

MICROSTRATEGY
ANALYTICS ENTERPRISE

Document and Dashboard Analysis Guide

Version 9.5

To ensure that you are using the documentation that corresponds to the software you are licensed to use, compare this version number with the software version shown in "About MicroStrategy..." in the Help menu of your software.

Document number: 09590950

Copyright © 2015 by MicroStrategy Incorporated. All rights reserved.

If you have not executed a written or electronic agreement with MicroStrategy or any authorized MicroStrategy distributor, the following terms apply:

This software and documentation are the proprietary and confidential information of MicroStrategy Incorporated and may not be provided to any other person. Copyright © 2001-2015 by MicroStrategy Incorporated. All rights reserved.

THIS SOFTWARE AND DOCUMENTATION ARE PROVIDED "AS IS" AND WITHOUT EXPRESS OR LIMITED WARRANTY OF ANY KIND BY EITHER MICROSTRATEGY INCORPORATED OR ANYONE WHO HAS BEEN INVOLVED IN THE CREATION, PRODUCTION, OR DISTRIBUTION OF THE SOFTWARE OR DOCUMENTATION, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, GOOD TITLE AND NON-INFRINGEMENT, QUALITY OR ACCURACY. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE SOFTWARE AND DOCUMENTATION IS WITH YOU. SHOULD THE SOFTWARE OR DOCUMENTATION PROVE DEFECTIVE, YOU (AND NOT MICROSTRATEGY, INC. OR ANYONE ELSE WHO HAS BEEN INVOLVED WITH THE CREATION, PRODUCTION, OR DISTRIBUTION OF THE SOFTWARE OR DOCUMENTATION) ASSUME THE ENTIRE COST OF ALL NECESSARY SERVICING, REPAIR, OR CORRECTION. SOME STATES DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU.

In no event will MicroStrategy, Inc. or any other person involved with the creation, production, or distribution of the Software be liable to you on account of any claim for damage, including any lost profits, lost savings, or other special, incidental, consequential, or exemplary damages, including but not limited to any damages assessed against or paid by you to any third party, arising from the use, inability to use, quality, or performance of such Software and Documentation, even if MicroStrategy, Inc. or any such other person or entity has been advised of the possibility of such damages, or for the claim by any other party. In addition, MicroStrategy, Inc. or any other person involved in the creation, production, or distribution of the Software shall not be liable for any claim by you or any other party for damages arising from the use, inability to use, quality, or performance of such Software and Documentation, based upon principles of contract warranty, negligence, strict liability for the negligence of indemnity or contribution, the failure of any remedy to achieve its essential purpose, or otherwise. The entire liability of MicroStrategy, Inc. and your exclusive remedy shall not exceed, at the option of MicroStrategy, Inc., either a full refund of the price paid, or replacement of the Software. No oral or written information given out expands the liability of MicroStrategy, Inc. beyond that specified in the above limitation of liability. Some states do not allow the limitation or exclusion of liability for incidental or consequential damages, so the above limitation may not apply to you.

The information contained in this manual (the Documentation) and the Software are copyrighted and all rights are reserved by MicroStrategy, Inc. MicroStrategy, Inc. reserves the right to make periodic modifications to the Software or the Documentation without obligation to notify any person or entity of such revision. Copying, duplicating, selling, or otherwise distributing any part of the Software or Documentation without prior written consent of an authorized representative of MicroStrategy, Inc. are prohibited. U.S. Government Restricted Rights. It is acknowledged that the Software and Documentation were developed at private expense, that no part is public domain, and that the Software and Documentation are Commercial Computer Software provided with RESTRICTED RIGHTS under Federal Acquisition Regulations and agency supplements to them. Use, duplication, or disclosure by the U.S. Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFAR 252.227-7013 et. seq. or subparagraphs (c)(1) and (2) of the Commercial Computer Software—Restricted Rights at FAR 52.227-19, as applicable. Contractor is MicroStrategy, Inc., 1850 Towers Crescent Plaza, Tysons Corner, VA 22182. Rights are reserved under copyright laws of the United States with respect to unpublished portions of the Software.

The following are either trademarks or registered trademarks of MicroStrategy Incorporated in the United States and certain other countries: MicroStrategy, MicroStrategy 6, MicroStrategy 7, MicroStrategy 7i, MicroStrategy 7i Evaluation Edition, MicroStrategy 7i Olap Services, MicroStrategy 8, MicroStrategy 9, MicroStrategy Distribution Services, MicroStrategy MultiSource Option, MicroStrategy Command Manager, MicroStrategy Enterprise Manager, MicroStrategy Object Manager, MicroStrategy Reporting Suite, MicroStrategy Power User, MicroStrategy Analyst, MicroStrategy Consumer, MicroStrategy Email Delivery, MicroStrategy BI Author, MicroStrategy BI Modeler, MicroStrategy Evaluation Edition, MicroStrategy Administrator, MicroStrategy Agent, MicroStrategy Architect, MicroStrategy BI Developer Kit, MicroStrategy Broadcast Server, MicroStrategy Broadcaster, MicroStrategy Broadcaster Server, MicroStrategy Business Intelligence Platform, MicroStrategy Consulting, MicroStrategy CRM Applications, MicroStrategy Customer Analyzer, MicroStrategy Desktop, MicroStrategy Desktop Analyst, MicroStrategy Desktop Designer, MicroStrategy eCRM 7, MicroStrategy Education, MicroStrategy eTrainer, MicroStrategy Executive, MicroStrategy Infocenter, MicroStrategy Intelligence Server, MicroStrategy Intelligence Server Universal Edition, MicroStrategy MDX Adapter, MicroStrategy Narrowcast Server, MicroStrategy Objects, MicroStrategy OLAP Provider, MicroStrategy SDK, MicroStrategy Support, MicroStrategy Telecaster, MicroStrategy Transactor, MicroStrategy Web, MicroStrategy Web Business Analyzer, MicroStrategy World, Application Development and Sophisticated Analysis, Best In Business Intelligence, Centralized Application Management, Information Like Water, Intelligence Through Every Phone, Intelligence To Every Decision Maker, Intelligent E-Business, Personalized Intelligence Portal, Query Tone, Rapid Application Development, MicroStrategy Intelligent Cubes, The Foundation For Intelligent E-Business, The Integrated Business Intelligence Platform Built For The Enterprise, The Platform For Intelligent E-Business, The Scalable Business Intelligence Platform Built For The Internet, Office Intelligence, MicroStrategy Office, MicroStrategy Report Services, MicroStrategy Web MMT, MicroStrategy Web Services, Pixel Perfect, Pixel-Perfect, MicroStrategy Mobile, MicroStrategy Integrity Manager and MicroStrategy Data Mining Services are all registered trademarks or trademarks of MicroStrategy Incorporated.

All other company and product names may be trademarks of the respective companies with which they are associated. Specifications subject to change without notice. MicroStrategy is not responsible for errors or omissions. MicroStrategy makes no warranties or commitments concerning the availability of future products or versions that may be planned or under development.

Patent Information

This product is patented. One or more of the following patents may apply to the product sold herein: U.S. Patent Nos. 6,154,766, 6,173,310, 6,260,050, 6,263,051, 6,269,393, 6,279,033, 6,400,265, 6,567,796, 6,587,547, 6,606,596, 6,658,093, 6,658,432, 6,661,340, 6,662,195, 6,671,715, 6,691,100, 6,694,316, 6,697,808, 6,704,723, 6,741,980, 6,765,997, 6,768,788, 6,772,137, 6,788,768, 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, 6,940,953, 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, 7,113,993, 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, 7,486,780, 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, 8,051,168, 8,051,369, 8,094,788, 8,130,918, 8,296,287, 8,321,411, 8,452,755, 8,521,733, and 8,522,192. Other patent applications are pending.

Various MicroStrategy products contain the copyrighted technology of third parties. This product may contain one or more of the following copyrighted technologies:

Graph Generation Engine Copyright © 1998-2015. Three D Graphics, Inc. All rights reserved.

Actuate® Formula One. Copyright © 1993-2015 Actuate Corporation. All rights reserved.

XML parser Copyright © 2003-2015 Microsoft Corporation. All rights reserved.

Xalan XSLT processor. Copyright © 1999-2015. The Apache Software Foundation. All rights reserved.

Xerces XML parser. Copyright © 1999-2015. The Apache Software Foundation. All rights reserved.

FOP XSL formatting objects. Copyright © 2004-2015. The Apache Software Foundation. All rights reserved.

Portions of Intelligence Server memory management Copyright © 1991-2015 Compuware Corporation. All rights reserved.

ASISHTTPrequest library. Copyright © 2007-2015, All-Seeing Interactive. All rights reserved.

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (<http://www.openssl.org/>)

International Components for Unicode

Copyright © 1999-2015 Compaq Computer Corporation

Copyright © 1999-2015 Hewlett-Packard Company

Copyright © 1999-2015 IBM Corporation

Copyright © 1999-2015 Hummingbird Communications Ltd.

Copyright © 1999-2015 Silicon Graphics, Inc.

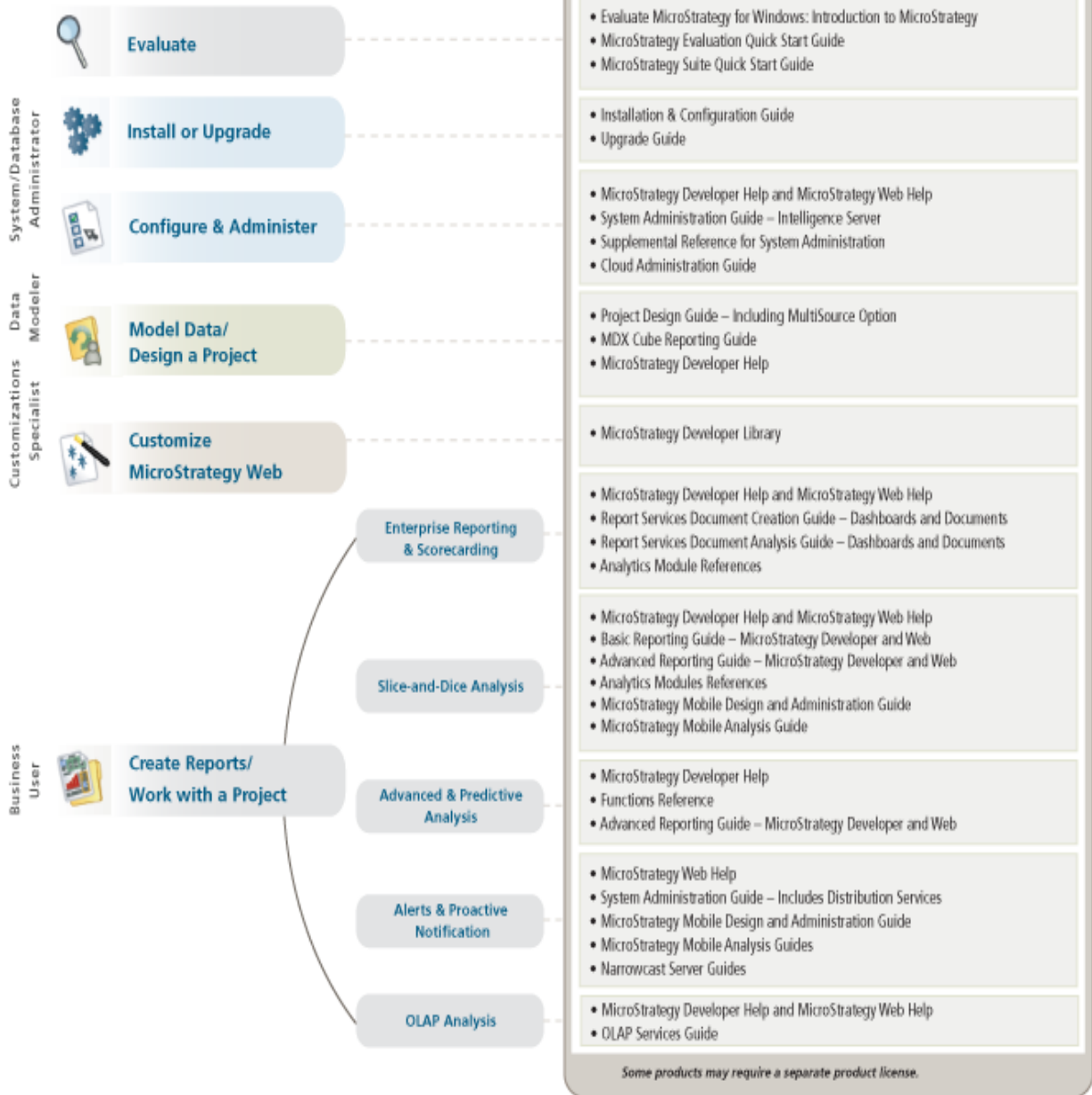
Copyright © 1999-2015 Sun Microsystems, Inc.

Copyright © 1999-2015 The Open Group

All rights reserved.

Real Player and RealJukebox are included under license from Real Networks, Inc. Copyright © 1999-2015. All rights reserved.

WHAT DO YOU WANT TO DO WITH MICROSTRATEGY?



CONTENTS

Book Overview and Additional Resources	Description of this guide..... ix
	About this bookx
	Additional formatsxi
	How to find business scenarios and examplesxi
	What's new in this guidexii
	Prerequisitesxii
	Who should use this guide..... xiii
	Resources..... xiv
	Documentation..... xiv
	Education xxiii
	Consulting xxiii
	International support xxiii
	Technical Support..... xxiv
	Feedback xxix
 1. Getting Started with Documents in Developer	 Introduction..... 1
	Scorecards and dashboards..... 2
	Managed metrics reports 4
	Production and operational reports..... 6
	Invoices and statements 8
	Business reports 10
 2. Analyzing Documents in Developer	 Introduction..... 13
	Opening and interacting with a document in PDF View..... 14
	Understanding the parts of a document..... 20

	Displaying data in the document.....	21
	How metrics are calculated in a document	21
	Hyperlinks	21
	Grouping documents to create pages of data	22
	Layouts	23
	Displaying reports on documents: Grid/Graphs	24
	Report Services (RS) dashboards	25
	Printing documents	26
	Previewing documents for MicroStrategy Web	27
	Scheduling documents	29
	Exporting documents	31
	Exporting a document to Excel	32
	Exporting a document to Flash	34
	Exporting a document to a PDF file	36
	Opening a document in a separate browser window:	
	Exporting a document to HTML	38
3. Analyzing Documents in MicroStrategy Web	Introduction.....	41
	Understanding the parts of an RS dashboard	42
	Opening and interacting with a document in MicroStrategy Web	70
	Analyzing a document in Express Mode.....	73
	Analyzing a document in Interactive Mode	75
	Analyzing a document in Flash Mode	77
	Flash analysis and interactivity: widgets.....	83
	Types of widgets	84
	Analyzing a Bubble Grid widget.....	87
	Analyzing a Cylinder widget.....	88
	Analyzing a Data Cloud widget.....	89
	Using a Date Selection widget.....	90
	Using a Fish Eye Selector.....	92
	Analyzing a Funnel widget.....	94
	Analyzing a Gauge widget	95
	Analyzing a Graph Matrix widget	96
	Analyzing a Heat Map widget	99
	Analyzing an Interactive Bubble Graph widget	107
	Analyzing an Interactive Stack Graph widget	109
	Analyzing a Map widget.....	111
	Viewing a Media widget	113
	Analyzing a Microcharts widget	115
	Analyzing an RSS Reader widget.....	120

	Analyzing a Thermometer widget	121
	Analyzing a Time Series Slider widget.....	122
	Analyzing a Waterfall widget.....	124
	Analyzing a Weighted List Viewer widget	125
	Exporting a document in MicroStrategy Web	126
	Exporting a Grid/Graph from a document.....	128
	Printing a document in MicroStrategy Web	130
	Adding documents to your History List	131
	Subscribing to documents using MicroStrategy Distribution Services	132
	Updating data using Transaction Services-enabled documents	143
4. Exploring Your Data with Visual Insight Dashboards	Introduction	147
	Visualizations in VI dashboards	148
	Analyzing data in a Density Map visualization	149
	Analyzing data in a Graph visualization	152
	Analyzing data in a Grid visualization	160
	Analyzing data in a Heat Map visualization	163
	Analyzing data in an Image Layout visualization	165
	Analyzing data in a Map visualization	168
	Analyzing data in a Network visualization.....	170
	Running and viewing VI dashboards	173
	Filtering data in a VI dashboard.....	177
	Grouping data on a VI dashboard.....	180
	Saving a VI dashboard	182
	Exporting a VI dashboard	183
	Exporting a visualization	184
	Emailing the VI dashboard.....	186
	Scheduling a VI dashboard to be sent to the History List	188
A. Troubleshooting Documents	Introduction	191
	Troubleshooting documents	191
	Troubleshooting common Flash Mode issues	193
	Glossary.....	197

Index..... 203

BOOK OVERVIEW AND ADDITIONAL RESOURCES

Description of this guide

The *Document and Dashboard Analysis Guide* describes the steps for a business analyst to execute and analyze a document in MicroStrategy Web and MicroStrategy Developer. It builds on basic concepts about reporting functionality presented in the *Basic Reporting Guide*.

