test server and then establish a connection to your production metadata.

This is covered in *Install and configure Intelligence Server and Developer on a test server, page 20* in *Chapter 2, Upgrading Intelligence Server on Windows, UNIX, or Linux*.

4 Update the production metadata

In this step, you update the metadata version of your production projects using the test server environment.

This is covered in *Update the metadata, page 25* in *Chapter 2, Upgrading Intelligence Server on Windows, UNIX, or Linux*.

5 Perform basic stability testing

In this step, you perform basic testing to ensure the stability and efficiency of Intelligence Server and your updated projects.

This is covered in [Perform basic stability testing on the test server, page 34 in Chapter 2, Upgrading Intelligence Server on Windows, UNIX, or Linux](#).

6 Install and configure Intelligence Server in the production environment

Once you are satisfied with the status of the latest version of Intelligence Server and updated the projects in your test environment, you install Intelligence Server in the production environment.

This is covered in [Upgrade and configure Intelligence Server in the production environment, page 34 in Chapter 2, Upgrading Intelligence Server on Windows, UNIX, or Linux](#).

7 Install remaining MicroStrategy products in the production environment

With the latest version of Intelligence Server installed in your production environment, you now install and configure the remaining MicroStrategy products in your production environment.

This is covered in [Chapter 3, Upgrading other MicroStrategy products](#). If you are upgrading across multiple machines, make sure that you upgrade the MicroStrategy products in the order specified in [Recommended upgrade order across multiple machines, page 56](#).

8 Test the upgrade and perform other post-upgrade tasks

After upgrading to the latest version of MicroStrategy, you perform several post-upgrade tasks such as testing the system, activating your installation, checking system licensing and functionality, managing user privileges, and optimizing your MicroStrategy system.

This is covered in [Chapter 4, Testing the upgrade](#) and [Chapter 5, After the Upgrade](#).

Reviewing upgrade prerequisites

Before upgrading your MicroStrategy system, review the *MicroStrategy Readme* so that you are aware of any changes from previous releases. You should also review the system prerequisites outlined in the *Planning Your*

Installation chapter of the *MicroStrategy Installation and Configuration Guide*.



If you do not review the MicroStrategy hardware and software requirements before upgrading, you may experience problems with the upgrade.

Database and driver requirements

Refer to *Certified and Supported Configurations* in the *MicroStrategy Readme* for updated information about specific database and driver combinations certified by MicroStrategy.

System sizing guidelines

There are several factors to consider when you initially set up your MicroStrategy system. These factors include the number of users that will access the system, report complexity, and whether you should employ caches. You should periodically reevaluate your system and update it according to actual system performance and use.

Before updating your metadata (see [Update the metadata, page 25](#)), MicroStrategy recommends that you have an amount of free disk space equal to at least twice the on-disk size of the metadata database.

A complete discussion of system sizing guidelines is beyond the scope of this guide. Refer to the *Planning Your Installation* chapter of the *MicroStrategy Installation and Configuration Guide* for the latest details about sizing your system.



Because of performance improvements and enhancements, MicroStrategy may require more memory than a previous version, for comparable functionality. For more information on MicroStrategy memory recommendations, see the system requirements in the *MicroStrategy Readme* and the *Tuning* chapter in the *System Administration Guide*.

Privileges and access

Before upgrading, ensure you have the following:

- If you are installing on a Windows system, you must have a login account with administrative privileges for the domain or target machine.
- MicroStrategy Intelligence Server installation files. You can access the installation files from a disk or from a network location.
- Write permissions in the installation directory; otherwise the installation/upgrade process fails.



If you have purchased a CPU-based MicroStrategy license and are installing on UNIX or Linux, you need root access permissions for installation.

- A license key from MicroStrategy for the version of the MicroStrategy software that you are installing.

Checking for supported data types

MicroStrategy supports a wide variety of data types for each supported warehouse database. If a project containing columns with unsupported data types is upgraded, the data types for those columns are assigned as “reserved,” and proper data types are not assigned in temporary tables. This affects report execution.

Before proceeding with the upgrade, you must ensure that all data types assigned in existing projects are supported in the current MicroStrategy version.

See the *MicroStrategy Project Design Guide* for a listing of the supported data types for each database type and additional information about changing to supported data types.

Backing up the metadata

Although the MicroStrategy installation process itself does not affect your project’s metadata, MicroStrategy recommends that you back up your metadata before any significant installation or upgrade. In most major MicroStrategy upgrades, a metadata update is required for all the preexisting

projects in your metadata. Once you update your metadata project, you cannot revert that metadata to a previous version. Therefore, MicroStrategy strongly recommends that you perform a full database backup of your original metadata before the upgrade.

MicroStrategy strongly recommends that you also tape backup, image, or ghost the production server before upgrading.

If you want to keep an old MicroStrategy Tutorial metadata repository and warehouse from a previous MicroStrategy version, rename the Microsoft Access files or move them to another location; otherwise, they are overwritten during the installation process. The Access files are installed by default in the `MicroStrategy\Tutorial Reporting` folder.

Updating the project metadata

MicroStrategy requires that you update projects through an Intelligence Server connection (3-tier). Upgrading your project using a direct ODBC connection (2-tier) is not supported.

If you do not upgrade the metadata to the latest version, certain features will not work as expected.

Downgrading metadata projects

Downgrading a MicroStrategy metadata or project to any previous product version is not supported. Once you update the project metadata to the latest version, you cannot downgrade to earlier product versions. Therefore, backing up the metadata is an essential step in the upgrade process because it allows you to revert to a backup version of the metadata, if necessary, to obtain pre-update versions of the projects it contains.

Configuring an upgrade test environment

Your MicroStrategy environment includes multiple variables, such as security requirements, performance requirements, and VLDB settings, that are unique. MicroStrategy cannot anticipate all the ways these variables may interact with the upgrade process. Thus, MicroStrategy recommends you create a test environment and upgrade that environment first, then

thoroughly test the upgraded installation. Once the tests are complete, then upgrade your production environment. This ensures that the upgrade of your production environment proceeds smoothly and any unexpected difficulties do not require additional downtime.

For detailed information on testing your upgraded environment, see [Chapter 4, Testing the upgrade](#).



If you do not want to create a test environment, MicroStrategy recommends that you create and save an Integrity Manager integrity test baseline of your reports and documents. You can then execute an integrity test against this baseline when the upgrade is complete, to ensure that the upgrade has not altered any of your report results. For detailed information about using Integrity Manager to execute integrity tests, see the *Integrity Manager* chapter of the *MicroStrategy System Administration Guide*.

Best practices for configuring an upgrade test environment

MicroStrategy recommends that you follow these best practices for configuring your upgrade test environment:

- Do not modify any existing configuration objects. If you need additional configuration objects for testing, you can either create additional objects, or duplicate an existing object and modify it. This applies to database instances, connections and logins, security filters, users and user groups, and security roles.
- If your production environment is clustered, then your test environment should also be clustered.
- If your test and production data warehouses have different database table prefixes, make sure you are using the correct prefixes in the test environment's Warehouse Catalog.
- Create an integrity test comparing reports from the upgraded test environment with the same reports in the production environment, so that you can easily see where any differences are.
- If possible, plan to execute data integrity and performance load tests against the production warehouse. This ensures that the test scenarios are as representative of the production environment as possible.
- If you are creating reports and documents specifically for an upgrade integrity test, create those reports and documents before you duplicate

the production metadata. See [Creating reports specifically for the integrity test, page 77](#).

- If you are using connection mapping for users to access the data warehouse, check to be sure that all users can log in to the test data warehouse, since user passwords may differ between the test warehouse and the production warehouse.

One way to manage this is to create a new generic database login, and then use the following sample Command Manager script to change users' connection mappings to use this new login:

```
ALTER CONNECTION MAP FOR USER "username" DBINSTANCE  
"production_warehouse_instance" DBLOGIN "test_login"  
ON PROJECT "project";
```

For steps to use Command Manager, see the Command Manager Help, or the *Command Manager* chapter of the *MicroStrategy System Administration Guide*.

- If you are planning to upgrade Enterprise Manager, run a data load before you upgrade Intelligence Server. If you do not run a data load before upgrading Enterprise Manager and the projects on the Intelligence Servers, you may lose access to some statistics data.
- If you are using Narrowcast Server, make sure that the database copy of the Narrowcast repositories is not used when setting up the Narrowcast Server test environment. Instead, make a copy of the repositories with the Copy Repository utility included with Narrowcast Administrator and use this copy. This ensures that the test environment does not accidentally refer to a production server. For detailed instructions on creating a copy of the Narrowcast repositories, see the *Narrowcast Server Upgrade Guide*.

High-level steps to configure an upgrade test environment

To ensure that your tests accurately reflect the upgrade experience, the upgrade test environment should reflect the production environment as closely as possible.

To configure a test environment

- 1 Set up the hardware for the environment. MicroStrategy recommends that this hardware duplicate the configuration of the production environment as closely as possible.
- 2 Install your current version of MicroStrategy in the test environment.
- 3 Using the Project Duplication Wizard, duplicate the production metadata into the test environment. For instructions on using the Project Duplication Wizard, see the *Managing Your Projects* chapter of the *MicroStrategy System Administration Guide*, or see the Project Duplication Wizard Help.
- 4 Make sure that your test environment Intelligence Server is connected to your test environment metadata, and not your production metadata.
- 5 If you do not intend to execute your tests against a production warehouse, duplicate the production warehouse, and ensure that the test environment points to the duplicate warehouse and not the production warehouse.
- 6 Upgrade the test environment, following the procedures laid out in [Chapter 2, Upgrading Intelligence Server on Windows, UNIX, or Linux](#) and [Chapter 3, Upgrading other MicroStrategy products](#).
- 7 Test the upgrade, following the guidelines laid out in [Chapter 4, Testing the upgrade](#).

Upgrade deployment tests

Deploying the upgrade involves installing, activating, configuring, and running the upgrade processes for Intelligence Server, MicroStrategy Web, and MicroStrategy Mobile Server, as well as for the metadata, Narrowcast Server, and Enterprise Manager data repositories. These changes, as well as any other procedures that alter the production environment, should be tested when setting up the test environment.

Deployment tests should be performed by MicroStrategy administrators who normally have the responsibility of tuning and monitoring the MicroStrategy installation.

For detailed information on testing your upgraded environment, see [Chapter 4, Testing the upgrade](#).

Reference materials

Some detailed information about installing and configuring MicroStrategy products is beyond the scope of this guide and can be found in the *MicroStrategy Installation and Configuration Guide*. The *MicroStrategy Installation and Configuration Guide* provides detailed procedures on installing and configuring your MicroStrategy system. It also includes important information about installing, deploying, and configuring MicroStrategy Universal products.

In addition, the *MicroStrategy Readme* contains information about the new products, new features, and bug fixes available in MicroStrategy 10.

For detailed instructions for upgrading Narrowcast Server, see the *Narrowcast Server Upgrade Guide*.

UPGRADING INTELLIGENCE SERVER ON WINDOWS, UNIX, OR LINUX

Introduction

Intelligence Server forms the backbone of your MicroStrategy business intelligence system. As such, Intelligence Server should be upgraded before upgrading other MicroStrategy products. This chapter provides information about the steps you must take to successfully upgrade Intelligence Server.

This chapter has the following sections:

- *Before the upgrade, page 20*
- *Install and configure Intelligence Server and Developer on a test server, page 20*
- *Update the metadata, page 25*
- *Perform basic stability testing on the test server, page 34*
- *Upgrade and configure Intelligence Server in the production environment, page 34*
- *Install remaining MicroStrategy products, page 35*
- *Using a response file with Configuration Wizard, page 35*

- [List of updated privileges, page 50](#)

Before the upgrade

Make sure to carefully read the prerequisite and pre-upgrade information in [Chapter 1, Preparing for the upgrade](#) before proceeding with the upgrade.

In addition, be aware of the following:

- MicroStrategy strongly recommends that you perform a full database backup of your metadata in case you later need to restore a copy of your original metadata. Before upgrading to the latest version of MicroStrategy, see [Backing up the metadata, page 13](#).
- If you use clustered Intelligence Servers in MicroStrategy, to retain stability in your Intelligence Server cluster while upgrading, shut down Intelligence Server on all nodes in the cluster before proceeding with the upgrade.
- If you are upgrading a test system before upgrading your production environment, make sure that your test environment Intelligence Server is connected to your test environment metadata, and not your production metadata.
- If you have customized any part of MicroStrategy, follow the instructions in the *MicroStrategy Developer Zone (MSDZ)* to back up and correctly save your customizations so they can be reapplied after the upgrade.
- If you are planning to upgrade Enterprise Manager, run a data load before you upgrade Intelligence Server. If you do not run a data load before upgrading Enterprise Manager and the projects on the Intelligence Servers, you may lose access to some statistics data.

Install and configure Intelligence Server and Developer on a test server

Once you review the prerequisite and pre-upgrade information in [Chapter 1, Preparing for the upgrade](#) and back up your metadata, install and configure the latest version of Intelligence Server and Developer on a test server. Once

the products are installed on a test server, establish a metadata connection to the production metadata. The following sections expand on these steps.


Uninstall the previous version of MicroStrategy

MicroStrategy 10 features significant new products and major architectural extensions to the MicroStrategy Platform. Therefore, MicroStrategy 10 is not interoperable with pre-10 releases. For any product-specific interoperability information, see the Readmes for each MicroStrategy product.

MicroStrategy 9.3.x, 9.4.x, and 9.5.x products can be upgraded directly to MicroStrategy 10.

When you begin your upgrade by running the MicroStrategy Installation Wizard (included on the MicroStrategy installation disk, and available from the MicroStrategy download site), you may see a Question dialog box informing you that an earlier version of MicroStrategy must be uninstalled. It asks if you want to uninstall the previous MicroStrategy components from your machine using two methods. Selecting **Yes** generates a batch file that is used to remove the files. Selecting **No** allows you to remove existing files using Add/Remove Programs. Steps for both methods are below.

To uninstall previous MicroStrategy components using the batch file


- 1 Stop Intelligence Server.
- 2 Start the MicroStrategy Installation Wizard.
 -  For details about the MicroStrategy Installation Wizard, see the *MicroStrategy Installation and Configuration Guide*.
- 3 Select **Yes** in the Question dialog box. The batch file is created, and a setup dialog box is displayed in the MicroStrategy Installation Wizard that informs you of the location of the batch file.
- 4 Note the folder location for the batch file. Click **OK**. The MicroStrategy Installation Wizard closes.
- 5 Browse to `MSTR_UnInst.bat`, in the location that you noted, and double-click it.

- 6 Follow the steps displayed to uninstall the previous version of MicroStrategy.
- 7 When the uninstallation is complete, reboot your machine before continuing with the upgrade process.

To uninstall previous MicroStrategy components using Add/Remove Programs



The third-party products discussed below are manufactured by vendors independent of MicroStrategy, and the information provided is subject to change. For updated information about Microsoft Windows, see the appropriate third-party vendor documentation.

- 1 Stop Intelligence Server.
- 2 Start the MicroStrategy Installation Wizard.
 -  For details about the MicroStrategy Installation Wizard, see the *MicroStrategy Installation and Configuration Guide*.
- 3 Select **No** in the Question dialog box. A setup dialog box is displayed in the MicroStrategy Installation Wizard informing you that you must uninstall the existing MicroStrategy components using the Windows Add/Remove Programs feature.
- 4 Click **OK**. The MicroStrategy Installation Wizard closes.
- 5 From your **Start** menu, point to **Settings**, and select **Control Panel**. The Control Panel opens.
- 6 Select **Add or Remove Programs**. The Add or Remove Programs window opens.
- 7 Select **MicroStrategy** and click **Remove**.
- 8 Follow the on-screen instructions to remove the MicroStrategy components from your computer.

Install and configure Intelligence Server and Developer on a test server

Follow the detailed procedures in the *MicroStrategy Installation and Configuration Guide* to learn how to install and configure Intelligence Server and Developer.



When you install products using the MicroStrategy Installation Wizard, a Server Activation screen prompts you to activate your installation. For more information about software activation, see the *Managing Your Licenses* chapter of the *MicroStrategy System Administration Guide*.

Installing Intelligence Server Universal on UNIX and Linux

To install Intelligence Server on a UNIX or Linux machine, follow the detailed procedures in the *Installing MicroStrategy on UNIX and Linux* chapter of the *MicroStrategy Installation and Configuration Guide*.



Check the MicroStrategy system requirements in the *MicroStrategy Readme* to make sure you have a supported version of your operating system.

During the installation, the MicroStrategy Installation Wizard prompts you to define the location in which the following MicroStrategy folders are installed:

- Home directory
 - The default location is `/var/opt/MicroStrategy` or `$HOME/MicroStrategy` if you do not have write access to `/var/opt/MicroStrategy`.
- Do not install the MicroStrategy configuration files directly to your UNIX or Linux home directory (`$HOME`). To ensure that the required MicroStrategy permissions can be defined for the MicroStrategy configuration files, you must install these files in a separate directory. For example, the default path of `$HOME/MicroStrategy` uses the MicroStrategy directory within `$HOME` to ensure permissions on these files are defined correctly.
- Install directory
- Log directory

- MicroStrategy Web Universal installation directory



You are prompted for this information if the MicroStrategy Web Universal option is selected in the Select Components to Upgrade page.

You can verify your installation after installing MicroStrategy. To learn how to verify the installation of MicroStrategy, see the *Installation procedures on UNIX and Linux* chapter of the *MicroStrategy Installation and Configuration Guide*.

Upgrading the drivers for your data source connections

MicroStrategy 10 includes support for 64-bit drivers for connections made on Windows, Linux, AIX, and Solaris operating systems. Previously, 64-bit driver connections were supported only for HP-UX.

If you connect to your data source using a MicroStrategy-branded driver (see the *MicroStrategy Readme* for the list of MicroStrategy-branded drivers), the drivers are upgraded from 32-bit to 64-bit drivers when Intelligence Server 10 is installed. This allows you to continue using your existing connections and data source names (DSNs) in the following ways:

- Windows environments: The drivers are updated, and you can continue to use your existing connections and DSNs. If any errors occur, ensure that the location of the driver has not changed.
- UNIX environments: The drivers are updated. You must manually update MicroStrategy configuration files, such as `odbc.ini` and `odbc.sh`. Ensure that these configuration files point to the location for the 64-bit driver. For steps to complete these configurations, see the *Installation and Configuration Guide*.

If you connect to your data source using a driver provided by a third-party vendor, review the *MicroStrategy Readme* for the newly certified or supported driver. You must install the 64-bit version of the driver from your third-party vendor, and then create a new DSN that uses that driver to connect to your data source. For UNIX operating systems, you must also update MicroStrategy configuration files, such as `odbc.ini` and `odbc.sh`. For steps to complete these configurations, see the *Installation and Configuration Guide*.

Establish a connection to the metadata

After the installation, establish a metadata connection between Developer on the test server and the metadata, which you previously backed up. Follow the configuration instructions in the *MicroStrategy Installation and Configuration Guide*.



If you are upgrading a test system before upgrading your production environment, make sure that your test environment Intelligence Server is connected to a test environment metadata and not your production metadata.

Once you have installed and configured Intelligence Server and Developer on the test server, return to this guide for instructions and information on the next steps in the upgrade procedure.



For information about viewing the Configuration Wizard log file if an error occurs, see [Resolving problems encountered during the upgrade, page 80](#).

Update the metadata

After installing the latest versions of Intelligence Server and Developer on a test server, update the metadata version of your projects by performing the procedure that follows. This procedure creates and updates metadata tables to support new features available in MicroStrategy 10.

Updating the metadata helps ensure compatibility between your pre-existing reports and documents and the MicroStrategy clients. You can also take advantage of new configuration settings exposed through the client applications, functionality, and objects available only with the updated version of metadata.



MicroStrategy does not support connecting version 10 components to a pre-10 metadata.

The changes that are made to the metadata during the update process depend on several factors, such as:

- The version of MicroStrategy that you are updating from
- The type of database that you use to store the metadata

You can see what kind of changes are made to the metadata database by viewing the metadata update SQL script for your database. The metadata update scripts are stored in the MicroStrategy Common Files folder. By default this folder is in `C:\Program Files (x86)\Common Files\MicroStrategy`. The scripts are named in the form `mdRDBMS.sql`, where RDBMS indicates the type of database. For example, the script to update an Oracle database is `mdorcl.sql`.



MicroStrategy does not recommend or support making any changes to these scripts unless specifically directed to do so by MicroStrategy support technicians. Altering these update scripts may void your warranty.

The metadata upgrade scripts contain the SQL necessary to create a new metadata, or to update the metadata from any supported version. Comments at the beginning of each script indicate where the script begins executing to introduce the metadata changes for each version.

During the metadata update process, the Configuration Wizard generates additional SQL for tasks such as managing indexes and primary keys. To view this SQL during the update process, on the Summary Page of the Configuration Wizard, in the Summary pane, click **SQL Preview**. In addition, once you have completed the update process, the generated SQL is saved in the MicroStrategy common files directory. The file name is `OriginalScript_generated.sql`, where `OriginalScript` is the name of the original SQL update script. For example, if you are updating an Oracle database, the original SQL update script is `mdorcl.sql` and the generated SQL file is `mdorcl_generated.sql`.

Prerequisites for updating a MicroStrategy metadata

Before attempting to update your MicroStrategy metadata to the latest version, make sure you meet the following prerequisites:

- The metadata update process can be executed only by a MicroStrategy user who is either a member of the System Administrators user group, or is the out-of-the-box Administrator user. Having all administrative privileges is not sufficient: the user must be a member of the System Administrators user group.
- The project's metadata version from which you update must be older than, or the same as, the version of the product (for example, Developer and Intelligence Server) that is performing the metadata update. An older version of the product is not able to perform an update on a newer version of metadata.

- The language settings of the client, project, and Intelligence Server must all be the same.
- The metadata configuration must be valid, meaning that at least the root folder for the configuration section exists.
- The projects to be updated must be valid, meaning that at least the root project folder, schema object, system dimension, and the system function package definition exist.
- The projects to be updated must not be locked. To unlock a project's metadata, in Developer, from the **Administration** menu, point to **Locking** and select **Unlock Project**.

Database-specific prerequisites

The following prerequisites are specific to the RDBMS that your project metadata is stored in.

- If you are using Oracle for your metadata database, make sure that the Maximum Open Cursors parameter for the database is set to at least 1500.
- If you are using SQL Server for your metadata database, MicroStrategy recommends setting the transaction log to the Simple Recovery Model because the Bulk or Full Recovery Models may fill the transaction log during the upgrade and cause an error.
- If you are using DB2 for your metadata database, make sure that the Dynamic Sections property for the database is set to 999.

Metadata update process

You can update various parts of the metadata for multiple projects at once using the Configuration Wizard. This method also allows you to make updates to configuration objects.

Only projects that are loaded on Intelligence Server can be upgraded. To upgrade an unloaded project, first load the project on Intelligence Server, then perform the upgrade, then unload the project.

By updating the metadata through the Configuration Wizard, you can update either the system objects, the privileges, or both. By making updates to the metadata for multiple projects at once, you can select different projects and

choose whether to update the system objects, schedules, MDX source related objects, or any combination of these. For more details about these updates, see the procedure below.



Be aware of the following:

- If you have made any changes to the privileges assigned to the out-of-the-box MicroStrategy user groups and security roles, updating the metadata may overwrite those changes. In particular, if you have made any changes to groups that use any privileges mentioned in the [List of updated privileges, page 50](#), updating the metadata will overwrite those changes.
- For information about viewing the Configuration Wizard log file if an error occurs, see [Resolving problems encountered during the upgrade, page 80](#).
- The MDUpdate command line utility that was formerly used to update the metadata is no longer supported. To update the metadata from the command line, you can use a response file with Configuration Wizard.

As an alternative to stepping through each page of the Configuration Wizard for each project source that needs to be updated, you can create a response file with the update information and use that response file with the Configuration Wizard to automatically update your metadata. For more information about using a response file to update the metadata, see [Using a response file with Configuration Wizard, page 35](#).



If you do not have access to the GUI mode of Configuration Wizard, you must use a response file to update your metadata.

To make metadata updates using the Configuration Wizard



If you attempt to update a project through the Configuration Wizard and the update fails, the project is locked. You must unlock the project before you attempt to upgrade the project again. To unlock a project, in Developer, from the **Administration** menu, point to **Locking**, and select **Unlock Project**.

1 Open the Configuration Wizard:

- In Windows: From the **Start** menu, point to **All Programs**, then **MicroStrategy Tools**, then select **Configuration Wizard**. The Configuration Wizard opens.

- In UNIX/Linux: From a UNIX/Linux console window, browse to `<HOME_PATH>`, where `<HOME_PATH>` is the directory that you specified as the home directory during installation. In this path, browse to the folder `bin` and type `./mstrcfgwiz`, and then press **ENTER**. The Configuration Wizard opens.



If you do not have access to the GUI mode of Configuration Wizard, you must use a response file to update the metadata. For more information about using a response file to update the metadata, see [Using a response file with Configuration Wizard, page 35](#).

- 2 Select the **Upgrade existing environment to MicroStrategy 10** option, and then select the **Intelligence Server components** option. Then click **Next**.
- 3 On the MicroStrategy Authentication page, type the username and password of a MicroStrategy system administrator. Then click **Next**.
- 4 On the Select Components page, select the check boxes for each Intelligence Server you want to upgrade.
- 5 Under each selected Intelligence Server, select the system components you want to upgrade:
 - **Upgrade metadata repository:** The metadata repository contains the definitions of your MicroStrategy applications and supporting objects. An upgrade of your metadata is required to provide support for all new and updated features in the most recent version of MicroStrategy.



If this upgrade has already been completed, this option is named **Re-execute metadata repository upgrade**.



The Lean objects migration modifies all objects in your MicroStrategy projects to use the new object representation. This migration can require a significant amount of time and resources to complete.



Lean Objects migration decreases the amount of disk space used by your objects. However, the migration causes all objects in your projects to be resaved. Depending on your database

transaction logging policy, this may cause a temporary increase in the size of your metadata database.

- **Update privileges:** For each MicroStrategy release, some aspects of functionality that were formerly controlled by a single privilege may have been split among several privileges. For example, in MicroStrategy 9.0, the Use Cache Monitor privilege was split into the Administer Caches and Monitor Caches privileges. Updating the privileges ensures that users have access to the same functionality that they had in previous versions of MicroStrategy. For example, after you update the privileges, all users that had the pre-9.0 Use Cache Monitor privilege now have the Administer Caches and Monitor Caches privileges. For a complete list of what privileges are updated, see [List of updated privileges, page 50](#).



By default, privileges are upgraded based on the version of your MicroStrategy metadata. However, if you previously upgraded your MicroStrategy metadata and did not upgrade privileges along with the metadata upgrade, you must identify the MicroStrategy version you most recently upgraded your privileges for. To do this, to the right of **Update privileges**, click **Advanced**. The Select Privilege Version dialog box opens, with the version of your MicroStrategy metadata selected by default. From the drop-down list, select the version of MicroStrategy that privileges were most recently upgraded for and click **OK**.

- **Migrate History List messages:** Select this check box to migrate your existing History List repository to a new format for improved search results, scalability, and performance. A file-based repository can be migrated to a database-based repository or a hybrid repository, and a database-based repository can be migrated to a hybrid repository.

If you select this check box, additional configuration options for this migration are provided later, on the History List Migration page.



Note the following:

- If this option is selected, during the upgrade process this Intelligence Server and any other Intelligence Servers in the cluster are stopped and restarted.
- If you are using a database-based or hybrid History List repository and wish to continue using the same type of repository, for information about upgrading the History List database, see [Upgrade the History List database repository, page 33](#).

- **Update Distribution Services Objects:** Select this check box to upgrade Distribution Services subscription objects. This update is required to ensure that your Distribution Services subscriptions can support the new features and enhancements included in the most recent release. If you select this option, ensure that the metadata repository has been upgraded or is selected to be upgraded as part of this update.
- 6 Select each project you want to update. Only projects that are loaded on Intelligence Server can be updated. Project updates can include any of the following options:
- **Execute project logical upgrade:** Updates the project to the most recent version of MicroStrategy. This option also updates the report and document definitions to improve the performance and reduce the memory usage and storage requirements of reports and documents that were created with a previous version of MicroStrategy.



Be aware of the following:

- If this update has already been completed, this option is named **Re-execute project logical upgrade**.
 - This upgrade is required to execute any additional project upgrade options.
 - Updated Report Services documents cannot be run in previous versions of MicroStrategy.
 - Depending on the number of reports and documents in the project, this update may take significant time.
- **Lean Objects migration:** MicroStrategy 9.3.1 introduced Lean Objects, a new, significantly more compact form of object representation in the metadata tables. All new objects are created in this format, and existing objects are converted to the new format as they are saved. Selecting Lean Objects migration converts all objects in this project to the new format at once.



The Lean objects migration modifies all objects in this project to use the new object representation. This migration can require significant time and resources to complete.



Lean Objects migration decreases the amount of disk space used by your objects. However, the migration causes all objects in this project to be resaved. Depending on your database transaction logging policy, this may cause a temporary increase in the size of your metadata database.

- **Update Schedules:** Makes previous subscriptions viewable in MicroStrategy 10.
- **Update MDX Source Objects:** Updates the MDX data source objects (MDX Cubes) that were created in earlier versions of MicroStrategy to take advantage of improved performance.



Depending on the number of MDX source objects in the project, this update may take significant time.



By default, if you update multiple projects and the update fails for one project, the update process continues for other projects. This allows you to complete all possible updates and then review any errors. To abort the update process for other projects when one project fails, clear the **Update the remaining projects, even when one project update fails** check box.