Specifically, this guide provides the following information:

- [Chapter 1, Getting Started with Documents in Developer](#) provides sample documents to show you common scenarios that documents can address.
- [Chapter 2, Analyzing Documents in Developer](#) describes documents and the parts of documents, and shows you how to open, analyze data in, and interact with documents in MicroStrategy Developer.
- [Chapter 3, Analyzing Documents in MicroStrategy Web](#) describes Report Services (RS) dashboards and the parts of RS dashboards, and shows you to open, analyze data in, and interact with documents and RS dashboards in MicroStrategy Web. An RS dashboard is a customized, interactive display of data. RS dashboards can contain a broad selection of widgets and a wide variety of formatting.

- [Chapter 4, Exploring Your Data with Visual Insight Dashboards](#) describes Visual Insight (VI) dashboards, which are customized, interactive displays that you can use to explore your business data using easy-to-create visualizations. For example, you can sort and rearrange data in an interactive grid, perform manipulations on the data to display only the information that you are interested in, and display visual representations of the data in the VI dashboard to make the data easier to interpret.
- [Appendix A, Troubleshooting Documents](#) provides explanations of some of the most common issues you may encounter with documents, in a question and answer format.

Technical terms that need more clarification are defined in the glossary section of this guide.

About this book

This guide contains information on Report Services (RS) dashboards and Visual Insight (VI) dashboards. Both types of dashboards are interactive, visually intuitive displays of data. A special type of document, RS dashboards can contain a broad selection of widgets and a wide variety of formatting. VI dashboards are quick to create, and allow you to take advantage of Visual Insight's visualizations and pre-defined formatting options to quickly create a dashboard.



HTML Documents in the MicroStrategy platform, formerly called documents, are HTML shells into which you can place MicroStrategy reports and other graphics, and control the formatting and appearance with style sheets. In this guide, the term “document” means a Report Services document.

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

Additional formats

This book is also available as an electronic publication in the Apple iBookstore, and can be read on an iPhone or iPad with the iBooks app installed. To download this book, search for the book's title in the iBookstore search bar, or scan the QR code below using your device's camera.



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 can be found in the *Basic Reporting Guide*.

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

Other examples in this book use 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.

 Dates in the MicroStrategy Tutorial project are updated to reflect the current year. The sample documents and images in this guide, as well as the procedures, were created with dates that may no longer be available in the Tutorial project. Replace them with the first year of data in your Tutorial project.

What's new in this guide

MicroStrategy 9.5 (MicroStrategy 9s)

- MicroStrategy 9.5 integrates the MicroStrategy Analytics Platform with MicroStrategy Usher. MicroStrategy Usher is a mobile identity platform for enterprise security. 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.

To configure your MicroStrategy 9.5 installation, see the [help page for MicroStrategy 9.5](#).

Analytics Enterprise

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

MicroStrategy 9.4

- In Express Mode, you can reset all the selectors and groups on the document to their initial values, without re-executing the document. This is helpful if you want to start over and make different selections. For steps to work with documents in Express Mode, see [Analyzing a document in Express Mode, page 73](#).

Prerequisites

Before working with this manual, you should be familiar with the information in the *Basic Reporting Guide*.

To create Report Services documents, you must have a license for Report Services and installed Report Services with your MicroStrategy installation. You must also have the proper privileges assigned to your user login. These privileges are described below:

- **Execute document**, to execute documents in Developer



To execute a document in Developer, you must connect to the project in three-tier (server) mode.

- **Web execute document**, to browse and execute documents in MicroStrategy Web

If you do not have Report Services, contact your MicroStrategy sales representative for more information.

Who should use this guide

This document is designed for all users who require a basic understanding of how to manipulate the data in a document to analyze business information.

Document analysis is the process of analyzing business data displayed in existing documents either in MicroStrategy Developer or Web. Document analysts can explore document data with the wide range of powerful functionality that document designers can make available to them. The Analyst and Web Analyst user roles in MicroStrategy include the set of privileges required to analyze documents and use related functionality, for each respective product.

Document designers design, create, and modify the documents that document analysts use. They use the Document Editor in either MicroStrategy Developer or Web. In general, the role of document designer is made available only to a group of advanced users who can design documents. The Developer and Web Professional user roles in MicroStrategy include the set of privileges required to create documents and controls, for each respective product.

Document designers can review this manual as an introduction to documents, and should use the *Report Services Document Creation Guide* as their primary reference to creating documents.

Resources

Documentation

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

- **Manuals:** In general, 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:** In general, MicroStrategy help provides:
 - Detailed steps to perform procedures
 - Descriptions of each option on every software screen

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 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 also includes a detailed, step-by-step evaluation process of MicroStrategy features, where you 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.

- *MicroStrategy Suite: Quick Start Guide*

Evaluate MicroStrategy as a departmental solution. Provides detailed information to download, install, configure, and use the MicroStrategy Suite.

Resources for Identity and Loyalty

- *Alert Commerce Management System (CMS) Guide and Alert API Reference*

Content resources providing steps to deliver and manage marketing and commerce content through the Alert mobile applications.

- *Usher Administration Guide*

Steps to perform mobile identity validation using the Usher mobile identity 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, as well as basic maintenance guidelines.

- *MicroStrategy Upgrade Guide*

Instructions to upgrade existing MicroStrategy products.

- *MicroStrategy Project Design Guide*

Information to create and modify MicroStrategy projects, and understand facts, attributes, hierarchies, transformations, advanced schemas, and project optimization.

- *MicroStrategy Basic Reporting Guide*

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

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

Instructions for advanced topics in the MicroStrategy system, building on information in the Basic Reporting Guide. Topics include reports, Freeform SQL reports, Query Builder reports, filters, metrics, Data Mining Services, custom groups, consolidations, and prompts.

- *Document and Dashboard Analysis Guide*

Instructions for a business analyst to execute and analyze a document in MicroStrategy Developer and MicroStrategy Web, building on basic concepts about projects and reports presented in the *MicroStrategy Basic Reporting Guide*.

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

Instructions to design and create Report Services documents, building on information in the *Document and Dashboard Analysis Guide*. It is organized to help guide you through creating a new document, from creating the document itself, to adding objects to the new document, and formatting the document and its objects.

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

Instructions for designing and creating MicroStrategy Report Services dashboards, a type of document that is optimized for viewing online and for user interactivity. It builds on the basic concepts about documents presented in the *MicroStrategy Report Services Document Creation Guide*.

- *MicroStrategy OLAP Services Guide*

Information on MicroStrategy OLAP Services, which is an extension of MicroStrategy Intelligence Server. OLAP Services features include Intelligent Cubes, derived metrics, derived elements, dynamic aggregation, view filters, and dynamic sourcing.

- *MicroStrategy Office User Guide*

Instructions for using 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*

Information and instructions for using 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 instructions 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*

Concepts and high-level 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*

Information and instructions for MicroStrategy 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.

Manuals for Analytics Modules

- *Analytics Modules Installation and Porting Guide*
- *Customer Analysis Module Reference*
- *Sales Force Analysis Module Reference*
- *Financial Reporting Analysis Module Reference*
- *Sales and Distribution Analysis Module Reference*
- *Human Resources Analysis Module Reference*

Manuals for Narrowcast Services products

- *MicroStrategy Narrowcast Server Getting Started Guide*

Instructions to work with the tutorial to learn Narrowcast Server interfaces and features.

- *MicroStrategy Narrowcast Server Installation and Configuration Guide*

Information to install and configure Narrowcast Server.

- *MicroStrategy Narrowcast Server Application Designer Guide*

Fundamentals of designing Narrowcast Server applications.

- *MicroStrategy Narrowcast Server System Administrator Guide*

Concepts and high-level steps to implement, maintain, tune, and troubleshoot Narrowcast Server.

- *MicroStrategy Narrowcast Server Upgrade Guide*

Instructions to upgrade an existing Narrowcast Server.

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.

- *Narrowcast Server SDK Guide*

Instructions to customize Narrowcast Server functionality, integrate Narrowcast Server with other systems, and embed Narrowcast Server functionality within other applications. Documents the Narrowcast Server Delivery Engine and Subscription Portal APIs, and the Narrowcast Server SPI.

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 can be accessed from the MicroStrategy Product Manuals page, as described in [Accessing manuals and other documentation sources, page xx](#).

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 can be accessed from the MicroStrategy Product Manuals page, as described in [Accessing manuals and other documentation sources, page xx](#).

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 Acrobat Reader is required to view these manuals. If you do not have Acrobat 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 xxi](#)
- [To access documentation resources on Windows, page xxi](#)

- *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.
- 3 If you click the link for the Narrowcast Services SDK Guide, a File Download dialog box opens. This documentation resource must be downloaded. Select **Open this file from its current location**, and click **OK**.



If bookmarks are not visible on the left side of an Acrobat (PDF) manual, from the **View** menu click **Bookmarks and Page**. This step varies slightly depending on your version of Adobe Acrobat 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.
- 5 If you click the link for the Narrowcast Services SDK Guide, a File Download dialog box opens. This documentation resource must be

downloaded. Select **Open this file from its current location**, and click **OK**.



If bookmarks are not visible on the left side of an Acrobat (PDF) manual, from the **View** menu click **Bookmarks and Page**. This step varies slightly depending on your version of Adobe Acrobat 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	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 Example: Click Select Warehouse.
<i>italic</i>	- Names of other product manuals and documentation resources - When part of a command syntax, indicates variable information to be replaced by the user Example: The <i>aggregation level</i> is the level of calculation for the metric. Example: Type <code>copy c:\filename d:\foldername\filename</code>
Courier font	- Calculations - Code samples - Registry keys - Path and file names - URLs - Messages displayed in the screen - Text to be entered by the user Example: <code>Sum(revenue)/number of months</code>. Example: Type <code>cmdmgr -f scriptfile.scf</code> and press Enter.
+	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.

Courses that can help you prepare for using this manual or that address some of the information in this manual include:

- MicroStrategy Developer: Reporting Essentials
- MicroStrategy Web: Report Analysis
- MicroStrategy Web: Report Design

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>.

International support

MicroStrategy supports several locales. Support for a locale typically includes native database and operating system support, support for date formats, numeric formats, currency symbols, and availability of translated interfaces and certain documentation.

MicroStrategy is certified in homogeneous configurations (where all the components lie in the same locale) in the following languages—English (US), French, German, Italian, Japanese, Korean, Portuguese (Brazilian), Spanish, Chinese (Simplified), Chinese (Traditional), Danish, and Swedish. A translated user interface is available in each of the above languages. For information on specific languages supported by individual MicroStrategy system components, see the MicroStrategy readme.

MicroStrategy also provides limited support for heterogeneous configurations (where some of the components may lie in different locales). Please contact MicroStrategy Technical Support for more details.

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 If the resources listed in the steps above do not provide a solution, contact MicroStrategy Technical Support directly. To ensure the most productive relationship with MicroStrategy Technical Support, review the Policies and Procedures document in your language, posted at <http://www.microstrategy.com/Support/Policies>. Refer to the terms of your purchase agreement to determine the type of support available to you.

MicroStrategy Technical Support can be contacted by your company's Support Liaison. A Support Liaison is a person whom your company has designated as a point-of-contact with MicroStrategy's support personnel. All customer inquiries and case communications must come through these named individuals. Your company may designate two employees to serve as their Support Liaisons, and can request to change their Support Liaisons two times per year with prior written notice to MicroStrategy Technical Support.

It is recommended that you designate Support Liaisons who have MicroStrategy Administrator privileges. This can eliminate security conflicts and improve case resolution time. When troubleshooting and researching issues, MicroStrategy Technical Support personnel may make recommendations that require administrative privileges within MicroStrategy, or that assume that the designated Support Liaison has a security level that permits them to fully manipulate the MicroStrategy projects and has access to potentially sensitive project data such as security filter definitions.

Ensure issues are resolved quickly

Before logging a case with MicroStrategy Technical Support, the Support Liaison may follow the steps below to ensure that issues are resolved quickly:

- 1** Verify that the issue is with MicroStrategy software and not a third party software.
- 2** Verify that the system is using a currently supported version of MicroStrategy software by checking the Product Support Expiration Schedule at <http://www.microstrategy.com/Support/Expiration.asp>.
- 3** Attempt to reproduce the issue and determine whether it occurs consistently.
- 4** Minimize the complexity of the system or project object definition to isolate the cause.
- 5** Determine whether the issue occurs on a local machine or on multiple machines in the customer environment.
- 6** Discuss the issue with other users by posting a question about the issue on the MicroStrategy Customer Forum at <https://resource.microstrategy.com/forum/>.

The following table shows where, when, and how to contact MicroStrategy Technical Support. If your Support Liaison is unable to reach MicroStrategy Technical Support by phone during the hours of operation, they can leave a voicemail message, send email or fax, or log a case using the Online Support

Interface. The individual Technical Support Centers are closed on certain public holidays.

North America	Email: support@microstrategy.com Web: https://resource.microstrategy.com/support Fax: (703) 842–8709 Phone: (703) 848–8700 Hours: 9:00 A.M.–7:00 P.M. Eastern Time, Monday–Friday except holidays
EMEA: Europe The Middle East Africa	Email: eurosupp@microstrategy.com Web: https://resource.microstrategy.com/support Fax: +44 (0) 208 711 2525 The European Technical Support Centre is closed on national public holidays in each country. Phone: • Belgium: + 32 2792 0436 • France: +33 17 099 4737 • Germany: +49 22 16501 0609 • Ireland: +353 1436 0916 • Italy: +39 023626 9668 • Poland: +48 22 459 52 52 • Scandinavia & Finland: +46 8505 20421 • Spain: +34 91788 9852 • The Netherlands: +31 20 794 8425 • UK: +44 (0) 208 080 2182 • International distributors: +44 (0) 208 080 2183 Hours: • United Kingdom: 9:00 A.M.–6:00 P.M. GMT, Monday-Friday except holidays • EMEA (except UK): 9:00 A.M.–6:00 P.M. CET, Monday-Friday except holidays
Asia Pacific	Email: apsupport@microstrategy.com Web: https://resource.microstrategy.com/support Phone: • Australia: +61 2 9333 6499 • Korea: +82 2 560 6565 Fax: +82 2 560 6555 • Japan: +81 3 3511 6720 Fax: +81 3 3511 6740 • Singapore: +65 6303 8969 Fax: +65 6303 8999 • Asia Pacific (except Australia, Japan, Korea, and Singapore): +86 571 8526 8067 Fax: +86 571 8848 0977 Hours: • Japan and Korea: 9:00 A.M.–6:00 P.M. JST (Tokyo), Monday-Friday except holidays • Asia Pacific (except Japan and Korea): 7 A.M.-6 P.M. (Singapore) Monday-Friday except holidays
Latin America	Email: latamsupport@microstrategy.com Web: https://resource.microstrategy.com/support Phone: • LATAM (except Brazil and Argentina): +54 11 5222 9360 Fax: +54 11 5222 9355 • Argentina: 0 800 444 MSTR Fax: +54 11 5222 9355 • Brazil: +55 11 3054 1010 Fax: +55 11 3044 4088 Hours: • Latin America (except Brazil): 9:00 A.M.–7:00 P.M. (Buenos Aires), Monday-Friday except holidays • Brazil: 9 A.M. - 6 P.M. (São Paulo), Monday–Friday except holidays

Support Liaisons should contact the Technical Support Center from which they obtained their MicroStrategy software licenses or the Technical Support Center to which they have been designated.