- **Update OLAP Services Cube caches to PRIME:** Select this check box to update all Intelligent Cubes to the PRIME architecture. This architecture can improve the performance of publishing Intelligent Cube results through the use of parallel processing and other optimizations. This update is applied to all Intelligent Cubes for the project.
- **Update data import cubes (definition and cache) to PRIME:** Select this check box to update all Data Import datasets to the PRIME architecture. This architecture can improve the performance of publishing Data Import results through the use of parallel processing and other optimizations. This update is applied to data sets included in your project through the use of Data Import.

7 Click **Next**.

8 On the Metadata Connection page, type the DSN, database login, and database password to access the MicroStrategy metadata. Then click **Next**.



If you are using a DB2 Z/OS database on a UNIX/Linux system, you must also type the table space name and database name for the metadata repository.

9 If you selected the **Migrate History List messages** option, on the History List Target Database page, specify the necessary information for the History List database. For detailed information about the configuration options on this page, click **Help**.

10 Click **Next**.

- 11 On the Summary page, review your upgrade choices and click **Update** to update the metadata.

Upgrade the History List database repository

Beginning with MicroStrategy 9.0, you can store the History List repository in a database, instead of using a file-based method. If you are using a database-based History List, when upgrading to MicroStrategy 10 you must upgrade the History List database tables. MicroStrategy recommends using the Configuration Wizard to upgrade the History List repository.



If you are upgrading your database-based History List from version 9.0.0, 9.0.1, or 9.0.1m, you cannot use the Configuration Wizard to upgrade your History List repository. Instead, you must first create a backup of your History List data, and then follow the manual steps provided in MicroStrategy Tech Note TN34272 to upgrade your History List repository.

To upgrade the History List repository

- 1 From the **Start** menu, point to **All Programs**, then **MicroStrategy Tools**, then select **Configuration Wizard**. The Configuration Wizard opens.
- 2 Select **Upgrade History List Repositories** and click **Next**. The Upgrade History List Tables page opens.
- 3 Select the DSN for the History List database, and specify the login information.
- 4 To upgrade existing History List messages to the current format, select the **Copy History List content** check box.

If this check box is cleared, existing History List messages are not upgraded. The new tables required to support History List messages are still created.

- 5 If you select to upgrade your existing History List messages, you can also select the **Compress data** check box to compress all existing History List messages. This compression can improve the performance of using

History List messages. However, the compression of your History List messages can require significant system resources during the upgrade.

To avoid the overhead of compressing your existing History List messages, clear the **Compress data** check box. Existing History List messages are not modified, but any newly created History List messages are created with the new compressed format.

- 6 Click **Next**. The Summary page opens.
- 7 Review the available information, and click **Finish**. The History List repository is upgraded.

Perform basic stability testing on the test server

The test environment that you created in the preceding steps allows you to closely monitor the interaction between Intelligence Server and your recently updated metadata. With Intelligence Server and Developer upgraded to the latest version and connected to the updated metadata, perform some basic tests to ensure the stability and efficiency of Intelligence Server. These tests may include such tasks as logging into a project, running a report, and creating a simple report.

During the test, ensure you are satisfied with the status and efficiency of the Intelligence Server. If you need help, refer to the *MicroStrategy Readme* or contact MicroStrategy Technical Support.

Upgrade and configure Intelligence Server in the production environment

Once you are completely satisfied with the status of Intelligence Server and the updated projects, install the latest version of Intelligence Server on the production servers (or the main test servers, if you are performing an upgrade test). Follow the steps in [Install and configure Intelligence Server and Developer on a test server, page 20](#), for your production servers instead of your test servers.

Install remaining MicroStrategy products

Once you have installed the new version of Intelligence Server on your production servers (or the main test servers, if you are performing an upgrade test), you can proceed with upgrading your other MicroStrategy products. For detailed information, including step-by-step instructions, for upgrading various additional MicroStrategy products, see [Chapter 3, Upgrading other MicroStrategy products](#).

Using a response file with Configuration Wizard

As an alternative to stepping through each page of the Configuration Wizard, you can create a response file with the upgrade information and use that response file to automatically upgrade your MicroStrategy systems.

This section provides the following information on using a response file:

- [Creating a response file, page 35](#)
- [Executing a response file, page 36](#)
- [Response configuration parameters and options, page 38](#):
 - [Upgrading Intelligence Server components and projects, page 39](#)
 - [Upgrading statistics repositories, page 43](#)
 - [Upgrading an Enterprise Manager project, page 44](#)
 - [Migrating Web delivery subscriptions from Narrowcast Server to MicroStrategy Distribution Services, page 46](#)

Creating a response file

MicroStrategy recommends that you create a response file through the GUI mode of the Configuration Wizard. You step through the Configuration Wizard and make your selections. Then, at the end of the Configuration Wizard, do not click **Finish**. Instead, click **Save**. You are prompted to save your selections in a response file.

For detailed instructions on how to use the Configuration Wizard, see [Metadata update process, page 27](#).

You can also create or modify a response file with a text editor. If you do not have access to the GUI mode of the Configuration Wizard, this is the only way to create a response file. MicroStrategy supplies a blank response file template, `Response.ini`, that you can copy and modify to create your response file. This file is in the Common Files folder of your MicroStrategy installation. By default, this folder is `C:\Program Files (x86)\Common Files\MicroStrategy`.

For information on all the parameters in the response file, see [Response configuration parameters and options, page 38](#).

Executing a response file

You can execute a response file in any of the following ways:

- From within the Configuration Wizard. See [To use a response file with the Configuration Wizard, page 36](#) or [To use a response file through the Configuration Wizard in UNIX or Linux, page 37](#).
- From the Windows command line. See [To use a response file through the Windows command line, page 37](#). This enables users to run the file without any graphical user interfaces.
- From the UNIX or Linux command line. See [To use a response file through the UNIX/Linux command line, page 38](#).

To use a response file with the Configuration Wizard

- 1 From the Windows **Start** menu, point to **All Programs**, then **MicroStrategy Tools**, and then select **Configuration Wizard**. The Configuration Wizard opens.
- 2 Click **Load**. The Open dialog box displays.
- 3 Browse to the path where the response file is saved and click **Open**. The Summary page opens.
- 4 An overview of all the configuration tasks performed by the response file is displayed. Review the configuration tasks and click **Finish** to perform the configuration.

To use a response file through the Windows command line

- 1 Type the following command in the Windows command line:

```
macfgwiz.exe -r "Path\response.ini"
```

Where *Path* is the fully qualified path to the response file. For example, a common location of a response file is:

```
C:\Program Files (x86)\Common Files\MicroStrategy\  
RESPONSE.INI
```

If an error message is displayed, check the path and name you supplied for the response file and make any required changes.

To use a response file through the Configuration Wizard in UNIX or Linux

- 1 From a UNIX or Linux console window, browse to *<HOME_PATH>* where *<HOME_PATH>* is the directory you specified as the Home Directory during installation.
- 2 Browse to the folder *bin*.
- 3 Type *mstrcfgwiz-editor*, and then press **ENTER**. The Configuration Wizard opens with the Welcome page displayed.
- 4 Press **ENTER**.
- 5 Type *1* to select to use a response file, and then press **ENTER**.
- 6 Type the fully qualified path to the *response.ini* file and then press **ENTER**. For example:

```
/home/username/MicroStrategy/RESPONSE.INI
```

If an error message is displayed, check the path and name you supplied for the response file and make any required changes.

To use a response file through the UNIX/Linux command line

- 1 From a UNIX or Linux console window, browse to `<HOME_PATH>` where `<HOME_PATH>` is the directory you specified as the Home Directory during installation.
- 2 Browse to the folder `bin`.
- 3 Type the following command in the command line, and then press **ENTER**.

```
mstrcfgwiz-editor -response /Path/response.ini
```

Where *Path* is the fully qualified path to the response file. For example, a common location of a response file is:

```
/home/username/MicroStrategy/RESPONSE.INI
```

If an error message is displayed, check the path and name you supplied for the response file and make any required changes.

Response configuration parameters and options

MicroStrategy recommends that you always create the response file through the GUI mode of the Configuration Wizard. However, you can also modify a response file with a text editor to make minor changes such as entering different user login and password information.



If you are manually editing the response file, make sure to save the file using ANSI encoding.

The following tables list the response file parameters for the tasks that you can perform with Configuration Wizard:

- [Upgrading Intelligence Server components and projects, page 39](#)
- [Upgrading statistics repositories, page 43](#)
- [Upgrading an Enterprise Manager project, page 44](#)
- [Upgrading History List repositories, page 45](#)
- [Migrating Web delivery subscriptions from Narrowcast Server to MicroStrategy Distribution Services, page 46](#)

Upgrading Intelligence Server components and projects

The response file parameters in the [UpgradeServer] section upgrade Intelligence Server components and projects. The table below lists the available parameters and the functionality of available options for each parameter.

Options	Description
[UpgradeServer]	In this section you can upgrade Intelligence Server components and the projects for an Intelligence Server.
UpgradeServer=	Defines whether to upgrade Intelligence Server components and projects, as determined by the following values: <ul style="list-style-type: none"> • 1: Upgrade Intelligence Server components and projects. • 0: Does not upgrade Intelligence Server components and projects.
UpgradeMD=	Defines whether to upgrade the metadata, as determined by the following values: <ul style="list-style-type: none"> • 1: Upgrades the metadata repository, which contains the definitions of your MicroStrategy applications and supporting objects. An upgrade of your metadata is required to provide support for all new and updated features in the most recent version of MicroStrategy. • 0: Does not upgrade the metadata.
UpgradePrivileges=	Defines whether to upgrade administrative privileges, as determined by the following values: <ul style="list-style-type: none"> • 1: Upgrades the privileges used to define the features and capabilities available for each MicroStrategy user. This upgrade is required to reflect any changes in privileges for the most recent version of MicroStrategy. After the upgrade is finished, you can manually modify the privileges for your users and user groups to ensure that all users have access to the required MicroStrategy features. To ensure that the updated user privileges are in compliance with your license agreement, you can use License Manager to audit and view user product privileges. • 0: Does not upgrade administrative privileges.
MigrateHL=	Defines whether to migrate History List from a flat file to a database, as determined by the following values: <ul style="list-style-type: none"> • 1: Migrates your previous file-based History List repository to a database-based History List repository. In pre-9.0 versions of MicroStrategy, all History List files were stored using a file-based method. In addition to the file-based method, it is also possible to store the History List repository in the database. This allows administrators to centrally monitor all History List messages across the system. • 0: Does not migrate History Lists to a database. Use this option if you did not previously use History List messages or you plan to continue to use a flat file to support and store History Lists.
UpgradeProjects=	Defines whether to upgrade projects, as determined by the following values: <ul style="list-style-type: none"> • 1: Upgrades the projects defined in ProjectLogicalUpgrade. • 0: Does not upgrade projects.

Options	Description
ServerUser=	Provide the user name for the MicroStrategy user to connect to the Intelligence Server to upgrade.
ServerPwd=	Provide the password for the MicroStrategy user to connect to the Intelligence Server to upgrade.
MDPwd=	Provide the password for the metadata to upgrade.
PrivilegesSource Version=	<p>If you have previously upgraded the metadata but not upgraded the privileges, provide the version of the metadata that you most recently upgraded your privileges to, from the following list of options:</p> <ul style="list-style-type: none"> • 8.x • 9.0.0 • 9.0.1 • 9.0.1m • 9.0.2 • 9.2 • 9.2.1 • 9.3.1 • 9.4
HLTarget=	<p>If performing a History List migration, the type of History List to migrate to:</p> <ul style="list-style-type: none"> • File • Database • Hybrid
HLPath=	If performing a History List migration, defines the directory location of the History List flat file to migrate to a database.
HybridPath=	If performing a History List migration to a hybrid History List, defines the directory location where the hybrid History List files are to be stored.
HLDSNName=	If performing a History List migration, defines the DSN of the database to migrate the History List tables to.
HLUserName=	If performing a History List migration, defines the user name to connect to the database for the History List migration.
HLUserPwd=	If performing a History List migration, defines the password to connect to the database for the History List migration.
HLPrefix=	If performing a History List migration, defines the table prefix for History List tables.
HLDropTables=	<p>Defines whether to drop existing tables in the database used for the History List migration, as determined by the following values:</p> <ul style="list-style-type: none"> • 1: Deletes existing tables in the database before migrating the History List tables. • 0: Appends the migrated History List tables to the database without deleting existing tables.

Options	Description
HLDeleteFiles=	<p>Defines whether to delete the file based History List after the migration is complete, as determined by the following values:</p> <ul style="list-style-type: none"> • 1: Deletes the file-based History List repository once the migration to a database-based History List repository is complete. This option should only be used if the file-based History List repository is no longer needed, and you can ensure the migration process can be completed successfully. • 0: Does not delete the file-based History List repository once the migration to a database-based History List repository is complete.
HLUseUTF8=	<p>Defines whether UTF-8 encoding should be used for the History List migration on Windows, as determined by the following values:</p> <ul style="list-style-type: none"> • 1: Uses UTF-8 encoding for Windows drivers. This option should be used if your database and History List messages use UTF-8 encoding, and the Intelligence Server is installed on Windows. • 0: Does not use UTF-8 encoding.
HLUseUNIXUTF8=	<p>Defines whether UTF-8 encoding should be used for the History List migration on UNIX/Linux, as determined by the following values:</p> <ul style="list-style-type: none"> • 1: Uses UTF-8 encoding for UNIX/Linux drivers. This option should be used if your database and History List messages use UTF-8 encoding, and the Intelligence Server is installed on UNIX or Linux. • 0: Does not use UTF-8 encoding.
HLDB2zOSDBName=	<p>Defines the database name to create or migrate History Lists stored in DB2 z/OS. This option should be used if connecting to a DB2 z/OS database.</p>
HLDB2zOSTableSpaceName=	<p>Defines the table name to be used in the database when creating or migrating the History List. This option should be used if connecting to a DB2 z/OS database.</p>
ThreadNumber	<p>If performing a History List repository upgrade to a hybrid History List, defines the number of database threads to use for the upgrade.</p>
ProjectLogicalUpgrade=	<p>Defines the projects to update their schedules that send reports and documents to caches, History Lists, and MicroStrategy Mobile as subscriptions. These subscriptions are part of the integrated subscription and delivery features in Intelligence Server 9.0 and later versions. They provide the same ability to send reports and documents to caches, History Lists, and MicroStrategy Mobile as the schedules in MicroStrategy pre-9.0.</p> <p>This option also upgrades the reports and Report Services documents in the projects, which improves performance, reduces storage space requirements, and ensures that graphs display correctly in MicroStrategy Web 10 and Developer 10.</p> <p>To upgrade multiple projects, you must enclose the name of each project in curly braces { } and separate the names with a backslash \ . For example:</p> <pre>{Project1}\{Project2}\...\{ProjectN}</pre>

Options	Description
ScheduleUpdate=	<p>Defines the projects to upgrade their schedules to the most recent version of MicroStrategy.</p> <p>To upgrade multiple projects' schedules, you must enclose the name of each project in curly braces { } and separate the names with a backslash \ . For example:</p> <pre>{Project1}\{Project2}\...\{ProjectN}</pre>
MDXUpdate=	<p>Defines the projects to update their MDX source objects (MDX cubes) that were created in earlier versions of MicroStrategy to take advantage of increased performance and other updates.</p> <p>Note: You can integrate MDX sources such as SAP BW, Microsoft Analysis Services, and Hyperion Essbase into your MicroStrategy environment. For information on integrating MDX sources into MicroStrategy, see the <i>MDX Cube Reporting Guide</i>.</p> <p>To upgrade multiple projects' MDX source objects, you must enclose the name of each project in curly braces { } and separate the names with a backslash \ . For example:</p> <pre>{Project1}\{Project2}\...\{ProjectN}</pre>
SysObjIDUnification=	<p>Defines the projects for which to update system objects so that objects can be moved between unrelated projects using MicroStrategy Object Manager. This is required for projects from pre-9.0.1 versions of MicroStrategy.</p> <p>To upgrade multiple projects' system objects, you must enclose the name of each project in curly braces { } and separate the names with a backslash \ . For example:</p> <pre>{Project1}\{Project2}\...\{ProjectN}</pre>
ProjectUpgradeContinueExecuting=	<p>Defines whether to update the rest of the specified projects if one project update generates an error:</p> <ul style="list-style-type: none"> • 1: Continues the update process even if an error is found in one project. • 0: Halts the update process for all projects if an error is found in one project.
EncryptPassword=	<p>Defines whether the password is encrypted in the response file, as determined by the following values:</p> <ul style="list-style-type: none"> • 1: Encrypts the password in the response file, which ensures that your password is secure. This is the default behavior. • 0: The password is not encrypted in the response file, which enables you to modify the password in the response file later using a text editor. You can then distribute the response file to multiple users with various login and password credentials. However, be aware that this can compromise your database security if you do not remove the password from the response file before distributing it.
DB2ZoSDBName=	<p>Defines the database name to update metadatas stored in DB2 z/OS. This option should be used if connecting to a DB2 z/OS database.</p>
DB2ZoSTableSpaceName=	<p>Defines the table name to be used in the database when upgrading the metadata. This option should be used if connecting to a DB2 z/OS database.</p>

Options	Description
LeanObjects=	Defines whether to perform Lean Objects migration at the server level: <ul style="list-style-type: none"> • 1: Perform Lean Objects migration. • 0: Do not perform Lean Objects migration.
LeanObjectsProjects=	Defines whether to perform Lean Objects migration at the project level: <ul style="list-style-type: none"> • 1: Perform Lean Objects migration. • 0: Do not perform Lean Objects migration.

Upgrading statistics repositories

The response file parameters in the [UpgradeStats] section upgrade statistics and Enterprise Manager repositories. The table below lists the available parameters and the functionality of available options for each parameter.

Options	Description
[UpgradeStats]	In this section you can upgrade statistics repositories to the most recent version of MicroStrategy. You can have more than one [UpgradeStats] section. Additional statistics upgrade sections can be included as [UpgradeStats1], [UpgradeStats2], and so on.
UpgradeStats=	Defines whether to upgrade the statistics and Enterprise Manager repositories, as determined by the following values: <ul style="list-style-type: none"> • 1: Upgrades the statistics repository • 0: Does not upgrade the statistics repository
EncryptPassword=	Defines whether the password is encrypted in the response file, as determined by the following values: <ul style="list-style-type: none"> • 1: Encrypts the password in the response file, which ensures that your password is secure. This is the default behavior. • 0: The password is not encrypted in the response file, which enables you to modify the password in the response file later using a text editor. You can then distribute the response file to multiple users with various login and password credentials. However, be aware that this can compromise your database security if you do not remove the password from the response file before distributing it.
StatsDSN=	If performing a statistics repository upgrade, defines the DSN of the database that stores the statistics repository.
StatsUser=	If performing a statistics repository upgrade, defines the user name to connect to the database for the statistics repository.
StatsPwd=	If performing a statistics repository upgrade, defines the password to connect to the database for the statistics repository.
StatsPrefix=	If performing a statistics repository upgrade, defines the database prefix for the statistics repository.

Upgrading an Enterprise Manager project

The response file parameters in the [EMProjectHeader] section upgrade an Enterprise Manager project. The table below lists the available parameters and the functionality of available options for each parameter.

Options	Description
[EMProjectHeader]	In this section you can upgrade an Enterprise Manager project to the most recent version of MicroStrategy. You can have more than one [EMProjectHeader] section. Additional Enterprise Manager project upgrade sections can be included as [EMProjectHeader1], [EMProjectHeader2], and so on.
EMProject=	Defines whether to upgrade the Enterprise Manager project, as determined by the following values: <ul style="list-style-type: none"> 1: Upgrades the Enterprise Manager project. 0: Does not upgrade the Enterprise Manager project.
EMProjectEncryptPwd=	Defines whether the password is encrypted in the response file, as determined by the following values: <ul style="list-style-type: none"> 1: Encrypts the password in the response file, which ensures that your password is secure. This is the default behavior. 0: The password is not encrypted in the response file, which enables you to modify the password in the response file later using a text editor. You can then distribute the response file to multiple users with various login and password credentials. However, be aware that this can compromise your database security if you do not remove the password from the response file before distributing it.
EMProjectDSSUser=	If performing an Enterprise Manager project upgrade, provides the MicroStrategy user name that can access and administer the Enterprise Manager project.
EMProjectDSSPwd=	If performing an Enterprise Manager project upgrade, provides the password for the MicroStrategy user that can access and administer the Enterprise Manager project.
EMProjectDSNName=	If performing an Enterprise Manager project upgrade, defines the DSN of the database that stores the statistics tables and Enterprise Manager repository.
EMProjectDSNUserName=	If performing an Enterprise Manager project upgrade, defines the user name to connect to the database for the statistics tables and Enterprise Manager repository.
EMProjectDSNUserPwd=	If performing an Enterprise Manager project upgrade, defines the password to connect to the database for the statistics tables and Enterprise Manager repository.
EMProjectDSNPrefix=	If performing an Enterprise Manager project upgrade, defines the database prefix for the statistics tables and Enterprise Manager repository.

Upgrading History List repositories

The response file parameters in the `[UpgradeHistoryList]` section upgrade a database-based History List repository. The table below lists the available parameters and the functionality of available options for each parameter.

Options	Description
<code>[UpgradeHistoryList]</code>	In this section you can upgrade History List repositories to the most recent version of MicroStrategy. You can have more than one <code>[UpgradeHistoryList]</code> section. Additional History List upgrade sections can be included as <code>[UpgradeHistoryList1]</code> , <code>[UpgradeHistoryList2]</code> , and so on.
<code>UpgradeHistoryList=</code>	Defines whether to upgrade a History List repository, as determined by the following values: <ul style="list-style-type: none"> • 1: Upgrades the History List repository. • 0: Does not upgrade the History List repository.
<code>EncryptPassword=</code>	Defines whether the password is encrypted in the response file, as determined by the following values: <ul style="list-style-type: none"> • 1: Encrypts the password in the response file, which ensures that your password is secure. This is the default behavior. • 0: The password is not encrypted in the response file, which enables you to modify the password in the response file later using a text editor. You can then distribute the response file to multiple users with various login and password credentials. However, be aware that this can compromise your database security if you do not remove the password from the response file before distributing it.
<code>HLDSN=</code>	If performing a History List repository upgrade, defines the DSN of the database that stores the History List repository.
<code>HLUser=</code>	If performing a History List repository upgrade, defines the user name to connect to the database for the History List repository.
<code>HLPwd=</code>	If performing a History List repository upgrade, defines the password to connect to the database for the History List repository.
<code>HLPrefix=</code>	If performing a History List repository upgrade, defines the database prefix for the History List repository.

Options	Description
CopyContent=	<p>If performing a History List repository upgrade, upgrades existing History List messages to the specified format, as determined by the following values:</p> <ul style="list-style-type: none"> • 1: Upgrades existing History List messages. • 0: Does not upgrade existing History List messages. <p>Note: Regardless of this setting, the new database tables required for the new History List format are created, and any new History List messages are created in the new format.</p>
CompressData=	<p>If performing a History List repository upgrade, compresses all existing History List messages, as determined by the following values:</p> <ul style="list-style-type: none"> • 1: Compresses existing History List messages. • 0: Does not compress existing History List messages. Newly created messages are compressed.

Migrating Web delivery subscriptions from Narrowcast Server to MicroStrategy Distribution Services

The response file parameters in the [UpgradeServer] section migrate MicroStrategy Web delivery subscriptions from a Narrowcast Server environment to Distribution Services. MicroStrategy Web delivery subscriptions include email, file, and print subscriptions created from MicroStrategy Web. Migrating these subscriptions from Narrowcast Server to Distribution Services allows the subscriptions to be centralized in Intelligence Server rather than a separate Narrowcast Server. The table below lists the available parameters and the functionality of available options for each parameter.

Options	Description
[MigrateNCS]	In this section you can migrate MicroStrategy Web delivery subscriptions from a Narrowcast Server environment to Distribution Services. You can have more than one [MigrateNCS] section. Additional MicroStrategy Web delivery subscription migration sections can be included as [MigrateNCS1], [MigrateNCS2], and so on.
MigrateNCS=	<p>Defines whether to migrate MicroStrategy Web delivery subscriptions from a Narrowcast Server environment to Distribution Services, as determined by the following values:</p> <ul style="list-style-type: none"> • 1: Migrates MicroStrategy Web delivery subscriptions from a Narrowcast Server environment to Distribution Services. • 0: Does not migrate MicroStrategy Web delivery subscriptions from a Narrowcast Server environment to Distribution Services.
DSNNameSBR=	Defines the DSN of the database that stores the Narrowcast Subscription Book Repository.

Options	Description
UserNameSBR=	Defines the user name to connect to the database for the Narrowcast Subscription Book Repository.
UserPwdSBR=	Defines the password to connect to the database for the Narrowcast Subscription Book Repository.
SysPrefixSBR=	Defines the prefix used for the tables of the Narrowcast Subscription Book Repository.
DSNNameOR=	Defines the DSN of the database that stores the Narrowcast Object Repository.
UserNameOR=	Defines the user name to connect to the database for the Narrowcast Object Repository.
UserPwdOR=	Defines the password to connect to the database for the Narrowcast Object Repository.
SysPrefixOR=	Defines the prefix used for the tables of the Narrowcast Object Repository.
PSNName=	Defines the project source that the Web delivery subscriptions are migrated to.
DSSUser=	Defines the user name to connect to the project source.
DSSPwd=	Defines the user password to connect to the project source.
TargetProjects=	Defines the projects, for a project source, to migrate Web subscriptions from Narrowcast Server to Distribution Services. You can select multiple projects, separating projects by the \ character. For example, TargetProjects=Project1\Project2.
MigrateWeb DeliveryUsers=	Defines whether to migrate all users of Web deliveries to Distribution Services, as determined by the following values: <ul style="list-style-type: none"> • 1: Migrates all users of Web deliveries to Distribution Services. Addresses of the MicroStrategy users who subscribed to Web deliveries are assigned to the corresponding MicroStrategy users. No new MicroStrategy users are created. • 0: Does not migrate all users of Web deliveries to Distribution Services.
Assign Privileges=	If you choose to migrate all users of Web deliveries to Distribution Services, this option defines whether to grant the Use Distribution Services privilege for all Web delivery users that are migrated to Distribution Services, as determined by the following values: <ul style="list-style-type: none"> • 1: Grants the Use Distribution Services privilege for all Web delivery users that are migrated to Distribution Services. Ensure that granting these privileges is in compliance with your product license for Distribution Services. • 0: Does not grant the Use Distribution Services privilege for all Web delivery users that are migrated to Distribution Services.

Options	Description
MigrateNCSUsers=	<p>Defines whether to migrate Narrowcast Server users and their addresses as contacts in Distribution Services, as determined by the following values:</p> <ul style="list-style-type: none">• 1: Migrates Narrowcast Server users and their addresses as contacts in Distribution Services. A contact is created for each Narrowcast Server user. The Narrowcast Server user's addresses are copied as addresses of the contact. A contact is a list of subscription recipient addresses. These recipients do not have the permissions to log in to MicroStrategy Web or Developer. Contacts enable these recipients to receive subscriptions.• 0: Does not migrate Narrowcast Server users and their addresses as contacts in Distribution Services

Options	Description													
MigrateTransmittersAction=	<p>These parameters specify the conflict resolution rules when migrating Narrowcast objects to Distribution Services. Conflicts occur when identical objects are present in both the Narrowcast Server system you are migrating from and the Intelligence Server metadata you are migrating to. Defining conflict resolution rules determines how these conflicts are resolved during the migration.</p> <p>You can use the following parameters to define how to resolve any conflicts during the migration:</p> <ul style="list-style-type: none">• MigrateTransmittersAction for Transmitters• MigrateDevicesAction for Devices• MigrateSchedulesAction for Schedules• MigrateSubscriptionsAction for Subscriptions• MigrateUsersAction for Users <p>For each object type listed above, you can define conflict resolution rules based on matching IDs. For transmitters, devices, and schedules you can also define conflict resolution rules based on matching definitions. These options are described in the table below.</p> <p>Note: In the table below, “source” refers to your Narrowcast Server and “destination” refers to the new metadata tables.</p>													
MigrateDevicesAction=														
MigrateSchedulesAction=														
MigrateSubscriptionsAction=														
MigrateUsersAction=														
	<table><tr><th>Match by ID or Definition</th><th>Conflict Resolution</th><th>Option Value</th></tr><tr><td rowspan="2">Match by IDs Objects are matched by their ID only.</td><td>Match by IDs, keep existing If objects with matching IDs are found, the object in the destination location is kept. The object in the source is not migrated to the destination.</td><td>1</td></tr><tr><td>Match by IDs, replace If objects with matching IDs are found, the object from the source replaces the matching object in the destination.</td><td>2</td></tr><tr><td rowspan="2">Match by Definition Objects are matched by their definitions. This enables objects that have the same definition, but different IDs to be defined as a match. These conflict resolution options are available for transmitters, devices, and schedules.</td><td>Match by Definition, merge If objects with matching definitions are found, all dependent objects of the matching object in the source are migrated to the destination. The migrated dependent objects are defined as dependents of the matching object in the destination.</td><td>3</td></tr><tr><td>Match by Definition, create new If objects with matching definitions are found, the matching object in the source is migrated to the destination as a new object. A separate object for the matching object in the destination is also kept. This results in two objects with matching definitions in the destination, which you can modify after the migration is complete.</td><td>4</td></tr></table>	Match by ID or Definition	Conflict Resolution	Option Value	Match by IDs Objects are matched by their ID only.	Match by IDs, keep existing If objects with matching IDs are found, the object in the destination location is kept. The object in the source is not migrated to the destination.	1	Match by IDs, replace If objects with matching IDs are found, the object from the source replaces the matching object in the destination.	2	Match by Definition Objects are matched by their definitions. This enables objects that have the same definition, but different IDs to be defined as a match. These conflict resolution options are available for transmitters, devices, and schedules.	Match by Definition, merge If objects with matching definitions are found, all dependent objects of the matching object in the source are migrated to the destination. The migrated dependent objects are defined as dependents of the matching object in the destination.	3	Match by Definition, create new If objects with matching definitions are found, the matching object in the source is migrated to the destination as a new object. A separate object for the matching object in the destination is also kept. This results in two objects with matching definitions in the destination, which you can modify after the migration is complete.	4
Match by ID or Definition	Conflict Resolution	Option Value												
Match by IDs Objects are matched by their ID only.	Match by IDs, keep existing If objects with matching IDs are found, the object in the destination location is kept. The object in the source is not migrated to the destination.	1												
	Match by IDs, replace If objects with matching IDs are found, the object from the source replaces the matching object in the destination.	2												
Match by Definition Objects are matched by their definitions. This enables objects that have the same definition, but different IDs to be defined as a match. These conflict resolution options are available for transmitters, devices, and schedules.	Match by Definition, merge If objects with matching definitions are found, all dependent objects of the matching object in the source are migrated to the destination. The migrated dependent objects are defined as dependents of the matching object in the destination.	3												
	Match by Definition, create new If objects with matching definitions are found, the matching object in the source is migrated to the destination as a new object. A separate object for the matching object in the destination is also kept. This results in two objects with matching definitions in the destination, which you can modify after the migration is complete.	4												

Options	Description
EncryptPassword=	<p>Defines whether the password is encrypted in the response file, as determined by the following values:</p> <ul style="list-style-type: none"> • 1: Encrypts the password in the response file, which ensures that your password is secure. This is the default behavior. • 0: The password is not encrypted in the response file, which enables you to modify the password in the response file later using a text editor. You can then distribute the response file to multiple users with various login and password credentials. However, be aware that this can compromise your database security if you do not remove the password from the response file before distributing it.