Required information when calling

When contacting MicroStrategy Technical Support, please provide the following information:

- Personal information:
 - Name (first and last)
 - Company and customer site (if different from company)
 - Contact information (phone and fax numbers, e-mail addresses)
- Case details:
 - Configuration information, including MicroStrategy software product(s) and versions
 - Full description of the case including symptoms, error messages(s), and steps taken to troubleshoot the case thus far
- Business/system impact

If this is the Support Liaison's first call, they should also be prepared to provide the following:

- Street address
- Phone number
- Fax number
- Email address

To help the Technical Support representative resolve the problem promptly and effectively, be prepared to provide the following additional information:

- Case number: Please keep a record of the number assigned to each case logged with MicroStrategy Technical Support, and be ready to provide it when inquiring about an existing case
- Software version and product registration numbers of the MicroStrategy software products you are using

- Case description:
 - What causes the condition to occur?
 - Does the condition occur sporadically or each time a certain action is performed?
 - Does the condition occur on all machines or just on one?
 - When did the condition first occur?
 - What events took place immediately prior to the first occurrence of the condition (for example, a major database load, a database move, or a software upgrade)?
 - If there was an error message, what was its exact wording?
 - What steps have you taken to isolate and resolve the issue? What were the results?
- System configuration (the information needed depends on the nature of the problem; not all items listed below may be necessary):
 - Computer hardware specifications (processor speed, RAM, disk space, and so on)
 - Network protocol used
 - ODBC driver manufacturer and version
 - Database gateway software version
 - (For MicroStrategy Web-related problems) browser manufacturer and version
 - (For MicroStrategy Web-related problems) Web server manufacturer and version

If the issue requires additional investigation or testing, the Support Liaison and the MicroStrategy Technical Support representative should agree on certain action items to be performed. The Support Liaison should perform any agreed-upon actions before contacting MicroStrategy Technical Support again regarding the issue. If the Technical Support representative is responsible for an action item, the Support Liaison may call MicroStrategy Technical Support at any time to inquire about the status of the issue.

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.

GETTING STARTED WITH DOCUMENTS IN DEVELOPER

Introduction

A document displays your organization's data in a format that is similar to a PowerPoint presentation, where several grid and graph reports can be viewed at the same time, along with images and text. High-quality, *Pixel Perfect™* documents allow you to display your business data in a user-friendly way that is suitable for presentation to management for boardroom-quality material. Examples of documents include scorecards and dashboards, managed metrics documents, production and operational documents, and more.

This chapter contains descriptions of the various types of Report Services documents, in the form of common sample documents. Each section includes an image showing a sample of each document type, as well as descriptions for typical scenarios for using each document type, and other details related to each document type.

The document types include the following:

- [Scorecards and dashboards, page 2](#): Designed for visual impact, these documents provide a distilled view of the business, organized in adaptive sections or zones.

- *Managed metrics reports, page 4*: With a quantitative focus, these documents present lists of metrics or process-driven tabular views of the business.
- *Production and operational reports, page 6*: Designed for production operations management, these documents present data in hierarchical categories or bands and can span hundreds of printed pages.
- *Invoices and statements, page 8*: These documents use transaction and sub-transaction level data necessary for billing, collection, and customer service.
- *Business reports, page 10*: Designed for financial and other statutory business reporting, these documents present comprehensive data in print and electronic forms.

Scorecards and dashboards

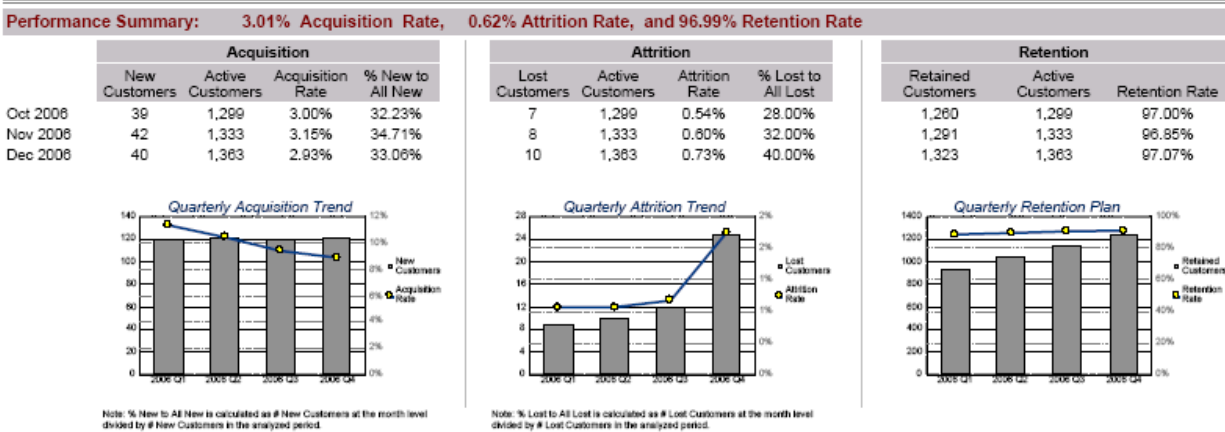
Scorecards and dashboards are designed to provide a distilled view of the business, organized into adaptive sections or zones.

The sample Report Services scorecard shown below is the Quarterly Customer Analysis document. This document shows trends in customer acquisition, customer attrition, and customer retention. The document also displays customer demographics such as income range and age range.

The Quarterly Customer Analysis document helps you visualize changes in trends that have occurred during a selected time period, as well as any related impact on revenue. Customer managers can use this report to get a general overview of trends within the customer base, as well as the mix of customers that make up the customer base. The report data can be used to develop potential opportunities for greater revenue, as well as actions to prevent a potential drop in sales.

The sample document shown here is from the MicroStrategy Customer Analysis Module (CAM).

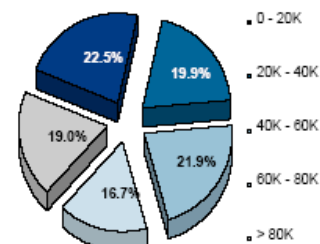
Quarterly Customer Analysis for Q4 2006 Acquisition, Attrition and Retention



Customer Analysis by Age Range and Income Range

Age Range	Income Range	Revenue \$	Avg Transaction Size \$	Revenue per Customer \$	Profit \$
< 21	0 - 20K	\$40,955.13	\$303.37	\$694.15	\$2,417.78
	20K - 40K	\$53,720.47	\$471.23	\$1,033.09	\$3,467.85
	40K - 60K	\$22,293.22	\$259.22	\$586.66	\$1,386.03
	60K - 80K	\$52,798.63	\$493.45	\$1,147.80	\$3,132.18
	> 80K	\$24,720.47	\$240.00	\$525.97	\$1,540.46
21-40	0 - 20K	\$44,479.79	\$367.60	\$780.35	\$2,873.32
	20K - 40K	\$35,505.09	\$358.64	\$825.70	\$1,806.91
	40K - 60K	\$49,880.03	\$332.53	\$744.48	\$2,794.06
	60K - 80K	\$36,905.35	\$318.15	\$768.06	\$2,298.73
41-60	> 80K	\$23,668.01	\$190.87	\$464.08	\$1,368.22
	0 - 20K	\$41,183.76	\$294.17	\$653.71	\$3,108.09
	20K - 40K	\$54,357.41	\$333.48	\$754.96	\$3,314.59
	40K - 60K	\$43,422.58	\$271.39	\$586.79	\$2,453.15
	60K - 80K	\$43,349.33	\$370.51	\$833.64	\$2,719.62
	> 80K	\$37,549.79	\$282.33	\$596.03	\$2,298.21

Customer Distribution by Income Range



Ideas for effective use of this document type

- The foregoing sample document displays a number of supporting elements such as document title, date and time, and document author, to help users working with either electronic or printed documents.
- Scorecards and dashboards are most effective when they combine Report Services features such as tables, graphs, visual indicators, conditional formatting, free-form labels, borders, and background colors.
- Report components can be laid out anywhere on the page into areas called zones, and since components can be set to either fixed or relative sizes, they can automatically scale to fit the overall layout of the page.
- Each zone can be populated from a single query or by data combined from multiple queries.

Managed metrics reports

Managed metrics reports are designed to present lists of metrics or process-driven tabular views of the business.

The sample managed metrics report document type that follows is the Inquiry-to-Shipment Process document. This document helps you analyze sales deals and sales amounts for different stages of the inquiry-to-shipment process. The document presents a visual representation of the sales and distribution process to help you understand how each stage relates to the others. It also includes a number of metrics that measure overall performance for captured and lost sales.

Executives can use this document to gain an understanding of overall sales activity, from generating inquiries to delivering goods to customers. They can also use the data to analyze key performance indicators that measure the performance of the sales organization.

The sample document shown here is from the MicroStrategy Sales and Distribution Analysis Module (SDAM).

Inquiry to Shipment Process - 2006 Q4

Current Quarter			Year to Quarter	
Deal Flow	Sales Value		Deal Flow	Sales Value
5	\$1,673,000	Inquiries	25	\$17,762,000
20.00%	31.68%	Inquiry To Quotation Conversion Rate	52.00%	55.76%
14	\$35,182,000	Quotations	60	\$89,279,600
85.71%	18.49%	Quotation To Sales Order Conversion	58.33%	41.83%
17	\$11,047,500	Sales Orders	71	\$66,795,800
100.00%	100.00%	Fulfillment Rate	99.78%	99.77%
9,310	\$11,047,500	Shipped Quantity	80,085	\$66,640,800
11.76%	5.72%	% Returned to Shipped	5.63%	1.36%
2	\$632,000	Returns	4	\$907,500
15	\$10,415,500	Sales Captured	67	\$65,888,300
2	\$28,677,000	Sales Lost	25	\$51,934,600

NOTES:

- Quotations totals may include quotations without a preceding inquiry.
- Sales Orders totals may include sales orders without a preceding quotation.
- Fulfillment rate calculates the percentage of total sales orders that have shipped to the customer.
- Shipped quantity units are based on the default "Base Unit" of measure for each material.
- Sales Captured measures the difference between sales orders and returns.
- Sales Lost measures the difference between quotations and sales orders generated from quotations.

Ideas for effective use of this document type

- The foregoing sample document displays a number of supporting elements such as a document title, which helps users working either with electronic or printed documents. These are generated automatically based on the selected quarter, date and time, user name, and page numbers. Each of these supporting elements repeat on each page. The document also includes a Notes section with definitions for the key performance indicators (KPIs) that appear in the document.
- The foregoing sample document includes a prompt that allows you to select a specific quarter for which to display data. You can modify the prompt to compare data at different time levels, such as current month vs. year-to-month, or month-to-date vs. year-to-date.
- Managers can use managed metric reports to assess the current operational status of the business, viewing such metrics as actual-to-planned, time series progressions, and process flows.
- Managed metrics reports are most effective when they use clean, simple formatting that presents data in a clear process flow or show straightforward lists of key metrics. Pertinent Report Services features include free-form field layout and drawing data from multiple queries to support metrics management goals.
- By adding predictive analysis, managed metrics reports can also display correlations, projections, and other statistical analyses.

Production and operational reports

Production and operational reports are designed to present data in hierarchical categories or bands and can span across hundreds of printed pages.

The sample production and operational report document type that follows is the Sales Pipeline Report. This document lists all sales opportunities in the pipeline. It groups opportunities based on sales region, sales district, and sales representative.

This document also provides a snapshot of each opportunity's current status and measures key metrics such as unweighted and weighted sales forecasts.

Sales managers can use this document to see a general overview of the sales pipeline and to identify key opportunities and opportunity statuses. The data

in this document can help you evaluate sales opportunities for each sales representative and to prioritize those opportunities with a greater probability of being closed.

The sample document shown here is from the MicroStrategy Sales Force Analysis Module (SFAM).

SALES PIPELINE REPORT

Opportunity Information			Status					Amounts	
Account	Lead Type	Description	Opportunity Status	Close Probability	Primary Competitor	Open Date	Estimated Close Date	Unweighted Sales Forecast	Weighted Sales Forecast
United States								\$2,775,000	\$1,382,500
Northeast USA								\$1,500,000	\$685,000
Alec Berg								\$875,000	\$485,000
NorthernBell.net - Corporate	New Business	Free Upgrade	Closed	100 %	Wizard Corporation	12/6/2006	1/5/2007	\$125,000	\$125,000
Optical Cable - Corporate	New Business	Sys Integrator (Others) - Lead	Closed	100 %	Sphinx Solutions	1/3/2007	2/2/2007	\$200,000	\$200,000
AF - Corporate	New Business	Acquisition Campaign 2007 Q1	Commit	80 %	Wizard Corporation	1/13/2007	2/17/2007	\$150,000	\$120,000
<i>Concerned that competitor may cut price to get foot more soundly in door. Scheduled call with Cristian Vasquez and other VPs at end of week. Keeping COMMIT status for now, but might downgrade.</i>									
Horizon Comm - Corporate	New Business	AdVent Trade Show 2007	Top of the funnel	10 %	Wizard Corporation	1/28/2007	2/29/2007	\$400,000	\$40,000
<i>Customer weighing a few different options here; we're up against same primary competitor as last two cycles with this customer.</i>									
Bonnie Zastrow								\$625,000	\$200,000
Spirits Suppliers - Corporate	New Business	Web Site Survey - Lead	Lost	0 %	Wizard Corporation	11/27/2006	12/19/2006	\$125,000	\$0
Michezip - Corporate	New Business	Partner (Others) Lead	Closed	100 %	Pulsar Applications	12/7/2006	1/8/2007	\$200,000	\$200,000
Stacys Stores - Corporate	Existing Business	Only Web Offer - Lead	Lost	0 %	Sphinx Solutions	12/16/2006	12/27/2006	\$175,000	\$0
Silk Route Co - Corporate	New Business	Resource Management Conf 2006	Lost	0 %	Sphinx Solutions	12/25/2006	1/9/2007	\$125,000	\$0

Ideas for effective use of this document type

- The foregoing sample document displays a number of supporting elements such as document title, date and time, page numbers, and a confidentiality mark, all of which repeat on each page. These supporting elements help users working with either electronic or printed documents.
- Effective production and operational reports organize information into a hierarchy of increasingly finer levels of detail, often displaying both current and historical data. Pertinent Report Services features include precise banding, automatic subtotalling by grouping levels, and automatic joining of results from multiple queries.

- A variety of hierarchical groupings are easily organized using stacked metrics, repeating elements, sections and subsections, logical page breaks, and headers and footers.

Invoices and statements

The invoices and statements document type is designed to present transaction and sub-transaction level data necessary for billing, collection, and customer service.

The sample invoices and statements document type shown below is the Purchase Order document. The Purchase Order document displays a generated purchase order, ready to be printed out and sent to customers. Each purchase order displays all available information about an order, including item quantities and total amounts. It also includes a form for customers to insert their authorization information and shipment requirements.

Sales representatives can generate this document as needed and send it electronically to customers. Customers can easily return the document by fax to accept the conditions and to initiate the shipment and billing processes.

The sample document shown here is from the MicroStrategy Sales and Distribution Analysis Module (SDAM).

Purchase Order

Client Information

Account number: **24**

Name: **Data Devices Corporation**

Order Information

Order number: **181**

Date: **1/5/2007**

Order Item	SKU	SKU Description	Quantity	Net Price	Net Amount
18101	18	UC TowerServer E10	500	\$500	\$250,000
18102	19	UC TowerServer E20	500	\$1,000	\$500,000
Subtotal					\$750,000
Sales Taxes (5%)					\$37,500
Total Amount					\$787,500

Client Authorization

Client Signature: _____

Client Name: _____

Position: _____

Phone: _____

Date: _____

Shipping Specifics

Shipping Address: _____

Special Instructions: _____

Make Delivery Before: _____

Terms and Conditions

- This offer is valid for 30 days.
- Products will be billed upon goods shipment. Payment due 90 days after billing date.
- This is subject to World Group, Inc., standard term and conditions of sales (available upon request).
- Please contact Jim Smith, (754) 555 - 5475, for questions.