List of updated privileges

For each MicroStrategy release, some aspects of functionality that were formerly controlled by a single privilege may have been split among several privileges. For example, in MicroStrategy 9.0, the Use Cache Monitor privilege was split into the Administer Caches and Monitor Caches privileges.

When you update the metadata to the latest version, you should also update your privileges. This ensures that users have access to the same functionality that they had in previous versions of MicroStrategy. For example, after you update the privileges, all users that had the pre-9.0 Use Cache Monitor privilege now have the Administer Caches and Monitor Caches privileges. For instructions on how to update privileges during the metadata update, see [Metadata update process, page 27](#).

The table below lists the changes that may occur when you update privileges. For a list of the new privileges that have been added, see the *MicroStrategy Readme*, or see the What's New section of the *MicroStrategy Supplemental Reference for System Administration*.

If a user had this privilege...	After the upgrade, the user is granted these privileges...
MicroStrategy Analytics Enterprise	
Use Desktop	Use Developer
Desktop Execute Document	Execute Document
MicroStrategy 9.4	
Mobile View Document	Mobile Run Document

If a user had this privilege...	After the upgrade, the user is granted these privileges...
Mobile Save Document	Mobile Run Document
MicroStrategy 9.3.1	
Use Send Now	<ul style="list-style-type: none"> • Use Send A Preview Now • Use Send Now
Execute Analysis Or Document	<ul style="list-style-type: none"> • Web Execute Document • Web Run Dashboard
Mobile View Document	<ul style="list-style-type: none"> • Mobile Run Dashboard • Mobile View Document
MicroStrategy 9.2.1	
Web Document Design	<ul style="list-style-type: none"> • Web Create Analysis • Web Save Analysis • Web Visual Insight • Web Document Design
Web Manage Objects	<ul style="list-style-type: none"> • Web Use Object Sharing Editor • Web Manage Objects
Web Visual Insight	<ul style="list-style-type: none"> • Web Create Analysis • Web Save Analysis • Web Visual Insight
MicroStrategy 9.0.2	
Use Bulk Export Editor	<ul style="list-style-type: none"> • Use Bulk Export Editor • Use SQL Statements Tab In Datamart/Bulk Export Editors
Use Data Mart Editor	<ul style="list-style-type: none"> • Use Data Mart Editor • Use SQL Statements Tab In Datamart/Bulk Export Editors
MicroStrategy 9.0.1	

If a user had this privilege...	After the upgrade, the user is granted these privileges...
<p>All users who have one or more of the following privileges are also granted the Use OLAP Services privilege after the update:</p> <ul style="list-style-type: none"> • Create Derived Metrics • Use Report Objects Window • Use Report Filter Editor • Web Create Derived Metrics • Web Use Report Objects Window • Web Use Report Filter Editor • Web Modify Grid Level In Document • Web Number Formatting • Drill With Intelligent Cube • Define View Report • Use Cube Report Editor • Execute Cube Report • Web Define View Report • Web Execute Cube Report • Web Define Derived Elements • Web Save Derived Elements • Define Derived Elements • Save Derived Elements • Use Dynamic Sourcing 	
MicroStrategy 9.0	
Use Cache Monitor	<ul style="list-style-type: none"> • Administer Caches • Monitor Caches
Use Cluster Monitor	<ul style="list-style-type: none"> • Administer Cluster • Monitor Cluster
Use Database Connection Monitor	<ul style="list-style-type: none"> • Administer Database Connections • Monitor Database Connections
Use Job Monitor	<ul style="list-style-type: none"> • Administer Jobs • Monitor Jobs
Use Project Monitor	<ul style="list-style-type: none"> • Administer Caches • Idle And Resume Project • Load And Unload Project • Monitor Project
Use Server Admin	All privileges in the Administration privilege group except Bypass All Object Security Access Checks.

If a user had this privilege...	After the upgrade, the user is granted these privileges...
Use User Connection Monitor	<ul style="list-style-type: none">• Administer User Connections• Monitor User Connections
Use User Manager	<ul style="list-style-type: none">• Assign Security Roles• Configure Group Membership• Create And Edit Contacts And Addresses• Create And Edit Security Filters• Create And Edit Security Roles• Create And Edit Users And Groups• Enable User• Grant/revoke Privilege• Link Users And Groups To External Accounts• Reset User Password

UPGRADING OTHER MICROSTRATEGY PRODUCTS

Introduction

Once the production Intelligence Servers are upgraded, following the instructions in [Chapter 2, Upgrading Intelligence Server on Windows, UNIX, or Linux](#), you can upgrade your remaining MicroStrategy products to the latest version. Follow the installation procedures provided in the *MicroStrategy Installation and Configuration Guide* to install these remaining products. For specific upgrade-related considerations for a product, see the appropriate section below:

- [Recommended upgrade order across multiple machines, page 56](#)
- [Upgrading MicroStrategy Web and Mobile Server, page 57](#)
- [Migrate Web delivery subscriptions from Narrowcast Server to Distribution Services, page 59](#)
- [Upgrading Enterprise Manager and Intelligence Server statistics tables, page 61](#)

Recommended upgrade order across multiple machines

MicroStrategy recommends that you follow a specific product upgrade sequence when upgrading MicroStrategy products across several machines. Following this upgrade sequence helps ensure that MicroStrategy products installed on separate machines are interoperable, that is, they are able to work together when installed on separate machines.

For example, if you have two machines, A and B, you should upgrade Intelligence Server on both machines, followed by upgrading MicroStrategy Web on both machines, and so on, rather than upgrading all products on machine A and then all products on machine B.

The recommended upgrade sequence is as follows:

- 1 Intelligence Server and metadata.

For instructions on upgrading Intelligence Server and updating the metadata, see [Chapter 2, Upgrading Intelligence Server on Windows, UNIX, or Linux](#).

- 2 MicroStrategy Web and Mobile Server.

If you followed the preceding instructions, your production environment now contains an updated version of the project metadata and Intelligence Servers. Continue the recommended upgrade order by installing MicroStrategy Web and Mobile Servers.

For important MicroStrategy Web and Mobile Server upgrade considerations and procedures, see [Upgrading MicroStrategy Web and Mobile Server, page 57](#).

- 3 MicroStrategy Office.

MicroStrategy Office users may be prompted to upgrade MicroStrategy Office when they log into a MicroStrategy project using the MicroStrategy Office toolbar or menu in Microsoft® Excel, PowerPoint®, or Word. If the Intelligence Server machine contains a more recent version of MicroStrategy Office, they are asked if they want to upgrade MicroStrategy Office. If so, MicroStrategy Office launches the MicroStrategy Office installation wizard, and they can follow the instructions to upgrade MicroStrategy Office.

- 4 If upgrading from a version of MicroStrategy before 9.0, migrate Web delivery subscriptions from Narrowcast Server to Distribution Services.

For instructions on migrating Web delivery subscriptions to Distribution Services, see [Migrate Web delivery subscriptions from Narrowcast Server to Distribution Services, page 59](#).

- 5 Developer, MicroStrategy Mobile clients, and administrative products such as Enterprise Manager, Command Manager, Object Manager, Systems Manager, and Operations Manager.

For important Enterprise Manager upgrade considerations and procedures, see [Upgrading Enterprise Manager and Intelligence Server statistics tables, page 61](#).

Upgrading MicroStrategy Web and Mobile Server

Once you have upgraded Intelligence Server and updated the project metadata, you can upgrade your MicroStrategy Web and Mobile Server installations. For detailed instructions on upgrading MicroStrategy Web and Mobile Server, see the *MicroStrategy Installation and Configuration Guide*.

Before upgrading MicroStrategy Web and Mobile Server, be aware of the following considerations:

- Note your current Web customizations and review the information in [Upgrading MicroStrategy Web customizations, page 59](#) to learn how to successfully migrate these customizations.
- If you have created any mobile device configurations or saved any images from the MicroStrategy Photo Uploader widget, those configurations and images are deleted during the upgrade unless you manually back them up before the upgrade and restore them after the upgrade.
 - To back up your configuration files, make a copy of the directory `<MicroStrategyMobileServer>/WEB-INF/xml/mobile/` and all its contents, where `<MicroStrategyMobileServer>` is the installation location of MicroStrategy Mobile Server. By default, this location is `C:\Program Files (x86)\MicroStrategy\Mobile Server ASPx` or `\Mobile Server JSP`. Then, after you have upgraded Mobile Server, copy the contents of the backed-up

directory to the same corresponding location in the new Mobile Server deployment.

- Photo Uploader images are stored in MicroStrategy Web. To back up your Photo Uploader images, make a copy of the directory `<MicroStrategyWebServer>/WEB-INF/SavedImages/` and all its contents, where `<MicroStrategyWebServer>` is the installation location of MicroStrategy Web. By default, this location is `C:\Program Files (x86)\MicroStrategy\Web Server ASPx` or `\Web Server JSP`.
- Because of enhancements to MicroStrategy Certificate Server, if you secure your MicroStrategy Mobile connections through Certificate Server, you must upgrade your Certificate Server to support MicroStrategy 10 Mobile applications.
- After upgrading MicroStrategy Web or Mobile Server, MicroStrategy recommends restarting your web and application servers and clearing your web and application server caches.
- Beginning with MicroStrategy 9.0.1m, MicroStrategy Web and Mobile use separate web server applications to deliver MicroStrategy reports and documents. The web server application for MicroStrategy Web is called MicroStrategy Web, and the web server application for MicroStrategy Mobile is called MicroStrategy Mobile Server.

Updating Android widgets from MicroStrategy 9.2.1m

If you are upgrading from MicroStrategy 9.2.1m or earlier, some widgets that were previously created to display on Android tablets may display as grids or graphs on the mobile device. To display these widgets correctly on Android tablets, you must ensure that **Android Tablet** is a specified display option for each widget.

To update the display options for an Android tablet widget

- 1 In MicroStrategy Web, open a dashboard that contains a mobile widget that is designed to be displayed on Android tablets.
- 2 Right-click the widget and select **Properties and Formatting**. The Properties and Formatting dialog box for the widget opens.
- 3 In the left pane, click **Widget**.

- 4 Make sure that **Android Tablet** is selected as a display option.
- 5 Click **OK**. The dialog box closes.
- 6 Click **Save** to save the dashboard.

Upgrading MicroStrategy Web customizations

Upgrading to MicroStrategy Analytics Enterprise can have a significant effect on your current Web customizations. The Customization Upgrade Wizard helps you upgrade your MicroStrategy Web customizations to MicroStrategy Analytics Enterprise. This wizard upgrades your customizations to plug-ins that work with the current MicroStrategy SDK plug-in architecture. The MicroStrategy SDK is available as a free download from the MicroStrategy Developer Zone <https://resource.microstrategy.com/msdz/default.asp>.

For detailed instructions on using the Customization Upgrade Wizard to upgrade your MicroStrategy Web customizations, see the MicroStrategy Developer Library (MSDL).

To open the MicroStrategy Developer Library

- 1 Browse to the MSDL online in the MicroStrategy Developer Zone (MSDZ):
<https://resource.microstrategy.com/msdz/default.asp>
- 2 Information on MicroStrategy Web customizations is available in the Web SDK section of the MSDL.

Migrate Web delivery subscriptions from Narrowcast Server to Distribution Services

Beginning with version 9.0, Distribution Services replaced Narrowcast Server as the application that delivers Web delivery subscriptions.

When you migrate all information related to Web delivery subscriptions from your existing Narrowcast Server to Distribution Services, you can select to migrate Narrowcast Server users and their addresses. These users are

copied as contacts who will receive the subscriptions in Distribution Services. During the upgrade process, only user addresses are migrated; subscriptions and schedules will not be migrated.

MicroStrategy recommends that you back up the database containing your Object Repository and Subscription Book Repository before migrating subscriptions.



Do not back up the repositories using the Copy Repository tool in Narrowcast Server. Copy Repository assigns a new System ID to the resulting repositories, which breaks the link between Narrowcast Server and your existing MicroStrategy project. Making a database backup retains this link.

You can migrate existing Narrowcast Server subscriptions to Distribution Services using the Configuration Wizard. For instructions, see the procedure below.



As an alternative to stepping through each page of the Configuration Wizard, you can create a response file with the update information, and use that response file with the Configuration Wizard to automatically migrate your Narrowcast Server subscriptions. For more information about using a response file to migrate your subscriptions, including instructions, see [Using a response file with Configuration Wizard, page 35](#).

You can also migrate your subscriptions from within Developer, with the Migrate Subscriptions for Web Deliveries wizard. To access the Migrate Subscriptions for Web Deliveries wizard, in Developer, from the **Tools** menu, select **Migrate Narrowcast Server Subscriptions for Web Deliveries**. For detailed information about using the Migrate Subscriptions for Web Deliveries wizard, see the *MicroStrategy Developer Help* (formerly the *MicroStrategy Desktop Help*).

To migrate Narrowcast Server subscriptions using the Configuration Wizard

- 1 From the **Start** menu, point to **All Programs**, then **MicroStrategy Tools**, then select **Configuration Wizard**. The Configuration Wizard opens.
- 2 Select the **Upgrade existing environment to MicroStrategy Analytics Enterprise** option, and then select the **Narrowcast Server Web Delivery Subscriptions** option. Then click **Next**.
- 3 Step through the wizard, providing all information required. For details about the information required on each page, click **Help**.

- 4 When you reach the Summary page, review your upgrade choices, and click **Migrate** to migrate your subscriptions.

Upgrading Enterprise Manager and Intelligence Server statistics tables

A MicroStrategy Enterprise Manager environment includes the statistics tables, the Enterprise Manager repository, and the Enterprise Manager project metadata. Each part of this environment needs to be upgraded.



If you do not need to keep historical Enterprise Manager warehouse data, rather than upgrading it you can simply create a new Enterprise Manager repository, following the instructions in the *Operations Manager Guide*.

The statistics tables and Enterprise Manager repository can be upgraded at the same time, using one of the approaches below:

- **Complete Upgrade:** All the Intelligence Servers that are monitored by Enterprise Manager, and the Enterprise Manager statistics tables and repository, are upgraded at the same time.

For high-level steps to perform a complete upgrade to Enterprise Manager, see [Complete upgrade of Enterprise Manager statistics and repository, page 62](#).

- **Phased Upgrade:** The Intelligence Servers are upgraded in phases, and both 9.x and 10.x Intelligence Servers must be maintained. MicroStrategy Intelligence Server 10.x can log statistics to statistics tables in 9.x and 10.x formats; Intelligence Server 9.x can log statistics only to statistics tables in 9.x formats.

In this situation, the statistics tables and Enterprise Manager repository should be upgraded only after all the Intelligence Servers are upgraded.

For high-level steps to perform a phased upgrade to Enterprise Manager, see [Phased upgrade of Enterprise Manager statistics and repository, page 64](#).

Updating the Enterprise Manager project metadata must be done separately from upgrading the statistics tables and repository. The Enterprise Manager project should be updated after you have upgraded the statistics tables and repository. For detailed steps to update the Enterprise Manager project, see [Updating the Enterprise Manager project, page 68](#).

Complete upgrade of Enterprise Manager statistics and repository

In a complete upgrade, you upgrade all Intelligence Servers, all projects, and Enterprise Manager to the latest version simultaneously. This is the simplest method of upgrading your MicroStrategy environment.

Prerequisites

- Create backups of `EM_WH.mdb`, `EM_Proj_MD.mdb`, and the `*.sql` files. These files are overwritten when you install a newer version of MicroStrategy Enterprise Manager over your previous version.

High-level steps for a complete upgrade of Enterprise Manager

- 1 Close all user connections, to ensure that no session activity exists on the Intelligence Servers being monitored by Enterprise Manager.
- 2 Using Operations Manager, run an Enterprise Manager data load. Make sure the **Close orphan sessions** option is selected. This data load ensures that the statistics tables are completely up to date and that all open Intelligence Server sessions are closed.



If you do not run a data load before upgrading Enterprise Manager and the projects on the Intelligence Servers, you may lose access to some statistics data.

- 3 Upgrade all the Intelligence Servers that are being monitored by Enterprise Manager to the latest version through Configuration Wizard.
- 4 Update all projects on those Intelligence Servers to the latest version through Configuration Wizard.
- 5 Shut down all Intelligence Servers that are being monitored by Enterprise Manager.
- 6 Upgrade Enterprise Manager to the latest version.

When you install a newer version of MicroStrategy Enterprise Manager over your previous version, a dialog box notifies you that the Enterprise Manager project will be overwritten. The message refers only to the files `EM_WH.mdb`, `EM_Proj_MD.mdb`, and the `*.sql` files; the MicroStrategy Enterprise Manager repository and metadata databases are not affected by the upgrade.

- 7 Create a backup of the statistics tables and the Enterprise Manager repository. These should be stored in the same database.
- 8 Upgrade the statistics tables and Enterprise Manager repository, as described below:
 - a From the **Start** menu, point to **All Programs**, then **MicroStrategy Tools**, then select **Configuration Wizard**. The Configuration Wizard opens.
 - b Select **Upgrade existing environment to MicroStrategy 10**, and click **Next**.
 - c Select **Statistics & Enterprise Manager Repository**, and click **Next**. The Upgrade Statistics & Enterprise Manager tables page opens.
 - d Provide the following information:
 - **DSN**: Select the DSN for your statistics repository. If a DSN for your statistics repository does not exist, you can click **New** to open the MicroStrategy Connectivity Wizard and create a new DSN.
 - **User Name**: Type the database user name for the user that can connect to the statistics data source.
 - **Password**: Type the password for the user that can connect to the statistics data source.
 - e Click **Next**. The Summary page opens.
 - f Review the summary information.

You can click **Save** to save the configuration as a response (.ini) file to upgrade your statistics tables and Enterprise Manager repository on other systems or to run silent configurations later. For information on running Configuration Wizard with a response file, see [Using a response file with Configuration Wizard, page 35](#).
 - g Click **Finish** to begin the upgrade. The summary information is updated as the configuration tasks are completed, providing a way to track the progress of the upgrade.
- 9 (Optional) Execute the appropriate DML scripts against the statistics tables and the Enterprise Manager repository. If the DML upgrade is not performed, Enterprise Manager may not be able to report on statistics collected under a previous version of Enterprise Manager. The steps to complete this process are described in [Updating your pre-upgrade statistics data, page 66](#).

- 10 Restart all the Intelligence Servers.
- 11 Using Operations Manager, run an Enterprise Manager data load. This data load populates the new Enterprise Manager repository tables.
- 12 Upgrade the Enterprise Manager project. For instructions, see [Updating the Enterprise Manager project](#), page 68.

Phased upgrade of Enterprise Manager statistics and repository

A phased upgrade refers to an environment with several Intelligence Servers, some running MicroStrategy 10 and some running an earlier version. This occurs when users need to upgrade their MicroStrategy system in phases. For example, you may want to ensure that if any problems arise with the upgrade process, your system is still functional.

In a phased environment, Enterprise Manager should not be upgraded to the latest version until after all monitored Intelligence Servers have been upgraded to the latest version.

Prerequisites

- Create backups of `EM_WH.mdb`, `EM_Proj_MD.mdb`, and the `*.sql` files. These files are overwritten when you install a newer version of MicroStrategy Enterprise Manager over your previous version.

High-level steps for a phased upgrade of Enterprise Manager

This procedure assumes that you have two Intelligence Servers, S1 and S2.

- 1 Upgrade S1 to the latest version of MicroStrategy.



Do not update the projects associated with this Intelligence Server. If the projects are updated, Enterprise Manager will no longer be able to load statistics for them.

- 2 Upgrade S2 to the latest version of MicroStrategy.



Do not update the projects associated with this Intelligence Server. If the projects are updated, Enterprise Manager will no longer be able to load statistics for them.

- 3 Close all user connections, to ensure that no session activity exists on the Intelligence Servers being monitored by Enterprise Manager.
- 4 Using Operations Manager, run an Enterprise Manager data load. Make sure the **Close orphan sessions** option is selected. This data load ensures that the statistics tables are completely up to date and that all open Intelligence Server sessions are closed.



If you do not run a data load before upgrading Enterprise Manager and the projects on these Intelligence Servers, you may lose access to some statistics data.

- 5 Shut down all the Intelligence Servers that are being monitored by Enterprise Manager.
- 6 Upgrade Operations Manager and Enterprise Manager to the latest version.

When you install a newer version of MicroStrategy Enterprise Manager over your previous version, a dialog box notifies you that the Enterprise Manager project will be overwritten. The message refers only to the files `EM_WH.mdb`, `EM_Proj_MD.mdb`, and the `*.sql` files; the MicroStrategy Enterprise Manager repository and metadata databases are not affected by the upgrade.

- 7 Create a backup of the statistics tables and the Enterprise Manager repository. These should be stored in the same database
- 8 Upgrade the statistics tables and Enterprise Manager repository, as described below:
 - a From the **Start** menu, point to **All Programs**, then **MicroStrategy Tools**, then select **Configuration Wizard**. The Configuration Wizard opens.
 - b Select **Upgrade existing environment to MicroStrategy 10**, and click **Next**.
 - c Select **Statistics & Enterprise Manager Repository**, and click **Next**. The Upgrade Statistics & Enterprise Manager tables page opens.
 - d Provide the following information:
 - **DSN**: Select the DSN for your statistics repository. If a DSN for your statistics repository does not exist, you can click **New** to open the MicroStrategy Connectivity Wizard and create a new DSN.

- **User Name:** Type the database user name for the user that can connect to the statistics data source.
 - **Password:** Type the password for the user that can connect to the statistics data source.
 - e Click **Next**. The Summary page opens.
 - f Review the summary information.

You can click **Save** to save the configuration as a response (.ini) file to upgrade your statistics tables and Enterprise Manager repository on other systems or to run silent configurations at a later time. For information on running Configuration Wizard with a response file, see [Using a response file with Configuration Wizard, page 35](#).
 - g Click **Finish** to begin the upgrade. The summary information is updated as the configuration tasks are completed, providing a way to track the progress of the upgrade.
- 9 (Optional) Execute the appropriate DML scripts against the statistics tables and the Enterprise Manager repository. If the DML upgrade is not performed, Enterprise Manager may not be able to report on statistics collected under a previous version of Enterprise Manager. The steps to complete this process are described in [Updating your pre-upgrade statistics data, page 66](#).
- 10 Restart both Intelligence Servers.
- 11 Using Operations Manager, run an Enterprise Manager data load. This data load populates the new Enterprise Manager repository tables.
- 12 Upgrade the Enterprise Manager project. For instructions, see [Updating the Enterprise Manager project, page 68](#).

Updating your pre-upgrade statistics data

You can update statistics data that was collected before the upgrade to enable reporting against this data in the newest version of MicroStrategy. You must execute data manipulation scripts against the statistics and Enterprise Manager repository to populate the new columns with data that was collected in the previous format.

Prerequisites

- You must upgrade your statistics and Enterprise Manager repository using the MicroStrategy Configuration Wizard. You can complete this upgrade using one of the following techniques:
 - [Complete upgrade of Enterprise Manager statistics and repository, page 62](#)
 - [Phased upgrade of Enterprise Manager statistics and repository, page 64](#)
- Ensure that only the most recent and relevant data is kept and remove all unnecessary data from the statistics tables. Reducing the amount of data that is updated improves the overall performance.
- Ensure that all Intelligence Servers that log data to the statistics tables are shut down.
- Ensure that an Enterprise Manager data load is not scheduled for a time that coincides with the execution of the DML script.
- For the best performance, perform this update when the load on the database server is low.
- Create backups of your statistics and Enterprise Manager repository.

To update your pre-upgrade statistics data

- 1 Locate the required script to update your statistics database. These scripts are stored in the following directory in the MicroStrategy Common Files for an installation:

`\StatisticsEnterpriseManagerScripts\DMLScripts`
- 2 Determine the required script for your statistics database. The scripts that begin with `statistics_upgrade_` are used to upgrade the statistics database. These scripts also include the database name, such as Teradata, to indicate which script to use depending on the database that is used to store your statistics database. For Oracle databases, separate scripts are provided for partitioned and non-partitioned databases.
- 3 Execute the scripts against your statistics database. You can use the MicroStrategy DB Query Tool to execute these scripts.

Depending on the amount of data that you are updating, processing the script can take significant time and resources. While you can execute the entire script from start to finish, each script is separated into sections that

can be executed separately. These sections are separated by comment lines that mark the beginning and the end of the transaction.



While these separate sections can be executed individually, you still must do them in the top to bottom order that is provided in the script.

- 4 Once the statistics database is completely updated, locate the required script to update your Enterprise Manager repository. These scripts are stored in the same location as the scripts to update your statistics database.
- 5 Determine the required script for your statistics database. The scripts that begin with `em_wh_upgrade_` are used to upgrade the statistics database. These scripts also include the database name, such as Sybase, to indicate which script to use depending on the database that is used to store your statistics database.
- 6 Execute the scripts against your Enterprise Manager database. You can use the MicroStrategy DB Query Tool to execute these scripts.

Depending on the amount of data that you are updating, processing the script can take significant time and resources. While you can execute the entire script from start to finish, each script is separated into sections that can be executed separately. These sections are separated by comment lines that mark the beginning and the end of the transaction.



While these separate sections can be executed individually, you still must do them in the top to bottom order that is provided in the script.

Your statistics data is now updated and ready to report on you upgraded MicroStrategy environment.

Updating the Enterprise Manager project

After you have upgraded your statistics database and Enterprise Manager repository and performed a data load, you must update the Enterprise Manager project. This gives you access to the new reports and metrics included in Enterprise Manager.

MicroStrategy 10 includes major enhancements and updates to the Enterprise Manager project. As a result, older versions of Enterprise Manager projects cannot be used with MicroStrategy 10. However, when

upgrading your Enterprise Manager project, your customized Enterprise Manager reports or other objects may be retained.

Prerequisites

- To retain customizations created in previous Enterprise Manager projects, make separate copies of these customized copies of the out-of-the-box objects, or as brand new objects. Any modifications you made to the out-of-the-box objects for an Enterprise Manager project are replaced as part of the upgrade process.
- If you do not upgrade your statistics data within the statistics tables and the repository, Enterprise Manager cannot use the new reporting features on statistics collected before upgrading to MicroStrategy 10. For steps to complete this upgrade, see [Updating your pre-upgrade statistics data, page 66](#).

To upgrade your Enterprise Manager project

- 1 Use the Project Duplication Wizard to make a backup of your existing Enterprise Manager project. For detailed information about using Project Duplication, see the *Managing Your Projects* chapter of the *MicroStrategy System Administration Guide*.
- 2 From the **Start** menu, point to **All Programs**, then **MicroStrategy Tools**, then select **Configuration Wizard**. The Configuration Wizard opens.
- 3 Select **Upgrade existing environment to MicroStrategy 10**, and click **Next**.
- 4 Select **Upgrade Enterprise Manager Project**, and click **Next**. The Enterprise Manager Project Upgrade page opens.
- 5 Provide the following information:
 - **User Name:** Type the MicroStrategy user name that can access and administer the Enterprise Manager project.
 - **Password:** Type the password for the MicroStrategy user that can access and administer the Enterprise Manager project.
 - If you have an Enterprise Manager project package file (.mmp) to use instead of the default file, click **Advanced >>**. For the **Package location** field, click ... (the Browse button) to navigate to and select the package file.

- 6 Click **Next**. The Enterprise Manager Repository page opens.
- 7 Provide the following information:
 - **DSN:** Select the data source name for your statistics repository. If a DSN for your statistics repository does not exist, you can click New to open the MicroStrategy Connectivity Wizard and create a new DSN.
 - **User Name:** Type the database user name for the user that can connect to the statistics data source.
 - **Password:** Type the password for the user that can connect to the statistics data source.
- 8 Click **Next**. The Summary page opens.
- 9 Review the summary information.