Ideas for effective use of this document type

- The sample document above displays a number of supporting elements, including a header with company logo and address, to help users working with either electronic or printed documents.

- The invoices and statements document type is most effective when used with Report Services features such as precision design of page setup, so that specific information, for example, a mailing address to appear in an envelope window displays exactly where it should.
- Invoices and statements are ideal candidates for MicroStrategy delivery channels such as web, email, and portal.

Business reports

The business report document type is designed to present comprehensive data in print and electronic forms for financial and other statutory business reporting.

The sample business report document type shown below is the Profit and Loss Variance by Corporation document. This document displays a consolidated quarter-to-date and year-to-date statement of budgeted and actual account activity within the revenue and expense accounts of various corporations that constitute the organization. It also displays the individual contribution of each of the constituent accounts and its contribution to the profit and loss of the corporation, in a standard, easy-to-read format.

The sample document below is from the MicroStrategy Financial Reporting Analysis Module (FRAM).

Profit & Loss Variance by Corporation YTD and QTD								
Corporation: Global Enterprises, Inc.					Date: 12/31/2005			
Actual QTD(\$K)	Budget QTD(\$K)	QTD Budget Variance (\$K)	QTD Budget Variance %	Account Type	Actual YTD (\$K)	Budget YTD (\$K)	YTD Budget Variance (\$K)	YTD Budget Variance %
0	0	0	0	Other Revenue	0	0	0	0
39,000	44,014	(5,015)	(11%)	Product Income	228,481	252,906	(24,425)	(10%)
39,000	44,014	(5,015)	(11%)	Total Revenue	228,481	252,906	(24,425)	(10%)
13	15	2	11%	Casual Labor	114	128	14	11%
1,979	2,203	224	10%	Communications	6,816	7,534	718	10%
3,001	3,353	353	11%	Consulting and Advisory	19,898	22,027	2,129	10%
854	954	100	10%	Cost of Goods Sold	8,105	8,920	814	9%
5,234	5,850	616	11%	Depreciation	24,065	26,679	2,614	10%
4,593	5,140	547	11%	Equipment leasing	641	698	57	8%
34,652	39,088	4,436	11%	Foreign Currency Trans G/L	0	0	0	11%
10,029	11,205	1,176	10%	Gain/Loss on Sale of Investments	766	836	70	8%
(9,473)	(10,686)	(1,213)	11%	High-Tech and Communications Expense	18,855	20,913	2,058	10%
0	0	0	8%	Income Taxes	34,652	39,088	4,436	11%
187	209	22	10%	Insurance	37,995	42,080	4,084	10%
(8,387)	(9,357)	(970)	10%	Intercompany Transfers	(48,732)	(53,972)	(5,240)	10%
(1,367)	(1,494)	(126)	8%	Interest Expense	0	0	0	8%
988	1,106	117	11%	Marketing	569	630	61	10%
14,874	16,629	1,756	11%	Other General and Administrative	(10,564)	(11,770)	(1,205)	10%
685	764	79	10%	Other Inc/Exp (below the line)	20,300	22,161	1,862	8%
320	353	33	9%	Recruiting Expense	3,668	4,071	403	10%
				Salaries	60,098	66,598	6,500	10%
				Shipping, Printing, Supplies	2,683	2,968	285	10%
				Travel and Entertainment (T&E)	1,255	1,396	141	10%
58,183	65,334	7,150	11%	Total Expense	181,182	200,984	19,803	10%
(19,184)	(21,319)	2,136	(10%)	Contribution	47,299	51,921	(4,622)	(9%)

Ideas for effective use of this document type

- The foregoing sample document displays a number of supporting elements such as, document title, date, and corporation to help users working with either electronic or printed documents.
- Business report documents display comprehensive data in a clear and logical format. Therefore this document type does not need to conform to a hierarchical or banded format, and can be highly enterprise-specific.
- This document type can include data from multiple independent or related queries, and allows you to present information in a variety of formats.

- Business reports can be automatically sliced into multiple personalized reports based on security filters and advanced prompting.

ANALYZING DOCUMENTS IN DEVELOPER

Introduction

This chapter is designed for all users who require a basic understanding of how to manipulate the data in a document to analyze business information. Document analysis is the process of analyzing business data displayed in existing documents either in MicroStrategy Developer or Web. Document analysts can explore document data with the wide range of powerful functionality, such as page-by, grouping, and Flash interaction, that document designers can make available to them.

This chapter focuses on opening, analyzing data in, and interacting with documents in Developer, as described below:

- *[Opening and interacting with a document in PDF View, page 14](#)*
- *[Understanding the parts of a document, page 20](#)*
- *[Printing documents, page 26](#)*
- *[Previewing documents for MicroStrategy Web, page 27](#)*

- [Exporting documents, page 31](#)



To work with documents, you must have purchased a license for Report Services and installed it on your machine. You must also have the proper privileges; for a list of the required privileges, see [Prerequisites, page xii](#).

Opening and interacting with a document in PDF View

When you open a document in Developer, it displays as a PDF by default. This view of the document is called PDF View in Developer. PDF View displays the document as it will look when printed (for example, with page breaks). Use PDF View in Developer to:

- View the document as a PDF
- Interactively display groups on separate pages (using page-by)
- Navigate through large quantities of data that have been grouped into separate pages of the document
- View associated websites by clicking hyperlinks
- Print the document
- Save the final PDF (by exporting it)
- Export the document to Excel, PDF, Flash, or HTML

The steps below provide information on how to open and view a document, how to navigate through the document's data, and how to interact with several optional features that the document may include.

Prerequisites

- To view a document as a PDF, your computer must have Adobe Acrobat Reader version 5 or greater. This software can be obtained free of charge from the Adobe website, at www.Adobe.com.
- To open a document in PDF View, you must connect to the project in three-tier (server) mode.

- If a document has embedded Transaction Services, the document does not open. Instead, a message is displayed, indicating that transaction-enabled documents are not supported in Developer.

To open and interact with a document (in default PDF View)

- 1 From a project in MicroStrategy Developer, navigate to the folder containing the document.

 To enhance PDF viewing performance, open Acrobat Reader before opening the document.

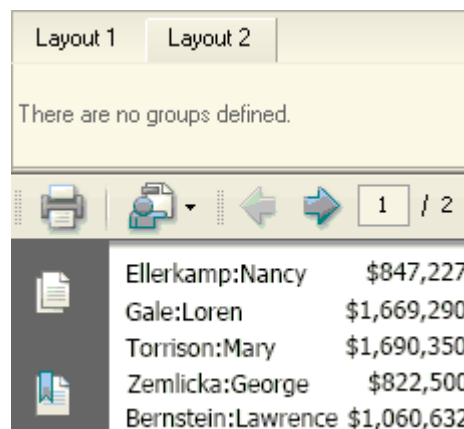
- 2 Double-click the document name or icon. A document is symbolized in the MicroStrategy interface by these icons:



The document opens in PDF View, in Acrobat Reader.

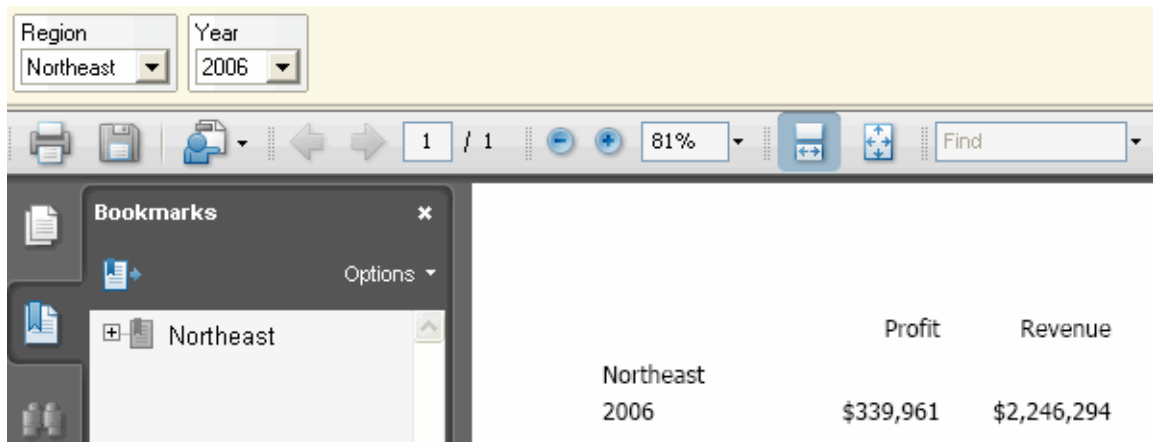
 Occasionally, lines that should have the same weight may not appear to have the same thickness when viewed in the Acrobat Reader at a standard zoom percent. This rendering issue with Adobe does not affect the printed output. All lines print as defined, even if they display differently when you view the PDF.

- 3 If the document contains multiple layouts, tabs are displayed at the top of the interface, as shown below. Click a tab to select which layout to display.



In a multi-layout document, each layout functions as a separate document, but all the layouts are generated into a single PDF.

- 4 If the document results are grouped by page, drop-down lists are displayed at the top of the interface, as shown below. You can select which elements, or subsets of data, to display.



The result of such a selection is called a page of the original document. Pages let you decide what subsets of your business data you want to display as separate pages of your document.

The drop-down list can also contain these options:

- All, which displays all the pages (in the example above, All would display all the available regions or all the available years)
- Total, which displays a total of all the pages (in the example above, if Total was selected in both lists, the total profit and total revenue for all regions and all years would be displayed)

✪ If All and Total are included as options, when you select All, the document also displays totals.

- 5 If the document contains bookmarks, the bookmarks are displayed on the left. Click a bookmark to jump to that section of the PDF. For example, in

the following document, Mid-Atlantic was selected in the bookmarks, and the Mid-Atlantic section is displayed at the top of the PDF.

Bookmarks

- Regional Revenue
 - Central
 - Mid-Atlantic**
 - Northeast
 - Northwest
 - South
 - Southeast
 - Southwest
 - Web
 - Total

Mid-Atlantic Region

Employee	Revenue
Bernstein:Lawrence	\$1,060,632
Brown:Vernon	\$331,735
Corcoran:Peter	\$325,147
Folks:Adrienne	\$1,047,776
Hollywood:Robert	\$1,026,874
Ingles:Walter	\$229,439
Smith:Thomas	\$221,379
Young:Sarah	\$209,634
Total Regional Revenue	\$4,452,615

Northeast Region

Employee	Revenue
De Le Torre:Sandra	\$607,895
Kelly:Laura	\$2,350,720
Kieferson:Jack	\$584,933
Sawyer:Leanne	\$2,411,912
Sonder:Melanie	\$295,108
Yager:Beth	\$2,303,847
Total Regional Revenue	\$8,554,415

If bookmarks are not displayed, click the **Bookmarks** icon on the left navigation bar to display them (in Acrobat Reader 8.0).

- 6 If a table of contents has been created for the document, it displays similar to the image shown below. (Its position in the PDF can vary according to the document's requirements.) You can click an entry in the table of contents to jump to that section.

Table of Contents

Regional Revenue	1
Central	1
Mid-Atlantic	1
Northeast	1
Northwest	1
South	1
Southeast	2
Southwest	2
Web	2
Total	2

- 7 If text is underlined and the cursor changes to a hand when you hover the cursor over the text, as shown below, the text is a hyperlink. Click the underlined text to open the target of the hyperlink, which is a web page.



Central Region	
Employee	Revenue
Ellen http://www.example.com	\$847,227
Gale: Loren	\$1,669,290

If text is underlined but the cursor remains a pointer, the text is a link, which is not functional in Developer. Links connect to web pages, reports, and other documents in MicroStrategy Web. For more details on links and hyperlinks, including examples, see [Linking to other documents and reports, page 58](#).

- 8 To print the document:
- Click the **Print** icon on the Acrobat Reader toolbar. The Print dialog box opens.
 - You can change print settings, such as the printer to be used and the page range to print, as needed. Click **OK**.
- 9 To export the document:
- To a PDF file that opens in a separate window outside of the Document Editor, click **Export to PDF** on the toolbar. For detailed instructions to export documents to PDF, see [Exporting a document to a PDF file, page 36](#).
 - To a Microsoft Excel spreadsheet for further manipulation and use, click **Export to Excel** on the toolbar. The PDF opens as an Excel spreadsheet. For detailed instructions to export documents to Excel, see [Exporting a document to Excel, page 32](#).
 - To a Flash file, so that you and other users can view the Flash content and interact with it off-line, without using MicroStrategy, click **Export to Flash** on the toolbar. The Flash file is a fully interactive, stand-alone Flash Report Services (RS) dashboard. For requirements and background information on exporting documents to Flash files, see [Exporting a document to Flash, page 34](#).
 - To a separate browser window outside of the Document Editor, click **Export to HTML** on the toolbar. For background information on exporting documents to HTML, see [Opening a document in a](#)

separate browser window: [Exporting a document to HTML](#), page 38.



If any of the icons are not available on the toolbar, that export format has not been made available for this document.

10 Some of the most common tasks that you can do with the document are listed below. The Acrobat Reader toolbar provides quick access to all these tasks. For details about each, refer to the product documentation for Acrobat Reader. (To access it, from the **Help** menu, select **Reader Help**.)

- Save the document
- Find a word or phrase
- Zoom in or out
- Go directly to a certain page



The third-party product (Acrobat Reader) discussed in this document is manufactured by vendors independent of MicroStrategy. MicroStrategy makes no warranty, expressed, implied, or otherwise, regarding this product, including its performance or reliability.

11 You can switch to another view, as described below:

- To preview the document as it will look in Flash Mode in MicroStrategy Web, switch to Flash View by clicking **Flash View** on the toolbar.

In Flash View, you can interact with the document by using selectors, performing some manipulations such as pivoting and sorting, and viewing and interacting with widgets. For more detailed descriptions of these functions and instructions to access Flash View, see [Previewing documents for MicroStrategy Web, page 27](#).

- To preview the document as it will look in other MicroStrategy Web modes, switch to HTML View by clicking **HTML View** on the toolbar. For an example of a document in HTML View and instructions to access HTML View, see [Previewing documents for MicroStrategy Web, page 27](#).
- If you have the **Use document editor** privilege, you can edit the document by switching to Design Mode (click **Design Mode** on the toolbar). The *Report Services Document Creation Guide* provides the

procedures and background information to create and edit documents.



If any of the icons are not available on the toolbar, that view format has not been made available for this document.

Understanding the parts of a document

The sample document below is displayed in PDF View.

The screenshot shows the MicroStrategy PDF View interface. At the top, there are tabs for 'Regional Revenue', 'Grid/Graph', and 'Dashboard'. Below the tabs is a 'Region' dropdown menu set to '(All)'. A toolbar contains various icons for navigation and viewing, including a search bar with the text 'Find'. The main content area displays two tables of revenue data.

MicroStrategy

Central Region

Employee	Revenue
Ellerkamp:Nancy	\$847,227
Gale:Loren	\$1,669,290
Torrison:Mary	\$1,690,350
Zemlicka:George	\$822,500
Total Regional Revenue	\$5,029,366

Mid-Atlantic Region

Employee	Revenue
Bernstein:Lawrence	\$1,060,632
Brown:Vernon	\$331,735
Corcoran:Peter	\$325,147
Folks:Adrienne	\$1,047,776
Hollywood:Robert	\$1,026,874
Ingles:Walter	\$229,439
Smith:Thomas	\$221,379
Young:Sarah	\$209,634
Total Regional Revenue	\$4,452,615

The parts of a document are described below.

Displaying data in the document

Most of the information on a document is from an underlying dataset. A dataset is a MicroStrategy report that defines the data that the Intelligence Server should retrieve from your data warehouse or from a cache that is available to the document. In the document sample above, the employee names and the revenue amounts are retrieved from the dataset report. As an analyst, you do not see the underlying dataset reports that provide the data; you see the data itself instead.