You can click **Save** to save the configuration as a response (.ini) file to upgrade your Enterprise Manager projects on other systems or to run silent configurations at a later time. For information on running the Configuration Wizard with a response file, see [Using a response file with Configuration Wizard, page 35](#).
- 10 Click **Finish** to upgrade your Enterprise Manager project. The summary information is updated as the configuration tasks are completed, providing a way to track the progress of the upgrade.

TESTING THE UPGRADE

Introduction

It is essential that you fully test your new MicroStrategy system to see how it withstands the kind of typical day-to-day system usage your user community requires. If you have upgraded first in a test environment, you can run these tests in the test environment and correct any problems you may find there. Then when you upgrade your production environment, you already have an idea of the kinds of difficulties you may encounter. For information about setting up an upgrade test environment, see [Configuring an upgrade test environment, page 14](#).

During the test, make sure you are satisfied with the status and efficiency of your MicroStrategy system. If you need help, see the *MicroStrategy Readme* or contact MicroStrategy Technical Support.

This chapter has the following sections:

- [Functional testing, page 72](#)
- [Integrity testing, page 76](#)
- [Performance testing, page 78](#)
- [Resolving problems encountered during the upgrade, page 80](#)

Functional testing

Functional testing verifies that functionality from the previous MicroStrategy version remains the same or improves after an upgrade to a new version. This includes various administrative tasks, as well as viewing, manipulating, and designing reports and documents.



Before performing these tests, be sure to familiarize yourself with the items in *Impact of the upgrade, page 2*.

Administrative testing

Once your upgrade is complete, you should perform some initial administrative tests. These tests should be executed by MicroStrategy administrators. They ensure that all functional areas of the product are ready for further testing by end users. Functional tests can identify regression issues with respect to metadata configuration, verify that the new product licenses do not present unexpected restrictions, ensure that all privileges are configured correctly, and verify that the data warehouses can be queried.

The checklist below provides some of the most common administrative regression test cases. It is not intended as a comprehensive test suite; rather, it is a sample for you to use in creating your own administrative tests.

Test number	Test	OK?
1	Metadata configuration	
1.1	Were Intelligence Server's startup options preserved? You can check Intelligence Server's startup options in Service Manager.	
1.2	Were Intelligence Server property settings preserved? Server property settings can be retrieved in bulk with Command Manager.	
1.3	Were project property settings preserved? Project property settings can be retrieved in bulk with Command Manager.	
1.4	Were VLDB properties preserved? In the VLDB Properties dialog box, use the Export VLDB Properties to Excel option to generate a list of VLDB properties.	
2	System administration	
2.1	Can projects be loaded and unloaded?	
2.2	Are all cluster nodes present?	

Test number	Test	OK?
2.3	Are the cluster nodes load balancing properly?	
2.4	Are scheduled maintenance tasks still scheduled?	
2.5	Are report and document caches present?	
2.6	Is change journaling enabled and functioning?	
3	Configuration managers	
3.1	Are all database instances present?	
3.2	Are all database instances properly configured?	
3.3	Are all schedules present, including those migrated from Narrowcast Server?	
3.4	Are all events present, including those migrated from Narrowcast Server?	
3.5	Are all security roles present?	
3.6	Are all security roles properly configured?	
3.7	Are all languages present?	
3.8	Are all subscriptions present, including those migrated from Narrowcast Server?	
3.9	Were History List and Cache Update schedules migrated to subscriptions?	
4	Delivery managers	
4.1	Are all transmitters present, including those migrated from Narrowcast Server?	
4.2	Are all devices present, including those migrated from Narrowcast Server?	
4.3	Are all contacts present, including those migrated from Narrowcast Server?	
5	Users and security	
5.1	Are all users and user groups present?	
5.2	Are the ACLs for users and groups correct?	
5.3	Can users and groups be added, modified, and deleted?	
5.4	Are changes to users and groups synchronized across all nodes in the cluster?	
5.5	If NT authentication is enabled, does it work correctly?	
5.6	If LDAP authentication is enabled, does it work correctly?	
5.7	If LDAP synchronization is enabled, does it work correctly at user login?	
5.8	If LDAP synchronization is enabled, does it work correctly in batches for users and groups?	
5.9	If a third-party authentication method (such as Tivoli or SiteMinder) is enabled, does it work correctly?	

Test number	Test	OK?
6	MicroStrategy Web	
6.1	Can you connect to MicroStrategy Web?	
6.2	Does the MicroStrategy Web authentication method used work?	
6.3	Do report and document designers have privileges for new features?	
6.4	Are your MicroStrategy Web customizations present?	
7	Narrowcast Server	
7.1	Do Narrowcast Services run?	
8	Statistics and Enterprise Manager	
8.1	Are Intelligence Server statistics being logged correctly?	
8.2	Can the Enterprise Manager data load run?	
8.3	Do Enterprise Manager reports run correctly?	
9	Intelligence Server clustering	
9.1	Are caches being shared between nodes?	
9.2	Are History List messages being shared between nodes?	
9.3	Are new objects available on all nodes?	
9.4	Do administrative tasks such as deleting caches affect all nodes?	
9.5	Are subscriptions load balanced across all servers? Note: History List and Distribution Services (email, file, FTP, print) subscriptions are load balanced by job, not by user.	
10	Subscriptions	
10.1	Can you create and modify Distribution Services (email, file, FTP, print) subscriptions in MicroStrategy Web?	
10.2	Can you create and modify cache update and History List subscriptions in Developer?	
10.3	Can you run event-triggered subscriptions?	
10.4	Can you run time-triggered subscriptions?	
10.5	Are subscribed reports formatted correctly when delivered?	
11	Architect (execute with Architect user)	
11.1	Can you open Architect?	
11.2	Can you create, modify, and delete an attribute?	
11.3	Can you create, modify, and delete a fact?	

Test number	Test	OK?
11.4	Can you create, modify, and delete a hierarchy?	
11.5	In the Warehouse Catalog, are all settings migrated, including prefixes?	
11.6	In the Warehouse Catalog, are all tables, columns, and data types recognized?	
11.7	Does the Schema Update run?	
12	Application objects (execute with Architect user)	
12.1	Can you create, modify, and delete a filter in Developer?	
12.2	Can you create, modify, and delete a filter in MicroStrategy Web?	
12.3	Can you create, modify, and delete a metric in Developer?	
12.4	Can you create, modify, and delete a metric in MicroStrategy Web?	
12.5	Can you create, modify, and delete a prompt in Developer?	
12.6	Can you create, modify, and delete a prompt in MicroStrategy Web?	
12.7	Can you create, modify, and delete a custom group in Developer?	
12.8	Can you create, modify, and delete a consolidation in Developer?	
12.9	Can you create, modify, and delete a report in Developer?	
12.10	Can you create, modify, and delete a report in MicroStrategy Web?	
12.11	Can you create, modify, and delete a document in Developer?	
12.12	Can you create, modify, and delete a document in MicroStrategy Web?	

End user testing

End users are the best source of day-to-day use cases for your MicroStrategy system. Because they are able to create accurate real-world testing conditions, end users must dedicate time to executing their test cases and report any unexpected behaviors. The functional end user testing period may encompass a few days or several weeks, depending on the size of your MicroStrategy system.

Some examples of the types of problems encountered by end users include:

- Formatting differences in documents and reports
- Configuration changes to default settings
- Training needed for new features

Integrity testing

After upgrading your system, you should ensure that the changes involved do not alter any of your report results. MicroStrategy Integrity Manager is designed to execute reports and documents from a project, note whether or not they execute, view their results, and compare them against reports and documents from another project.

For detailed information about Integrity Manager, including instructions, see the *Integrity Manager* chapter in the *MicroStrategy System Administration Guide*.

Best practices for integrity testing

MicroStrategy recommends the following best practices when testing your upgrade with Integrity Manager:

- Create an integrity test comparing reports from the upgraded test environment with the same reports in the production environment, so that you can easily see where any differences are.
- Execute the tests against the production data warehouse. If this is not possible, test against a data warehouse that resembles the production data warehouse as closely as possible.
- Execute the tests under production users, groups, and security roles, instead of specially-created integrity test users and groups, so that the tests match the production environment as closely as possible.
- Use prompt answers that are used in the production environment.
- If you are upgrading from MicroStrategy 9.0 or later, use default personal prompt answers for prompts.

Selecting the reports to test

Ideally you can execute an integrity test on all reports and documents in your system. This gives you complete coverage of your system and ensures that none of your reports have any significant differences.

Depending on the size and number of your reports, you may not be able to test them all. You can use several ways reduce the number of reports to test while still conducting a satisfactory integrity test. These are described below.

Using SQL verification

One possibility is to execute a SQL-only integrity test for all reports and documents. Then execute a data test for any reports whose SQL does not match. This approach reduces the time needed for the integrity test and still covers all the reports and documents. It can be used in combination with any of these methods of integrity testing.

Creating reports specifically for the integrity test

Another approach is to create reports and documents for the integrity test. These reports are based on your integrity testing requirements. The reports are usually created by administrators or power users who are familiar with your system and your business requirements.

Requirements for these reports often include:

- Coverage of most production areas (such as finance, freight, or human resources)
- A minimum number of rows per report
- Default prompt answers

Testing a subset of reports

You may only be able to test a subset of the reports and documents in your system. In this case, you should make sure that the reports and documents that you test are representative of your system's usage as a whole. You can use Enterprise Manager to help you determine what reports, documents, metrics, and attributes are most used.

For information on using Enterprise Manager, including what reports are included with it, see the *Enterprise Manager* chapter in the *MicroStrategy Operations Manager Guide*.

Performance testing

Performance testing verifies that the response time, resource usage, and throughput in your environment meet the expectations of your end users. In the context of an upgrade scenario, the goal of performance testing is to verify that the system's performance is maintained or improved by the upgrade.

During a performance test, you should ensure that memory and CPU usage are within acceptable ranges.

There are three different kinds of performance tests:

- **Load tests** verify that the system is stable under normal usage conditions.
- **Stress tests** verify that the system is stable under high usage conditions.
- **Capacity tests** help determine the maximum workload the system can support while still meeting performance expectations.

You can execute performance tests on your system in several different ways, as discussed below:

- *[Integrity Manager, page 78](#)*
- *[Scheduled report tests, page 79](#)*
- *[All-hands test, page 79](#)*
- *[Third-party test tools, page 79](#)*

Integrity Manager

You can use Integrity Manager to automate your performance testing. Integrity Manager can record how long it takes to execute a report or document. It can also execute the reports or documents multiple times in the same test and record the time for each execution cycle to give you a better idea of the average Intelligence Server performance time.

A single instance of Integrity Manager can execute a performance test that duplicates the effect of a user running multiple reports. This is suitable for load testing. If you are performing stress testing or capacity testing, you may need to distribute the load among multiple user sessions. To do this, you

must run several instances of Integrity Manager, each executing a performance test.

Scheduled report tests

If your system includes Distribution Services or Narrowcast Server, you can schedule reports and documents to execute at specified times. These scheduled executions can use up to half of Intelligence Server's resources and, thus, are usually scheduled to run at off-peak times.



For email deliveries, ensure that the appropriate Transmitter object definition is configured so that users are not disrupted by test emails. All emails delivered as part of a test should be delivered to files.

The advantages of this type of test are that it is relatively easy to configure, and it simulates a production workload. However, it tests only Intelligence Server, not MicroStrategy Web. As such, it may offer an incomplete picture of your system's performance.

All-hands test

An all-hands test consists of many users logging into the test system at the same time and performing the actions they normally perform in the production environment, such as creating, manipulating, and executing reports and documents. The test should last for at least an hour to put a proper stress on the system.

An all-hands test has the advantage of doubling as a business acceptance test because it allows end users to provide feedback on the system's performance. It also provides an accurate test because the users are performing normal user actions. However, it requires a great deal of communication with the end users throughout the process, and a realistic load on the server depends on a high level of end user participation.

Third-party test tools

Specialized third-party test tools—such as Borland SilkPerformer, HP LoadRunner, or Apache JMeter—can be used to automate the performance testing process. These tools generally require recording a set of user actions. These actions are then parameterized and automatically executed multiple

times, simulating user actions and generating load on Intelligence Server and MicroStrategy Web.

For information about these third-party test tools, see their respective documentation.

Resolving problems encountered during the upgrade

The *MicroStrategy Readme* contains troubleshooting scenarios aimed to assist you during or after an upgrade to the latest version of MicroStrategy. If you encounter an issue not covered in the *MicroStrategy Readme* or by the suggestions below, contact MicroStrategy Technical Support for additional assistance.

- Make sure you have met the system requirements and other prerequisites for the current version of MicroStrategy, as noted in [Reviewing upgrade prerequisites, page 11](#).
- Be aware of the level of interoperability between the current version of MicroStrategy and the version you are upgrading from, as noted in [Client/server interoperability, page 2](#).
- Any errors in the upgrade process are likely to be written to the installation log file, `install.log`. This file is in the directory that you specify as the installation directory during the upgrade.
- When you use the Configuration Wizard to add tables to the metadata or update your projects, each SQL statement that is executed is logged to the Configuration Wizard log file, `MACfgWiz.xml`. This log file is in the Log subfolder of the main MicroStrategy directory. You can analyze the log file using a third-party log viewer, such as the Apache Chainsaw log viewer, which can be downloaded from <http://logging.apache.org/chainsaw/index.html>.
- If MicroStrategy Web users encounter errors after you upgrade MicroStrategy Web, you may need to clear your application and web server caches, or your users may need to clear their browser caches. For instructions on how to clear these caches, see the documentation for your web server, application server, and web browser.
- MicroStrategy recommends upgrading to the latest version without uninstalling the previous version of MicroStrategy. However, in rare situations, issues may be encountered as a result of an in-place upgrade.

In these situations, you may need to uninstall your existing MicroStrategy installation before installing the new version.



If you choose to uninstall the previous version of MicroStrategy, make sure you back up your metadata before uninstalling. Uninstalling MicroStrategy also deletes your metadata.

AFTER THE UPGRADE

Introduction

After installing, configuring, and testing your MicroStrategy system, perform the post-upgrade procedures outlined in this chapter to fully prepare and optimize your upgraded MicroStrategy system for the production environment.

This chapter includes the following sections:

- *Verifying your licenses and activating your installation, page 84*
- *Checking and assigning privileges, page 84*
- *Completing the upgrade process, page 86*
- *Migrating Intelligence Server from Windows to UNIX or Linux, page 86*

Verifying your licenses and activating your installation

After upgrading to the latest version of MicroStrategy, verify your product licenses to ensure you are in compliance with your licensing agreements with MicroStrategy. For information about using License Manager to perform a compliance check of your MicroStrategy system, see the *Managing your Licenses* chapter of the *MicroStrategy System Administration Guide*.

After updating your MicroStrategy system, you have a grace period of 30 calendar days to activate your installation. If you do not complete the activation before the grace period expires, your MicroStrategy product stops functioning until you activate it. For more information about MicroStrategy activation, see the *MicroStrategy Installation and Configuration Guide* and the installation Help. For information about License Manager, see the License Manager Help (from within License Manager, press **F1**).

Checking and assigning privileges

It is essential you take the time to assign and make changes to the many user permissions that affect your MicroStrategy system. Review the following for a list of privileges you should manually assign to users after upgrading MicroStrategy.

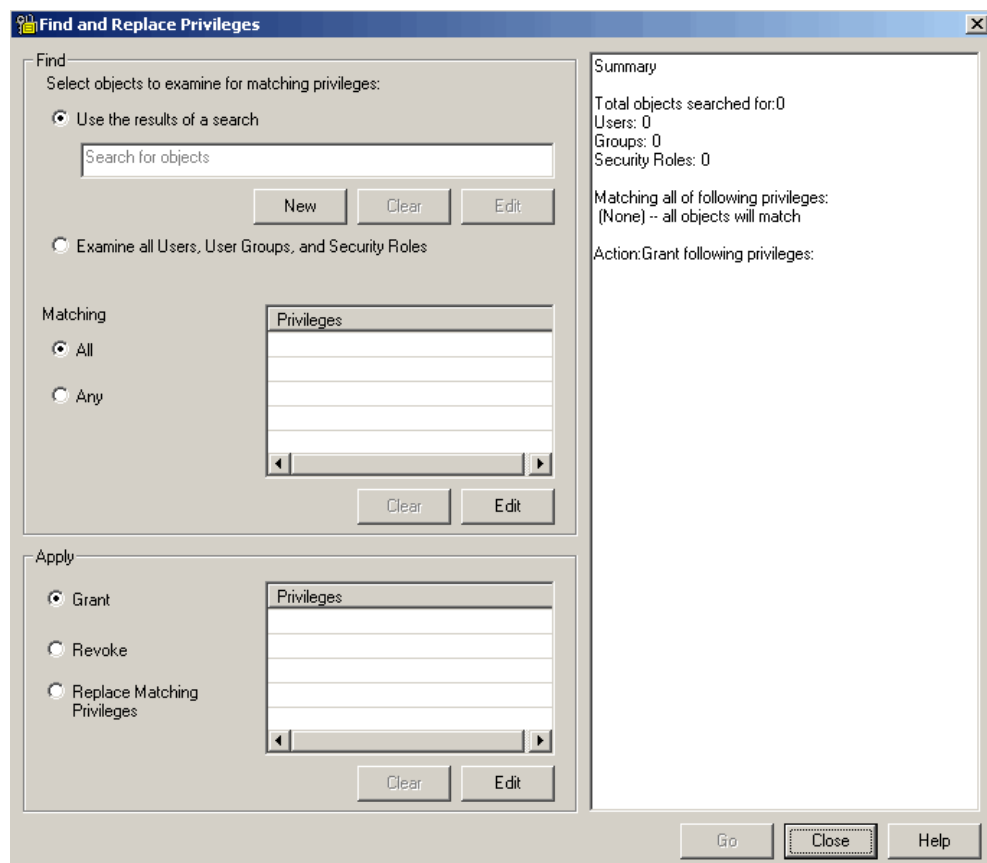
- If you have previously made any modifications to the out-of-the-box user groups or security roles, check to make sure that your modifications have not been overwritten.
- Ensure that all Developer users are granted the Use Developer privilege, in the Analyst privilege group. A user who does not have this privilege receives an error message when the user attempts to connect to a project.
- Ensure that the Create New Folder privilege, in the Common Privileges privilege group, is granted to any users that need to create folders in Developer or in MicroStrategy Web.
- Verify the access control lists (ACLs) for folders such as the Public Objects and Schema Objects and make appropriate changes if necessary.
- Certain new features may require you to assign additional privileges to users. Refer to the appropriate product documentation to learn about the

feature, and the *MicroStrategy System Administration Guide* for details about any associated privileges.

MicroStrategy 9.0 introduced several new privileges, and some user tasks that previously required only one privilege may now require more than one. You can determine which users have been affected by the changes in privileges in the latest version of MicroStrategy by using the Find and Replace Privileges dialog box, as described in the procedure below.

To access the Find and Replace Privileges dialog box

- 1 In Developer, log in to a project source as an administrator.
- 2 From the **Administration** menu, point to **User Management**, and select **Find and Replace Privileges**. The Find and Replace Privileges dialog box opens, as shown below:



For instructions on how to use the Find and Replace Privileges dialog box, see the *MicroStrategy Developer Help*.

Completing the upgrade process

Once the upgrade process is complete, you should tune and optimize your MicroStrategy system for performance and stability reasons. For information about administering, maintaining, and optimizing your MicroStrategy system and projects, see the *Tuning* chapter of the *MicroStrategy System Administration Guide*.

Accessing MicroStrategy documentation

The MicroStrategy documentation suite provides a wide range of product information related to various aspects of your MicroStrategy system. To access MicroStrategy documentation, from the **Start** menu, point to **All Programs**, then **MicroStrategy Tools**, and then select **Product Manuals**.

Migrating Intelligence Server from Windows to UNIX or Linux

If you are installing MicroStrategy Intelligence Server Universal on UNIX or Linux, and you previously had Intelligence Server installed on a Windows platform, it is strongly recommended that you modify several Intelligence Server and project settings in your newly installed Developer. Adjusting these settings allows Intelligence Server Universal and the rest of the MicroStrategy platform to better use your 64-bit UNIX or Linux operating system's resources. The adjustments also allow your system to better mirror the performance you achieved with your Windows configuration. Your MicroStrategy projects are therefore optimized for Intelligence Server on UNIX or Linux.

Repeat the steps in the procedure below for every project connected to an Intelligence Server on UNIX or Linux.



For details about the settings discussed in the procedure below, see the *MicroStrategy Developer Help* (formerly the *MicroStrategy Desktop Help*).

To modify settings that govern Intelligence Server Universal and project performance

- 1 In Developer, right-click a project connected to an Intelligence Server Universal on UNIX or Linux, and select **Project Configuration**. The Project Configuration Editor is displayed.
- 2 Expand the **Caching** category, expand the **Result Caches** subcategory, and select **Storage**. Under Memory Storage, do the following:
 - Under Datasets, adjust the **Maximum RAM usage (MBytes)** setting so that it is at least double the size you used when Intelligence Server was installed on Windows.
 - Under Formatted Documents, adjust the **Maximum RAM usage (MBytes)** setting so that it is at least double the size you used when Intelligence Server was installed on Windows.
- 3 Expand the **Auxiliary Caches** subcategory and select **Objects**. Under Server, adjust the **Maximum RAM Usage (MBytes)** setting so that it is at least double the size that you used when Intelligence Server was installed on Windows.
- 4 Select the **Elements** subcategory. Under Server, adjust the **Maximum RAM usage (MBytes)** setting so that it is at least double the size that you used when Intelligence Server was installed on Windows.
- 5 Click **OK** to close the Project Configuration Editor.
- 6 Repeat the steps above for every project connected to an Intelligence Server on UNIX or Linux.
- 7 From the **Administration** menu, select **Server**, and then **Configure MicroStrategy Intelligence Server**. The Intelligence Server Configuration Editor is displayed.
- 8 Expand the **Governing Rules** category, expand **Default**, and then select **Working Set**. Adjust the **Maximum RAM for Working Set cache (MB)** setting so that it is at least double the size that you used when Intelligence Server was installed on Windows.
- 9 Select the **File Generation** subcategory under Governing Rules. Adjust only the following settings so that they are at least double the size that you used when Intelligence Server was installed on Windows.

- **Maximum memory consumption for XML (MB)**
- **Maximum memory consumption for PDF files (MB)**
- **Maximum memory consumption for Excel files (MB)**

As with every production system, additional monitoring and analysis is necessary for fine-tuning and optimizing your system. For information about administering, maintaining, and optimizing your MicroStrategy system and projects, see the *Tuning* chapter of the *MicroStrategy System Administration Guide*.

Supporting fonts for documents, exported reports, and graphs

When Intelligence Server Universal is running on a UNIX or Linux platform, all fonts are converted to the Courier New font for:

- Reports exported to PDF format
- Report Services documents
- Graphs contained in HTML documents
- Graphs displayed in MicroStrategy Web

This occurs because the fonts required by the PDF component are missing from UNIX and Linux machines running Intelligence Server Universal. The missing fonts may include Microsoft True Type fonts.



MicroStrategy does not distribute or license Microsoft fonts and therefore cannot package Microsoft fonts with Intelligence Server Universal.

To resolve this issue, you must install the font files in the `PDFGeneratorFiles` folder in the MicroStrategy installation path on the UNIX or Linux machine, as described below.

To copy fonts to your UNIX or Linux machine

- 1 Log in to your UNIX or Linux machine that hosts Intelligence Server Universal.

- 2** Install the Microsoft True Type fonts. Refer to the following resources for information on licensing requirements for and installing Microsoft True Type fonts:
 - <http://www.microsoft.com/typography/RedistributionFAQ.msp>
 - http://www.ascendercorp.com/msfonts/msfonts_main.html
 - <http://corefonts.sourceforge.net/>
- 3** Copy the font files into the <INSTALL_PATH>/PDFGeneratorFiles directory, where <INSTALL_PATH> is the directory you specified as the MicroStrategy install directory during installation.
- 4** Restart the Intelligence Server to update the available fonts.

INDEX

Numerics

3-tier mode, upgrading metadata in [14](#)

A

activation [84](#)

administrative testing [72](#)

all-hands test [79](#)

automating performance testing with Integrity Manager [78](#)

B

backing up metadata [13](#)

best practices for upgrading [9](#)

C

clustered environment upgrade [9](#)

Configuration Wizard response file [35](#)

configuring MicroStrategy Intelligence Server [20](#)

D

data type, supported [13](#)

DB2 [27](#)

downgrading a metadata project [14](#)

E

end user testing [75](#)

Enterprise Manager environment
upgrade [61](#)

project [68](#)

repository [61](#)

statistics and repository [62, 64](#)

statistics tables [61](#)

F

features affecting upgrade [2](#)

functional testing [72](#)

H

History List database update [33](#)

I

installation prerequisites

UNIX and Linux

hardware requirements [11](#)

software requirements [11](#)

- Windows
 - hardware requirements [11](#)
 - software requirements [11](#)
- installing
 - activation [84](#)
 - MicroStrategy Developer [23](#)
 - MicroStrategy Intelligence Server [20](#)
 - MicroStrategy products in production environment [55](#)
 - MicroStrategy Universal products on UNIX and Linux [23](#)
- integrity testing [76](#)
 - best practices [76](#)
 - SQL verification [77](#)

L

- license activation [84](#)
- License Manager, using to verify licensing [84](#)
- Linux
 - memory settings [86](#)
 - migrating Intelligence Server from Windows to [86](#)
 - performance [86](#)

M

- memory setting, UNIX or Linux [86](#)
- metadata
 - backing up [13](#)
 - downgrading [14](#)
 - updating [14, 27](#)
 - prerequisites [26](#)
 - version [26](#)
- metadata project, downgrading [14](#)
- Microsoft Access [27](#)
- MicroStrategy Analytics Enterprise workflow changes [3](#)
- MicroStrategy Distribution Services

- testing scheduled reports [79](#)
- MicroStrategy Integrity Manager [76, 78](#)
- MicroStrategy Intelligence Server
 - configuring [20](#)
 - installing [20](#)
 - installing in production environment [34](#)
 - testing [34](#)
- MicroStrategy Narrowcast Server
 - testing scheduled reports [79](#)
 - upgrading [56](#)
- MicroStrategy Office upgrade through Web Services [56](#)
- MicroStrategy Report Services document execution setup [88](#)
- MicroStrategy Universal products installation on UNIX and Linux [23](#)
- migrating Intelligence Server from Windows to UNIX/Linux [86](#)
- Mobile configuration [57](#)

O

- ODBC connectivity [14](#)
- optimizing a MicroStrategy system [86](#)
- Oracle [27](#)

P

- performance testing [78](#)
 - all-hands [79](#)
 - automating [78](#)
 - capacity test [78](#)
 - Integrity Manager [78](#)
 - load test [78](#)
 - scheduled report test [79](#)
 - stress test [78](#)
 - third-party test tool [79](#)
- prerequisites
 - metadata database [27](#)

- metadata update [26](#)
- pre-upgrade procedures
 - clustered environment [9](#)
 - metadata backup [13](#)
 - supported data types [13](#)
 - upgrade prerequisites [11](#)
 - Web customization upgrade [59](#)
- product upgrade order for separate machines [56](#)
- production environment
 - installing MicroStrategy Intelligence Server [34](#)
 - installing MicroStrategy products [55](#)
- project
 - backing up [13](#)
 - downgrading [14](#)
 - optimizing [86](#)
 - updating [14](#)

R

- response file [35](#)
 - Configuration Wizard (UNIX) [37](#)
 - Configuration Wizard (Windows) [37](#)

S

- scheduled report test [79](#)
- setup for document execution for Report Services documents [88](#)
- SQL [80](#)
- SQL verification for an integrity test [77](#)
- support. See technical support.
- supported data type check [13](#)

T

- technical support [xxiii](#)
- testing
 - administrative [72](#)

- configuring an upgrade test environment [14](#)
- end user [75](#)
- integrity [76](#)
- MicroStrategy Developer [71](#)
- MicroStrategy Intelligence Server [34](#), [71](#)
- performance [78](#)
- product functionality [72](#)
- third-party performance test tool [79](#)
- troubleshooting [80](#)
- tuning
 - performance [86](#)
 - performance settings in UNIX or Linux [86](#)

U

- uninstalling previous version of MicroStrategy [21](#)
- UNIX
 - memory settings [86](#)
 - migrating Intelligence Server from Windows to [86](#)
 - performance [86](#)
- updating metadata project [14](#)
- upgrade prerequisites
 - database and driver requirements [12](#)
 - privileges [13](#)
 - supported data type check [13](#)
 - system sizing guidelines [12](#)
- upgrade process checklist [10](#)
- upgrade test environment [14](#)
 - best practices for configuration [15](#)
 - configuring [16](#)
- upgrading
 - basic stability testing [34](#)
 - best practices [9](#)
 - checklist [10](#)

- clustered environment [9](#)
- configuring an upgrade test environment [14](#)
- Enterprise Manager environment [61](#)
- installing and configuring a test server [20](#)
- installing in production environment [34](#)
- MicroStrategy Narrowcast Server [56](#)
- MicroStrategy Office [56](#)
- MicroStrategy Office through MicroStrategy Web Services [56](#)
- order for upgrading machines [56](#)
- testing [71](#)
- uninstalling previous version of MicroStrategy [21](#)
- updating the production metadata [25](#)
- Web customizations [59](#)
- upgrading metadata
 - using 3-tier connection [14](#)
 - using ODBC connection [14](#)
 - with Intelligence Server on UNIX or Linux [14](#)

V

- verifying licensing using License Manager [84](#)

W

- Web customization upgrade [59](#)