Other information that does not originate from the dataset is stored in the document's definition. In the document sample above, for instance, the words "Employee" and "Revenue", as well as the MicroStrategy company logo, are not part of the dataset report.

How metrics are calculated in a document

A metric is calculated differently depending on its location in the document. For example, the Revenue metric next to each employee is calculated at the level of the employee. The same Revenue metric next to the text "Total Regional Revenue" calculates all the revenue for the specific region.

The end of the sample document was not included in the previous image; below you can see the total revenue for the entire document. The same Revenue metric was used, but because of its location in the document it calculates as a grand total.

<u>Web Region</u>	
Employee	Revenue
Walker:Robert	\$3,902,762
Total Regional Revenue	\$3,902,762

TOTAL REVENUE	\$35,023,708
----------------------	---------------------

Hyperlinks

A hyperlink connects text or an image in a document to a web page (the target of the hyperlink). When the document is open in PDF View, as shown

below, the cursor changes to a hand when you hover the cursor over text that contains a hyperlink.



The screenshot shows the MicroStrategy logo at the top. Below it is a section titled "Central Region". Under this title is a table with two columns: "Employee" and "Revenue". The first row of data shows "Eller" followed by a yellow-highlighted cell containing the URL "http://www.example.com" and the revenue "\$847,227". A mouse cursor is hovering over the URL, changing to a hand icon. The table continues with "Gale:Loren" (\$1,669,290), "Torrison:Mary" (\$1,690,350), and "Zemlicka:George" (\$822,500). The final row is a summary row with a grey background: "Total Regional Revenue" and "\$5,029,366".

Employee	Revenue
Eller	\$847,227
Gale:Loren	\$1,669,290
Torrison:Mary	\$1,690,350
Zemlicka:George	\$822,500
Total Regional Revenue	\$5,029,366

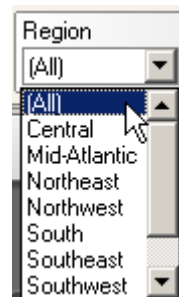
Click the hyperlinked text to open the target (in this example, the website www.example.com) in another window. Hyperlinks are functional in PDF View in Developer, as well as in Express Mode, Interactive Mode, and Editable Mode in MicroStrategy Web.



If text is underlined but the cursor remains a pointer, the text is a link, which is functional in MicroStrategy Web, not Developer. For an example, see [Linking to other documents and reports, page 58](#).

Grouping documents to create pages of data

If a document is organized so that the data is grouped by page, drop-down lists are displayed at the top of the screen, as shown in the portion of the sample document displayed below. You can select which elements, or subsets of data, to display. Each subset of data is called a page. The document sample on [page 20](#) displays all regions.

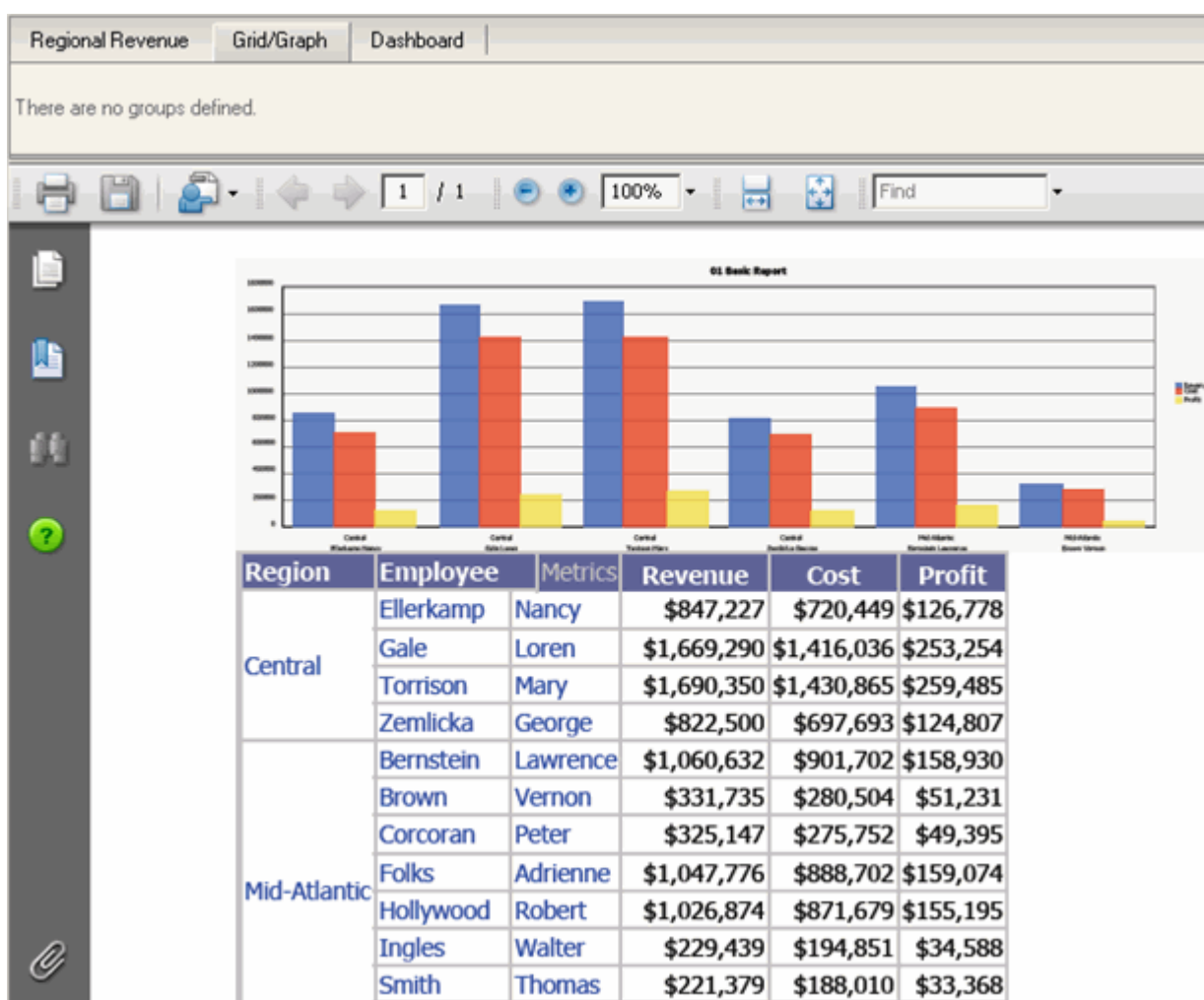


Pages result from a document designer creating groups on the document. Grouping information together helps people who read the document to understand the data better.

Layouts

A multi-layout document contains multiple documents, each in its own layout, creating a “book” of documents. Each layout functions as a separate document, with its own grouping, page setup, and so on, but the layouts are generated into a single PDF document. If a document contains multiple layouts, tabs are displayed at the top of the screen. Click a tab to select which layout to display.

The sample document on [page 20](#) displays the Regional Revenue layout. Click the Grid/Graph tab, and that layout is now displayed, as shown below.



When you export a multi-layout document to Excel, each layout is placed into a separate worksheet of the spreadsheet (see [Exporting a document to Excel, page 32](#) for instructions). When you export a multi-layout document to a PDF file, each layout starts on a new page (see [Exporting a document to a PDF file, page 36](#) for instructions).

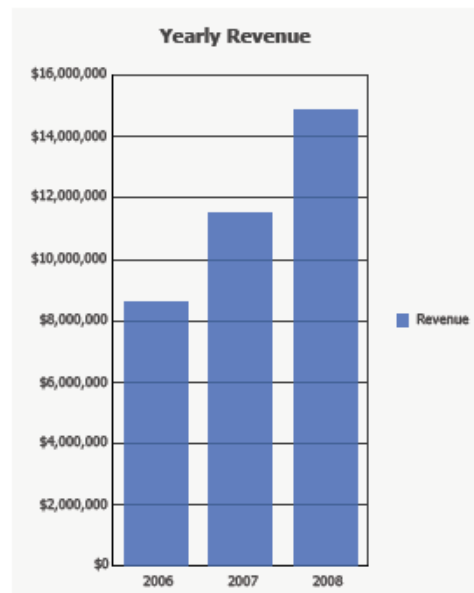
Displaying reports on documents: Grid/Graphs

A Grid/Graph is the object used to display MicroStrategy reports on documents. Like a report, a Grid/Graph can be displayed as a grid, a graph, or both:

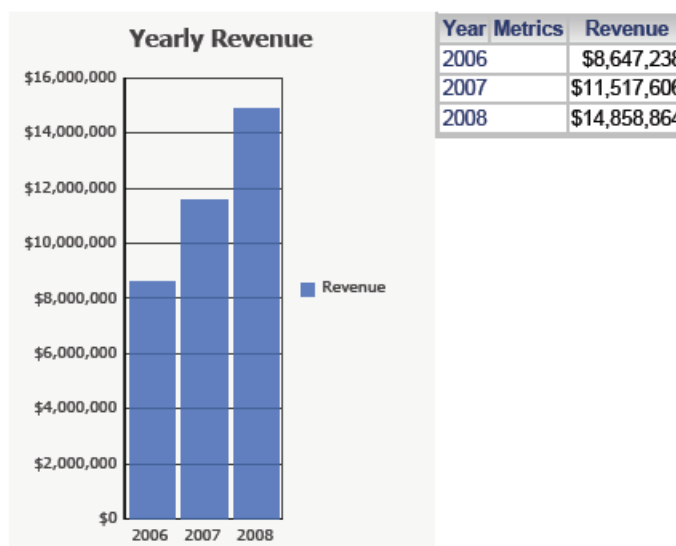
- **Grid:** displays the Grid/Graph as a standard MicroStrategy grid with rows and columns of attributes and metrics, as shown below.

Year Metrics	Revenue
2006	\$8,647,238
2007	\$11,517,606
2008	\$14,858,864

- **Graph:** displays the data visually like a standard MicroStrategy graph. The same Grid/Graph is shown below as in graph view.



- **Grid and Graph:** displays both Grid and Graph views simultaneously. The same Grid/Graph is shown below in Grid and Graph view.



The data on the Grid/Graph comes from a dataset report, just as the attribute or metric data comes from a dataset report.

If the data in the dataset report changes (for example, new employees are added to the data warehouse), the data in the Grid/Graph on the document changes. However, changes, such as formatting the employee names, made to the MicroStrategy report are not propagated to the Grid/Graph in the document. If an object, such as the Employee attribute is removed from the MicroStrategy report, it cannot be displayed in the Grid/Graph in the document.



A special type of Grid/Graph, a shortcut, is linked to the MicroStrategy report. Grid/Graph shortcuts do reflect changes made to the MicroStrategy report.

Report Services (RS) dashboards



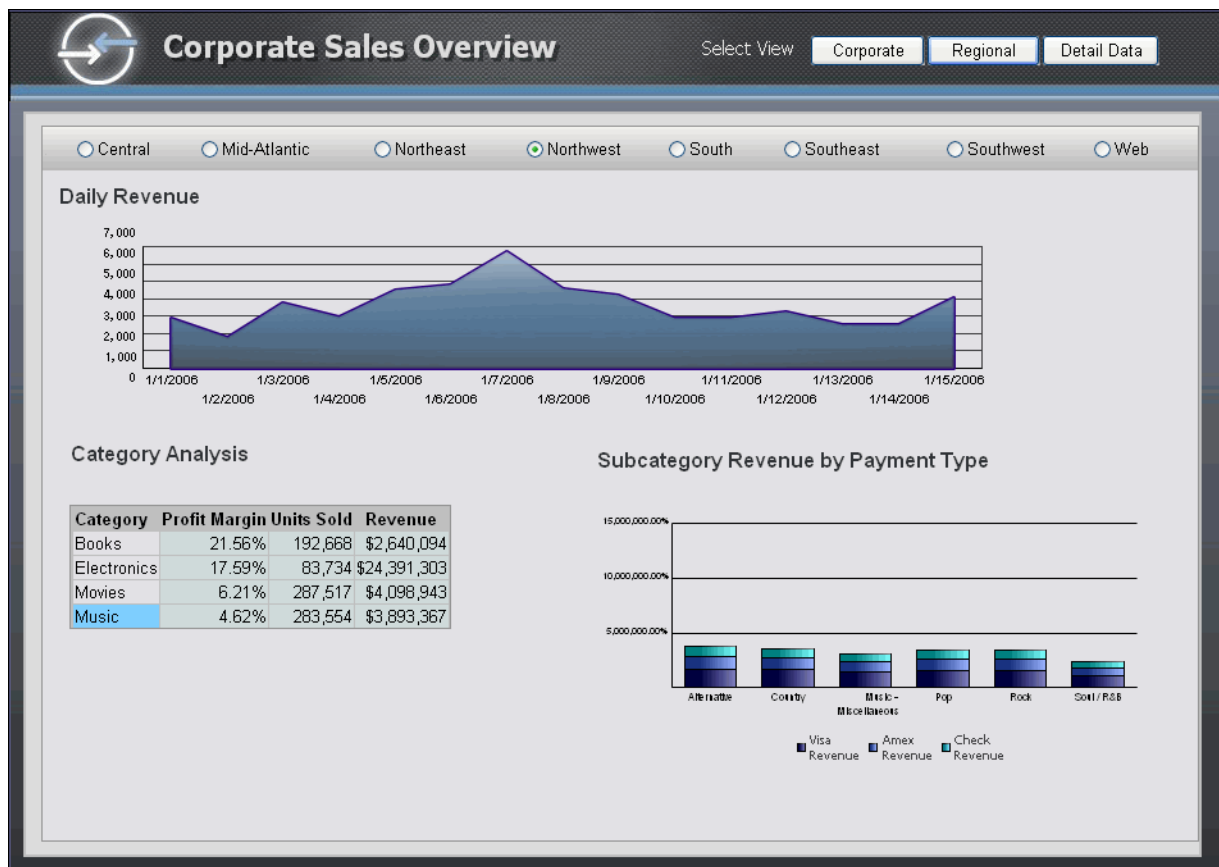
An RS dashboard is a special type of document, not a part of a document.

A Report Services (RS) dashboard is commonly only one page long, is intended to be viewed online, and provides interactive features that let you change how the RS dashboard's data is viewed. By being only one page long, an RS dashboard makes it easy to view the whole document at one time and see all the information. An RS dashboard allows interactivity from analysts,

so each user can change how they see the data, within the limits of what the RS dashboard allows them.

In Flash Mode, Express Mode, and Interactive Mode in MicroStrategy Web, you can interact with an RS dashboard's widgets, selectors, and panel stacks (for descriptions of these objects, see [Understanding the parts of an RS dashboard, page 42](#)). You can interact with an RS dashboard in Flash View in Developer, but you cannot save any changes.

An example of an RS dashboard is shown below.



For a more detailed description of an RS dashboard, including the types of objects used on an RS dashboard, see [Understanding the parts of an RS dashboard, page 42](#).

Printing documents

You can print a document from PDF View.

To print a document

- 1 In Developer, double-click the document name or icon. The document opens in PDF View, in Acrobat Reader.
- 2 Click the **Print** icon on the Acrobat Reader toolbar. The Print dialog box opens.
- 3 You can change print settings, such as the printer to be used and the page range to print, as needed.
- 4 Click **OK** to begin printing the document.

Previewing documents for MicroStrategy Web

In Developer, you can preview how a document will display in MicroStrategy Web. For an analyst, this allows you to manipulate the data in some of the ways that are available in Flash Mode. It is also useful for a document designers, to help them size and place objects.

- Use **Flash View** to preview the document as it will look in Flash Mode in MicroStrategy Web. You can perform some manipulations such as pivoting and sorting. You can interact with widgets to preview how changes (such as the location of the legend or the colors for the increments and decrements bars) will affect the widget, but you cannot save these changes.
- Use **HTML View** to preview the document as it will look in other MicroStrategy Web modes.

For detailed information on viewing and interacting with documents in MicroStrategy Web, see [Chapter 3, Analyzing Documents in MicroStrategy Web](#).

HTML View, Flash View, and PDF View all preview the results of the document. To print the document, use PDF View, as described in [Printing documents, page 26](#).

After you preview the document, you can export it to HTML or Flash. For instructions, see [Exporting documents, page 31](#).

The sample document shown in PDF View in [Understanding the parts of a document, page 20](#) is displayed in HTML View below. Notice that hyperlinks (the underlined “Central Region” text, which allows you to access a web page) are still underlined, but are formatted in a purple font to indicate the hyperlink. When you hover the cursor over the hyperlink, the cursor still changes to a hand, but the target of the hyperlink is not displayed, unlike in PDF View.

Regional Revenue
Grid/Graph
Dashboard

Region
(All)



[Central Region](#)

Grouping: Region: Central

Employee	Revenue
Ellerkamp:Nancy	\$847,227
Gale:Loren	\$1,669,290
Torrison:Mary	\$1,690,350
Zemlicka:George	\$822,500
Total Regional Revenue	\$5,029,366

[Mid-Atlantic Region](#)

Grouping: Region: Mid-Atlantic

Employee	Revenue
Bernstein:Lawrence	\$1,060,632

To preview a document for MicroStrategy Web

- 1 In Developer, double-click the document name or icon. The document opens in PDF View, in Acrobat Reader.
- 2 To preview the document for Flash Mode, click **Flash View** on the toolbar.
- 3 To preview the document for other MicroStrategy Web modes, click **HTML View** on the toolbar.



If **Flash View** or **HTML View** is not available on the toolbar, it is not an available display mode for this document. A document designer must enable the view, as described in the *Report Services Document Creation Guide*.

Scheduling documents

Scheduling a document, or subscribing to a document, automatically delivers a document to one of the following, on a regular schedule:

- The History List, which is a folder where report and document results can be stored. When a scheduled document runs, a message appears in your History folder. Double-clicking the message retrieves the document or, if the document failed, the error message.
- To the cache, which is the stored result set from an executed document, or the definition and data of a previously run document. Using caches improves the query response time when the document is run again. For general information on document caches, see the *Report Services Document Creation Guide*. This type of subscription is available only if you have the **Administer Caches** privilege.
- A mobile device such as a BlackBerry®, using MicroStrategy Mobile. This type of subscription is available only if you own the MicroStrategy Mobile product. For general information about MicroStrategy Mobile, see the *Mobile Analysis Guide*.



If you have purchased a Distribution Services license, you can use MicroStrategy Web to create subscriptions for documents to be emailed to users, saved as Excel or PDF files, or printed. For instructions to subscribe a document to be sent to your History list, see [Subscribing to documents using MicroStrategy Distribution](#)

[Services, page 132](#). For instructions to subscribe a document in another format, see the *MicroStrategy Web Help*.

To schedule a document

- 1 Do either of the following:
 - Execute the document
 - Select the document in Developer
- 2 From the **File** menu, point to **Schedule Delivery To**, and select the type of subscription to create:
 - To schedule a History List message, select **History List**. The History List Subscription Editor opens.
 - To schedule a cache update, select **Update Cache**. The Cache Update Subscription Editor opens.
 -  The Update Cache option is available only if you have the Administer Caches privilege.
 - To schedule a Mobile delivery, select **Mobile**. The Mobile Subscription Editor opens.
 -  The Mobile option is available only if you own the MicroStrategy Mobile product.
- 3 In the **Name** field, type a name for the subscription. The default name is the name of the document and the time that the subscription is created.
- 4 From the **Schedule** drop-down list, select a schedule to control how often the subscription occurs.
- 5 To execute the document immediately after the subscription is saved, select the **Run subscription immediately** check box.
- 6 If you are creating a History List subscription, you can specify that newer versions of the document overwrite any previous versions of the document in your History List, by selecting the **The new scheduled report will overwrite older versions of itself** check box.
- 7 By default, a subscription continues to run until it is deleted. To end the subscription on a specific date:
 - a Select the **Expire subscription on** check box.

- b Use the drop-down calendar to select the date that you want the subscription to end.
- 8 You can specify that you are emailed when the subscription executes:
 - a Select the **Send notification to email address** check box.
 - b Select an email address from the drop-down list.
- 9 Click **OK** to save and close the Subscription Editor. The subscription is created and the document is delivered, according to the schedule.

Exporting documents

Exporting allows you to send data to other applications. You can use this functionality to:

- Export data to a Microsoft Excel spreadsheet for further manipulation and use. For an example of a document exported to Excel and instructions to export documents to Excel, see [Exporting a document to Excel, page 32](#).
 - Export an RS dashboard to a Flash file, so that you and other users can view the Flash content and interact with it off-line, without using MicroStrategy. The Flash file is a fully interactive, stand-alone Flash RS dashboard. For instructions to export documents to Flash files, to enable links, and to display them in Firefox, see [Exporting a document to Flash, page 34](#).
 - Export a document to a PDF, so that you can distribute the document in PDF format. You can view the PDF on another computer, a Nook, or a Kindle. For instructions, see [Exporting a document to a PDF file, page 36](#).
 - Export the document to an HTML file, so that you and other users can view it in a separate browser window. For instructions, see [Opening a document in a separate browser window: Exporting a document to HTML, page 38](#).
-  If an export format is not available on the toolbar, that export format has not been made available for this document.

Exporting a document to Excel

You can export data to a Microsoft Excel spreadsheet for further manipulation and use. The resulting Excel spreadsheet looks like a PDF of the document. For example, objects have the same position and size in Excel that they do in a PDF.

	A	B	C	D	E	F
1	MicroStrategy					
2	<u>Central Region</u>					
3	Employee			Revenue		
4	Ellerkamp:Nancy			\$847,227		
5	Gale:Loren			\$1,669,290		
6	Torrison:Mary			\$1,690,350		
7	Zemlicka:George			\$822,500		
8	Total Regional Revenue			\$5,029,366		
9	<u>Mid - Atlantic Region</u>					
10	Employee			Revenue		
11	Bernstein:Lawrence			\$1,060,632		
12	Brown:Vernon			\$331,735		
13	Corcoran:Peter			\$325,147		
14	Folks:Adrienne			\$1,047,776		
15	Hollywood:Robert			\$1,026,874		
16	Ingles:Walter			\$229,439		
17	Smith:Thomas			\$221,379		
	Components					

For instructions to export a document to Excel, see [To export a document to Excel, page 33](#).

Exporting a multi-layout document to Excel

A multi-layout document contains multiple documents, each in its own layout, but the layouts are generated into a single PDF document. If a document contains multiple layouts, tabs are displayed at the top of the screen in PDF View. (See [Layouts, page 23](#) for a further description and example.)

When you export a multi-layout document to Excel, each layout is placed into a separate worksheet in the spreadsheet. The worksheets are named for the document, not the layouts. For example, if the name of the document is Multilayout Example, the name of the Excel spreadsheet will also be

Multilayout Example. If the document contains two layouts, the names of the Excel worksheets will be Multilayout Example, 1 of 2 and Multilayout Example, 2 of 2.

You can choose to export only the current layout, instead of all layouts. (The current layout is the layout selected in PDF View.) If you export the current layout to Excel, the name of the single worksheet is the name of the document.



In Excel 2000, all layouts are exported into one worksheet. Use Excel 2003, Excel XP, and newer versions to export layouts to separate worksheets. If you are exporting layouts in MicroStrategy Web, change the User Preference for Excel Options to Excel XP, Excel 2003, and newer versions. For more information and detailed instructions, see the *MicroStrategy Web Help*.

To export a document to Excel

- 1 In Developer, double-click the document name or icon. The document opens in PDF View, in Acrobat Reader.
- 2 Click the **Export to Excel** icon in the toolbar. The Export to Excel dialog box opens.



Note the following:

- If the Export to Excel icon is unavailable, Excel exporting has not been made available for this document.
- If the Export to Excel dialog box is not displayed, you do not need to complete the remaining steps of this procedure. In this case, the Excel spreadsheet opens immediately.

- 3 If your document contains multiple layouts (see [Layouts, page 23](#) for a description of layouts), you can choose to export the entire document or only the current layout.

- To export the entire document, select **All layouts**. Each layout is placed into a separate worksheet in the Excel spreadsheet.



In Excel 2000, all layouts are exported into one worksheet. Use Excel 2003, Excel XP, and newer versions to export layouts to separate worksheets.

- To export only the layout displayed in PDF View, select **Current layout**.

- 4 If your document contains page-by fields (see [Grouping documents to create pages of data, page 22](#)), you can choose to export the entire document or only the page currently displayed to Excel. Page-by allows you to view the document by a selected group element.
 - To export the entire document, clear the **Expand page-by** check box.
 - To export only the page displayed in PDF View, select the **Expand page-by** check box.
- 5 Click **OK**. An Excel spreadsheet containing the selected data opens in a separate window.

Exporting a document to Flash

You can view and interact with the Flash content, such as widgets and selectors, of an RS dashboard in Flash Mode in MicroStrategy Web. If you export the RS dashboard to a Flash file, you and other users can also view it and interact with it off-line, without using MicroStrategy. The Flash file is a fully interactive, stand-alone Flash RS dashboard that works similar to the Flash RS dashboard in Flash Mode in MicroStrategy Web. The Flash file allows HTML content, images, Flash content, and other types of information to be exported in a single file that can be opened in an Internet browser or Adobe Reader. For general information on RS dashboards, including the objects that can be used on them, creating RS dashboards, and examples, see [Chapter 3, Analyzing Documents in MicroStrategy Web](#).



A selector that slices the data includes all the slices, and therefore all the data, in the exported document. An off-line user can change the selector and update the target. A selector that filters the data includes only the data for the current selections in the document. An off-line user cannot change the selector and update the target. The document designer determines whether a specific selector filters or slices, as described in the *Report Services Document Creation Guide*.

All the Flash files in a project are exported in either MHT or PDF format:

- **MHT file format:** can be opened in Internet Explorer, and in Firefox with a third-party plug-in (see [Displaying exported RS dashboards in Firefox](#) below for instructions).
- **PDF file format:** can be opened in Adobe Reader 9.

By default, when you export a Flash RS dashboard, any links to web pages, reports, or other documents are disabled. A document designer must enable

links in the Project Configuration Editor, as described in the *Report Services Document Creation Guide*.

Additionally, if the RS dashboards are being exported to MHT files, you must activate the links in the RS dashboard, by adding the folder containing the stand-alone Flash document to the list of Trusted locations in the Adobe Flash Player Settings Manager. If the RS dashboards are being exported to PDF files, Adobe Reader will prompt you, when you click a link, to verify that the link is trusted.

Displaying exported RS dashboards in Firefox

You can use Firefox to open the exported MHT file for an RS dashboard, if you install the UnMHT add-in version 5.4.0 or higher. This software can be downloaded from http://www.unmht.org/unmht/en_index.html.



The third-party product (UnMHT) is manufactured by vendors independent of MicroStrategy. MicroStrategy makes no warranty, expressed, implied, or otherwise, regarding this product, including its performance or reliability.

In addition, to open an exported MHT file in Firefox using a Macintosh operating system, you must also change the file association for MHT files to Firefox. File associations determine which programs open various file types.

Exporting documents to Flash

To export a document to Flash

- 1 In Developer, double-click the document name or icon. The document opens in PDF View, in Acrobat Reader.
- 2 Click the **Export to Flash** icon on the toolbar. A dialog box opens.

If the Export to Flash icon is unavailable, Flash exporting has not been made available for this document.
- 3 You can choose to either:
 - Open the Flash file, by clicking **Open**. A copy of the document opens in a browser.

- Save the Flash file, by clicking **Save**. Name and save the file. Do not change the file type. You are returned to the Document Editor.



To activate the links in the document, if the document is exported to an MHT file, end users must add the folder containing the stand-alone Flash document to the list of **Trusted locations** in the Adobe Flash Player Settings Manager.

Exporting a document to a PDF file

Export a document to a PDF, so that you can distribute the MicroStrategy data in PDF format. PDF format retains the data structure and formatting of the document, so that the document still looks professional. The clarity and ease of analysis is preserved as well. You can view the PDF on any device with a PDF reader, such as another computer, a Linux machine, a Nook, or a Kindle.

PDF files also allow you to send the data in the easiest possible way, by emailing it, while retaining the structure and formatting of the document. For example, you send out monthly updates about your company's financial data to a group of shareholders. Emailing the PDF of the document means that the shareholders receive a professionally formatted document with clean, clear information every time, without extra work from the document designer or administrator. If you set up subscriptions, the PDF is sent automatically on the correct day of the month. (For information on subscriptions, see [Subscribing to documents using MicroStrategy Distribution Services, page 132](#).)

Exporting a multi-layout document to a PDF file

A multi-layout document contains multiple documents, each in its own layout, but the layouts are generated into a single PDF document. If a document contains multiple layouts, tabs are displayed at the top of the screen in PDF View. (See [Layouts, page 23](#) for a further description and example.)

When you export a multi-layout document to a PDF file, each layout starts on a new page. You can instead choose to export only the current layout, instead of all layouts. (The current layout is the layout selected in PDF View.)



If the PDF will be viewed on a Kindle or Nook, you should expand all layouts so that the Kindle or Nook user can view all the data.

By default, the layouts are displayed as bookmarks, whether you export all layouts or only the current layout. The document designer may have chosen to not create the bookmarks, however.

To export a document to a PDF file

- 1 In Developer, double-click the document name or icon. The document opens in PDF View, in Acrobat Reader.
- 2 Click the **Export to PDF** icon in the toolbar. The Export to PDF dialog box opens.
 -  Note the following:
 - If the Export to PDF icon is unavailable, PDF exporting has not been made available for this document.
 - If the Export to PDF dialog box is not displayed, you do not need to complete the remaining steps of this procedure. The PDF opens immediately.
- 3 If your document contains multiple layouts (see [Layouts, page 23](#) for a description of layouts), you can choose to export the entire document or only the current layout.
 - To export the entire document, select **All layouts**. Each layout will start on a new page.
 -  If your document will be displayed on a Kindle or Nook, export all layouts, so that Kindle and Nook users can view all the data.
 - To export the current layout only, select **Current layout**.
- 4 If your document is grouped (see [Grouping documents to create pages of data, page 22](#) for a description of groups and pages), you can choose to export the entire document or only the selected group element to PDF. Page-by allows you to view the PDF by a selected group element.
 - To export the entire document, select the **Expand page-by** check box. If your document will be displayed on a Kindle or Nook, expand page-by, so that Kindle and Nook users can view all the data.
 - To export only the selected group element, clear the **Expand page-by** check box.
- 5 Click **OK**. The PDF opens in another instance of the Acrobat Reader.

- 6 From the **File** menu, select **Save**. Name and save the document.

Opening a document in a separate browser window: Exporting a document to HTML

You can open the current document in a separate browser window outside of MicroStrategy. This allows you to preview what the document will look like in MicroStrategy Web.

To open a document in a separate browser window

- 1 In Developer, double-click the document name or icon. The document opens in PDF View, in Acrobat Reader.
- 2 Click the **Export to HTML** icon in the toolbar. The Export to HTML dialog box opens.

Note the following:

 - If the Export to HTML icon is unavailable, HTML exporting has not been made available for this document.
 - If the Export to HTML dialog box is not displayed, you do not need to complete the remaining steps of this procedure. A copy of the document opens in a browser.
- 3 If your document contains multiple layouts (see [Layouts, page 23](#) for a description of layouts), you can choose to export the entire document or only the current layout.
 - To export the entire document, select **All layouts**.
 - To export the current layout only, select **Current layout**.
- 4 If your document contains page-by fields (see [Grouping documents to create pages of data, page 22](#) for a description of groups and pages), you can choose to export the entire document or only the selected group element to HTML. Page-by allows you to view the document by a selected group element.
 - To export the entire document, clear the **Expand page-by** check box.
 - To export only the selected group element, select the **Expand page-by** check box.

- 5 Click **OK**. A copy of the document opens in a browser.

ANALYZING DOCUMENTS IN MICROSTRATEGY WEB

Introduction

Documents in MicroStrategy Web have the same functionality as documents in Developer, such as viewing, printing, and exporting. In MicroStrategy Web, you can also interact with documents, schedule them, and send them to specified email addresses. You can also interact with a special type of document, called a Report Services (RS) dashboard, which allows more interactivity than a document. For example, an RS dashboard can contain a graph that displays data for a range of a time. You can select the time range to view, to focus on a few dates or to see trends over a longer period of time. (This is a Timer Series Slider widget; for an example, see [Analyzing a Time Series Slider widget, page 122](#).) For a more detailed description of RS dashboards and the objects that they contain, see [Understanding the parts of an RS dashboard, page 42](#).

These MicroStrategy Web features are discussed briefly below. For details on any document functionality in MicroStrategy Web, consult the *MicroStrategy Web Help*.

- [Understanding the parts of an RS dashboard, page 42](#)
- [Opening and interacting with a document in MicroStrategy Web, page 70](#)

- [Flash analysis and interactivity: widgets, page 83](#)
- [Exporting a document in MicroStrategy Web, page 126](#)
- [Printing a document in MicroStrategy Web, page 130](#)
- [Adding documents to your History List, page 131](#)
- [Subscribing to documents using MicroStrategy Distribution Services, page 132](#)

You can also display and interact with Visual Insight (VI) dashboards, which are customized, interactive displays that you can use to explore your business data. For example, you can sort and rearrange data in an interactive grid, perform manipulations on the data to display only the information that you are interested in, and display visual representations of the data in the VI dashboard to make the data easier to interpret. For details and examples, see [Chapter 4, Exploring Your Data with Visual Insight Dashboards](#).

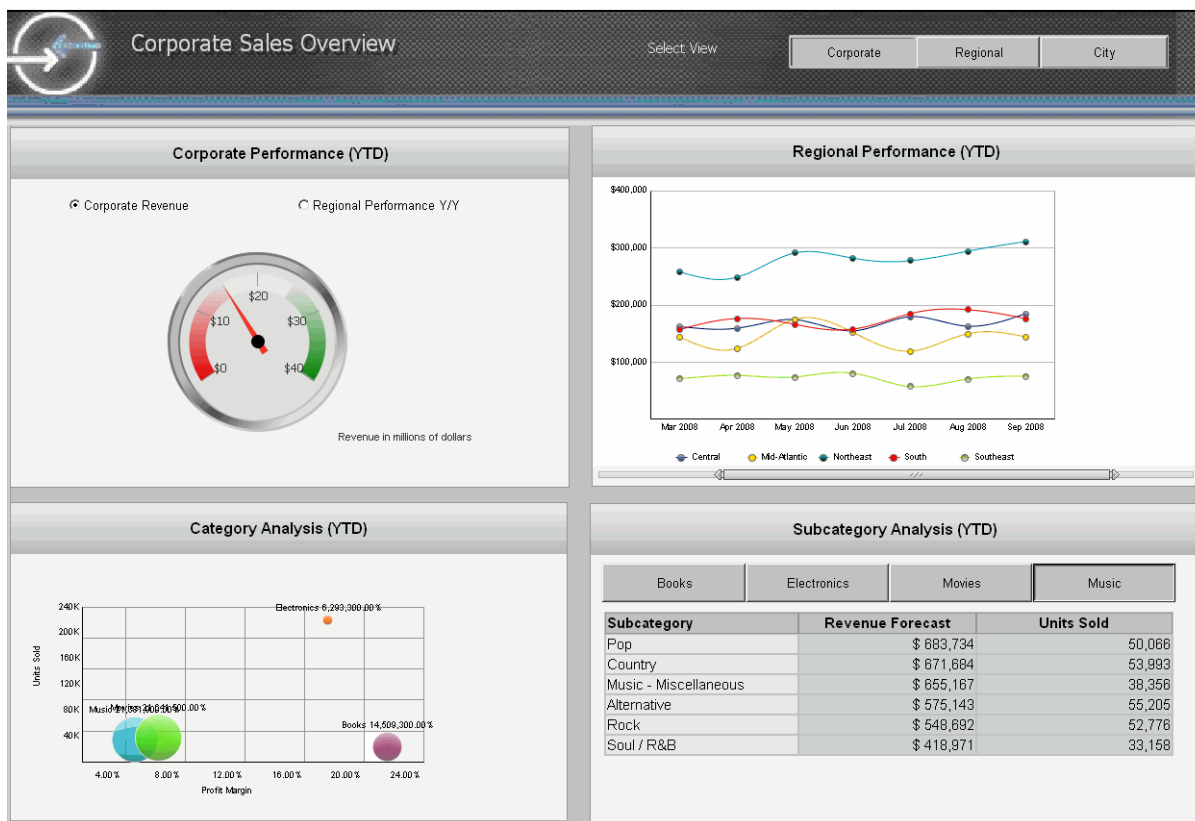
Understanding the parts of an RS dashboard

An RS dashboard is a display of related sets of data on one screen. An RS dashboard is commonly used to assess company or personal performance, to take a quick status check of the company, or to monitor personal work or work group contributions to overall goals of the business. RS dashboards summarize key business indicators by presenting them in visually intuitive, easy-to-read, interactive documents. Since it is usually only one page long, an RS dashboard makes it easy to view the whole document at one time and see all the information. An RS dashboard allows interactivity, so each analyst can change how he sees the data, within the limits of what the RS dashboard allows. Open an RS dashboard in Flash Mode in MicroStrategy Web to be able to interact with its widgets, selectors, and panel stacks.



You can preview an RS dashboard in Flash View in Developer, and interact with some of the RS dashboard objects. You cannot save changes in Flash View. For steps to access Flash View, see [To preview a document for MicroStrategy Web, page 29](#).

The following RS dashboard presents several common dashboarding qualities:



Common dashboard characteristics in the example shown above include:

- The gauge, which shows corporate revenue at a glance.
- The two graphs, which display regional and product performance in an easy-to-understand format.
- The buttons at the top right (Corporate, Regional, and City), which allow a user to view different areas of the business, providing a quick status check across the company.

These and other RS dashboard objects are described in the following sections:

- [Analysis at a glance: Gauge widget and radio button selector, page 44](#)
- [Analyzing ranges of time: Graph report and slider selector, page 45](#)
- [Analyzing specific attributes, elements, or metrics: Grid and button bar selector, page 46](#)
- [Analyzing across the company: Panels and button bar selector, page 46](#)

- [Interacting with the RS dashboard: Selectors, page 47](#)
- [Using a grid or graph as a selector, page 52](#)
- [Drilling into related data on grids and graphs, page 53](#)
- [Linking to other documents and reports, page 58](#)
- [How links, drilling, and selectors work together, page 66](#)
- [Grouping documents: Page-by, page 68](#)
- [Uncluttering the RS dashboard: Full Screen mode, page 69](#)
- [Interacting with grids and graphs in Flash Mode and Express Mode, page 63](#)

Analysis at a glance: Gauge widget and radio button selector

The image below is an example of a gauge graph that is used at the top of the RS dashboard to highlight corporate revenue and regional performance.



Objects such as gauge graphs, funnel graphs, gauge widgets, thermometer widgets, and cylinder widgets can provide a quick view of important KPIs. These graphs and widgets are good for analyzing data at a quick glance. For a complete list of widgets that can be used in RS dashboards, see [Flash analysis and interactivity: widgets, page 83](#).

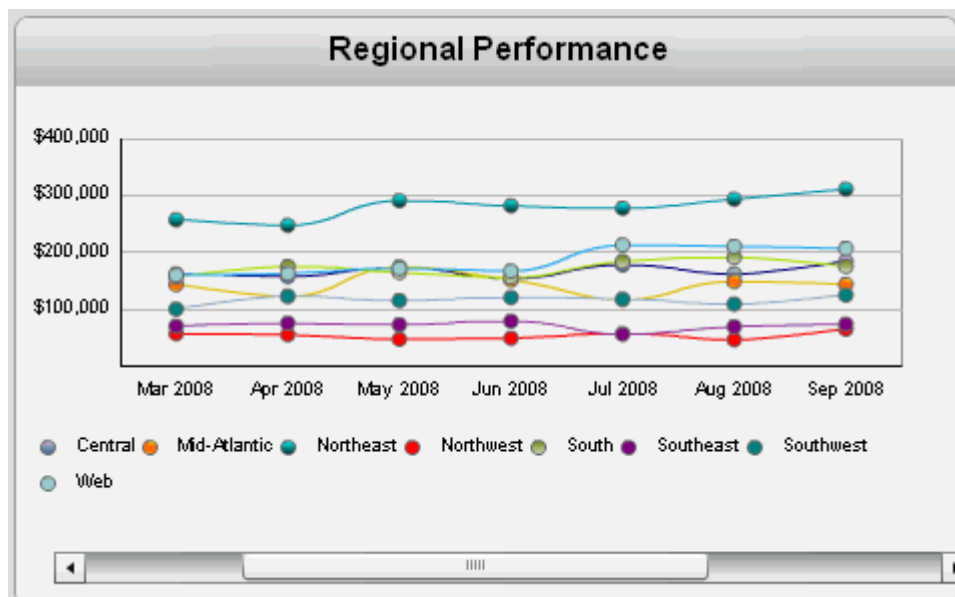
If you select the Regional Performance radio button, the gauge changes to display regional performance data. The radio button is a selector, which

allows you to change the data that you are viewing. A selector can be displayed as a button bar, a drop-down list, radio buttons, and so on, as described in [Interacting with the RS dashboard: Selectors, page 47](#).

Analyzing ranges of time: Graph report and slider selector

You can use the slider along the bottom of the Regional Performance graph to change the length of time displayed and specific range of time covered in the graph's data.

The RS dashboard initially displays regional performance for August 2005 to February 2006. You can move the slider to change the range of time, for example, to display March to May 2008. You can extend the length of time displayed by dragging the right end of the slider to lengthen or shorten the slider. The graph now shows performance for March to September 2008, as shown below.



This example uses a Grid/Graph displayed as a graph report and a slider-style selector. Selectors can be displayed as button bars, drop-down lists, radio buttons, and so on, as described in [Interacting with the RS dashboard: Selectors, page 47](#).

Analyzing specific attributes, elements, or metrics: Grid and button bar selector

In the RS dashboard sample above, the buttons in the Subcategory Analysis grid can be used to change the product category displayed.

The RS dashboard initially displays data for the Music category. Click the **Books** button to show data for that product category instead, as shown below.

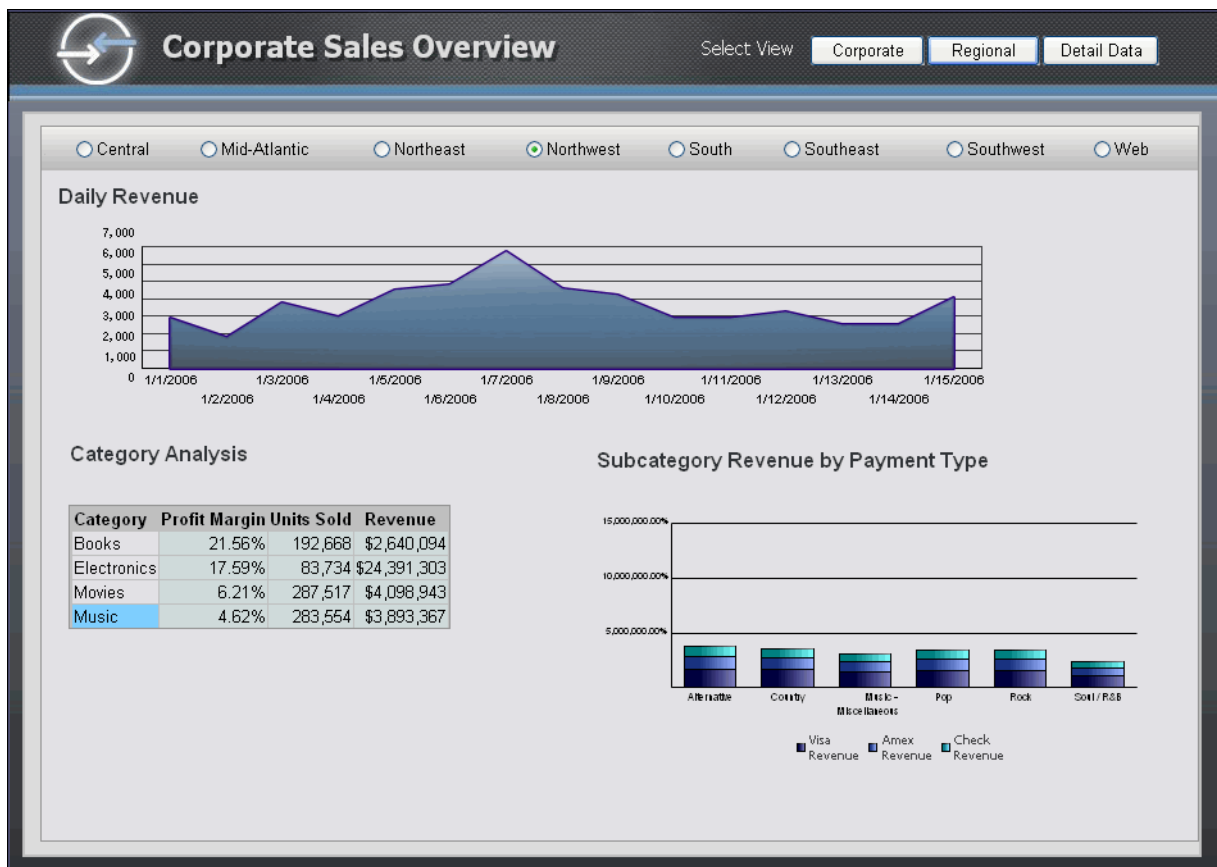
Subcategory Analysis		
Books Electronics Movies Music		
Subcategory	Revenue Forecast	Units Sold
Science & Technology	\$ 868,612	25,658
Art & Architecture	\$ 432,156	29,554
Business	\$ 416,906	29,422
Sports & Health	\$ 328,404	27,743
Literature	\$ 281,417	40,312
Books - Miscellaneous	\$ 249,584	39,979

This example uses a Grid/Graph displayed as a grid report and a button bar selector. A selector can be displayed as a button bar, a drop-down list, radio buttons, and so on, as described in [Interacting with the RS dashboard: Selectors, page 47](#).

Analyzing across the company: Panels and button bar selector

Another example of a button bar in this example is the button bar at the top right of the RS dashboard. You can use the buttons to switch views, displaying a different set of grids and graphs which show a different set of data.

When you click the **Regional** button at the top of the RS dashboard, a different panel, displaying a different set of grids and graphs is displayed, as shown below:



Interacting with the RS dashboard: Selectors

Selectors provide RS dashboards with interactivity, allowing each user to change how he sees the data. A selector can change panels, the focus of a Grid/Graph (the document object that displays a report), or dynamic text fields (a text field that is a reference to an object on a report) in a panel stack, as described below.

Selectors allow you, in Interactive Mode, Editable Mode, and Flash Mode in MicroStrategy Web, to:

- Flip through the panels in a panel stack. A panel stack is a collection of panels, which allow you to see different predefined views of data in the same document.

For example, each panel can display a different grid, and the selector allows you to choose which panel, and thus which grid, to view.

By Region	By Category	By Year
-----------	-------------	---------

Profits

Region	Metrics	Profit
Northeast		\$1,300,732
Mid-Atlantic		\$673,084
Southeast		\$336,675

- Display different metrics or different elements of attributes, custom groups, or consolidations in a Grid/Graph report.

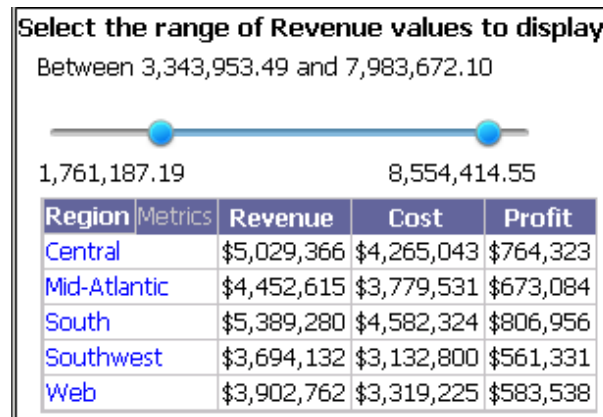
For example, a grid contains Region, Call Center, Year, and various metrics, as shown in the example below. This particular selector allows you to select which regions to display on the grid. You can therefore slice or filter the grid by the selected region or regions. Similarly, a selector can allow you to select which metrics to display. All regions and employees would be displayed, but with only the metrics chosen in the selector.

Region	Call Center	Year	Metrics	Profit	Profit Margin
Northeast	Boston	2006		\$62,469	15.35%
Northeast	Boston	2007		\$76,011	14.97%
Northeast	New York	2006		\$277,492	15.09%
Northeast	New York	2007		\$359,690	15.23%
Southeast	Atlanta	2006		\$40,109	14.97%
Southeast	Atlanta	2007		\$56,668	15.01%
Southeast	Miami	2006		\$49,458	15.05%
Southeast	Miami	2007		\$57,230	14.97%
Central	Milwaukee	2006		\$163,091	15.32%
Central	Milwaukee	2007		\$209,937	15.26%
Central	Fargo	2006		\$33,210	14.48%
Central	Fargo	2007		\$44,533	15.30%
South	New Orleans	2006		\$131,455	15.34%

☐ (All)
☒ Central
☐ Mid-Atlantic
☒ Northeast
☐ Northwest
☒ South
☒ Southeast
☐ Southwest
☒ Web

- Filter data based on a metric's values. This type of selector can be either of the following styles:
 - A slider, which you move to select the minimum and maximum values to display. For example, a document contains a grid with Region and the Revenue, Cost, and Profit metrics. A selector displays the range of

revenue values, and you can move the slider to select the minimum and maximum revenue to display or to hide.



- A qualification, which you complete to filter the metric's values. This type of metric condition selector allows you to select the operator (equals, greater than, between, and so on) and to type the value to filter on. For example, given the same regional grid described above, you could display only the revenue values greater than \$5,000,000 or only the top-ranking 5 regions in term of revenue.

Filter the Revenue metric:
Select an operator and type a value.

Greater than or equal to 500000

Region	Metrics	Revenue	Cost	Profit
Central		\$5,029,366	\$4,265,043	\$764,323
Northeast		\$8,554,415	\$7,253,683	\$1,300,732
South		\$5,389,280	\$4,582,324	\$806,956

The document designer can include a title bar on the selector. If the title bar is displayed, you can also select whether to filter on the metric values or rank.

- Filter another selector. For example, a document contains a grid with Subcategory and Item, filtered to display only the Books category. The document also includes two selectors. One selector displays the subcategories in the Books category (the Subcategory selector), while the other selector contains a list of individual books (the Item category). Both selectors target the grid, to display data for the selected Subcategory and Item. The Subcategory selector targets the Item selector, filtering the Item selector to display only the books in the subcategory chosen in the Subcategory selector. For example, if you select Literature from the Subcategory selector, the Item selector is updated to display only books

that fall under the Literature subcategory, instead of displaying a long list of every available book. This is shown below:

Literature	<Item>
SubcategoryItem	<Item>
Literature	The (All)
Literature	The Prince
Literature	The Fountainhead
Literature	Lord of the Old Man and the Sea
Literature	Atlas Lord of the Flies
Literature	The Atlas Shrugged
Literature	Brave The Catcher in the Rye
Literature	The Brave New World
Literature	Great The Weight of Water

- Display different elements of attributes, custom groups, or consolidations in a panel stack using dynamic text fields. A dynamic text field is a text field populated by the dataset; it is essentially a reference to an object on a report.

For example, a panel contains the dynamic text fields Region and Revenue from the Basic Report dataset. The selector allows you to choose which region to display on the panel. When you select Mid-Atlantic from the drop-down list of the selector, Mid-Atlantic and its revenue amount are displayed on the panel stack.

Mid-Atlantic
Regional Revenue
Mid-Atlantic \$4,452,615

A selector can target multiple objects. The same selector can control both a grid and dynamic text fields on the same panel. As described in the "filter another selector" example above, the same selector can target both a Grid/Graph report and another selector.

In Express Mode, you can reset all the selectors and groups on the document to their initial values, without re-executing the document. This is helpful if you want to start over and make different selections. To reset, click the **Reset Selections** icon .

Including or excluding data using a selector

An element selector or a metric condition slider selector can include or exclude the selected data. (An element selector displays different elements of

attributes, custom groups, or consolidations; a metric condition slider displays a slider to filter metric values or rank.) For example, the attributes that you choose in the selector can display in the target, or they can be hidden. If the selector title bar is displayed, you can change between including or excluding the selections.

The following document contains an element selector that displays regions and targets a Grid/Graph report. You can select regions and by default they are displayed rather than hidden in the grid, as shown below.

Select the regions to display or hide

(All) Central Mid-Atlantic **Northeast** **Northwest** South Southeast Southwest Web

Region	Employee	Metrics	Revenue	Cost	Profit
Northeast	De Le Torre	Sandra	\$607,895	\$514,795	\$93,100
	Kelly	Laura	\$2,350,720	\$1,992,726	\$357,994
	Kieferson	Jack	\$584,933	\$497,463	\$87,470
	Sawyer	Leanne	\$2,411,912	\$2,043,693	\$368,219
	Sonder	Melanie	\$295,108	\$251,183	\$43,925
	Yager	Beth	\$2,303,847	\$1,953,823	\$350,024
Northwest	Becker	Kyle	\$508,234	\$430,346	\$77,887
	Gedot	Harriet	\$739,741	\$629,086	\$110,655
	Hall	David	\$513,213	\$434,770	\$78,443

By clicking ☒ in the title bar, you can switch to hiding the selected regions. Notice in the image shown below that Northeast and Northwest are now crossed out. (Only a portion of the full grid is shown below.)

Select the regions to display or hide

(All) Central Mid-Atlantic ~~Northeast~~ ~~Northwest~~ South Southeast Southwest Web

Region	Employee	Metrics	Revenue	Cost	Profit
Central	Ellerkamp	Nancy	\$847,227	\$720,449	\$126,778
	Gale	Loren	\$1,669,290	\$1,416,036	\$253,254
	Torrison	Mary	\$1,690,350	\$1,430,865	\$259,485
	Zemlicka	George	\$822,500	\$697,693	\$124,807
Mid-Atlantic	Bernstein	Lawrence	\$1,060,632	\$901,702	\$158,930
	Brown	Vernon	\$331,735	\$280,504	\$51,231
	Corcoran	Peter	\$325,147	\$275,752	\$49,395
	Folks	Adrienne	\$1,047,776	\$888,702	\$159,074
	Hollywood	Robert	\$1,026,874	\$871,679	\$155,195
	Ingles	Walter	\$229,439	\$194,851	\$34,588
	Smith	Thomas	\$221,379	\$188,010	\$33,368
	Young	Sarah	\$209,634	\$178,331	\$31,303
South	Conner	Beatrice	\$1,650,742	\$1,397,270	\$253,472
	Nelson	Arthur	\$1,654,297	\$1,402,779	\$251,519
	Pierce	Charles	\$2,084,241	\$1,782,276	\$301,966

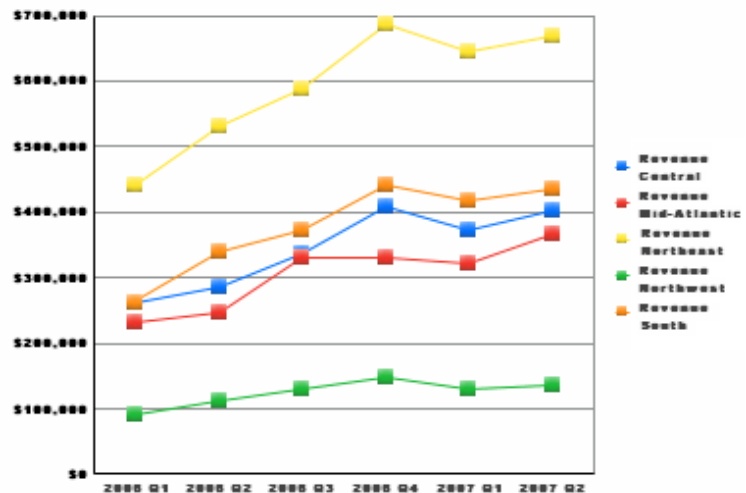
Using a grid or graph as a selector

Some grids and graphs can be used as selector. When you click an object on the grid or graph, its targeted Grid/Graph report or panel changes.

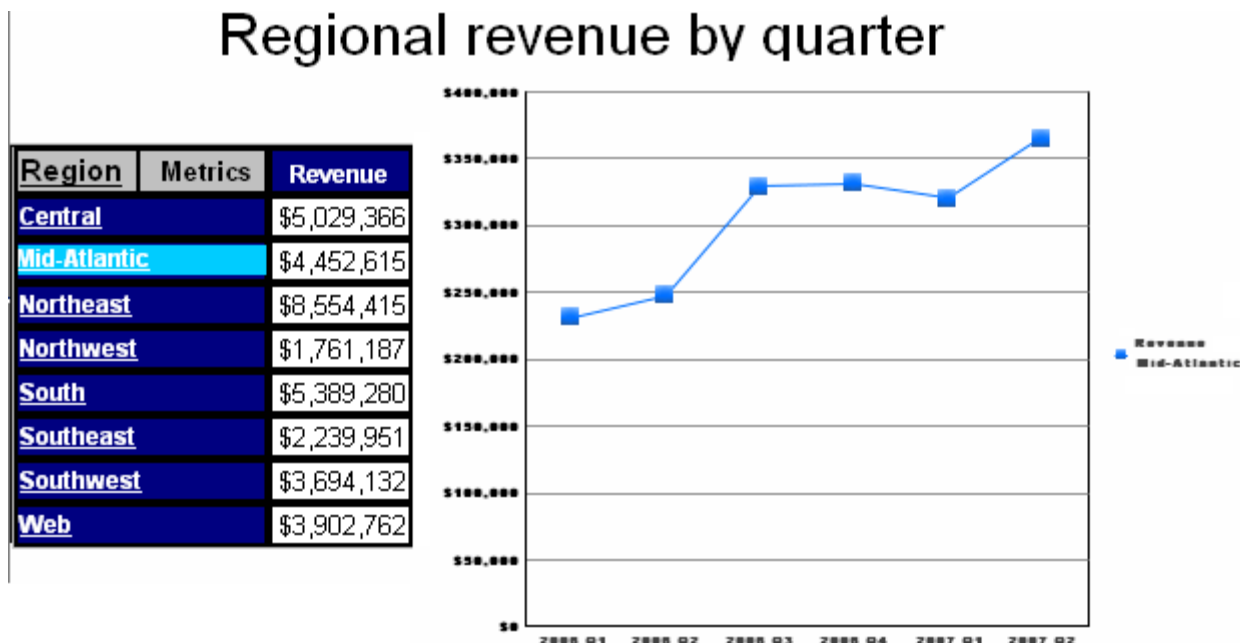
For example, two Grid/Graph reports are displayed in a document. The grid on the left shows revenue by region. The graph on the right shows revenue by quarter and region. Notice that the two Grid/Graph reports share a particular attribute (Region) and that Region in the grid is underlined, indicating a link.

Regional revenue by quarter

Region	Metrics	Revenue
<u>Central</u>		\$5,029,366
<u>Mid-Atlantic</u>		\$4,452,615
<u>Northeast</u>		\$8,554,415
<u>Northwest</u>		\$1,761,187
<u>South</u>		\$5,389,280
<u>Southeast</u>		\$2,239,951
<u>Southwest</u>		\$3,694,132
<u>Web</u>		\$3,902,762



Click a specific region, such as Mid-Atlantic, in the grid. The graph changes to display information for that region only, as shown below:



The grid on the left is controlling the graph on the right. In other words, this scenario uses one Grid/Graph report as a selector targeting another Grid/Graph report. The Grid/Graph report does not become a selector, but performs in a manner similar to a selector. A panel stack, rather than another Grid/Graph report, can be the target of a Grid/Graph report.

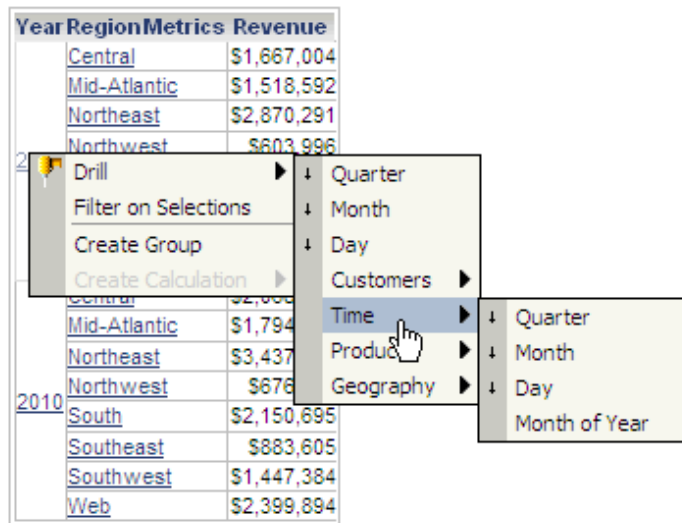
Drilling into related data on grids and graphs

Drilling allows you to view document data at levels other than that displayed in the document. (To understand levels, and for a basic introduction to drilling, see the *Basic Reporting Guide*.) You can investigate the data in your document quickly and easily with the help of drilling. Drilling automatically executes another document based on the original document to get more detailed or supplemental information. It allows you to retrieve more information after the document has been executed.

In a document, you can drill on a grid or a graph, if the document designer has enabled drilling. You can drill on a grid or graph in Interactive Mode, Editable Mode, and Express Mode in MicroStrategy Web.

For example, a document contains the Year and Region attributes, as well as the Revenue metric. When you execute the document in Interactive Mode, Year and Region are underlined, indicating that drilling is available for each

attribute. Right-click **2005**, select **Drill**, and then select **Time**. Notice that you can drill from Year down to Quarter, Month, Day, and Month of Year.



When you execute the same document in Express Mode, Year and Region are underlined. You can drill from Year to Quarter, as shown below, and from Region to Call Center.



Drilling is more limited in Express Mode because you can drill only on the default drill path of an attribute. This is defined when a drill map is created.

In Interactive Mode and Editable Mode, you can drill down, up, or across attributes, custom groups, and consolidations displayed in a grid or graph.

- Drilling down allows access to data at progressively lower levels within a hierarchy. For example, if the attribute level displayed for the Geography

hierarchy is Region, drilling down would allow you to see information at the State, City, or Store level.

- You can broaden the scope of information by drilling up to levels of data increasingly higher within a hierarchy. For example, if Time is shown at the date level, drilling up could display information at the Week, Month, or Quarter level.
- You can drill across from one attribute level to another, either within a hierarchy or across hierarchies. In other words, you can drill in any direction, allowing you to find specific element values.

In Express Mode, you can drill only on the default drill path of an attribute. This is defined when a drill map is created.

In Flash Mode, you can drill only to report objects within the dataset report that are not included in the grid or graph. (The dataset report is the report that provides the data to the Grid/Graph.) If all objects within the dataset report are displayed in the grid or graph, no drilling options are displayed.



The document designer can restrict drilling to within the dataset report in all modes. Paths that are not defined in the drill map are not included, even if an attribute in the dataset does not have a drill path.

To drill on a grid or graph

- 1 Open the document in Interactive Mode, Editable Mode, or Express Mode in MicroStrategy Web.
- 2 In Interactive Mode or Editable Mode, right-click an object on the grid or graph, select **Drill**, and then select the destination object. To select multiple objects, press and hold the **CTRL** key while clicking the objects.
- 3 In Express Mode, click an underlined object on the grid or graph. To select multiple objects, press and hold the **CTRL** key while clicking the objects.
- 4 In Flash Mode:
 - a Hover the cursor over the row or column header of the object that you want to use to drill. The pop-up menu icon  is displayed in the top right.
 - b Click the pop-up menu icon . The pop-up menu is displayed. Any objects to which you can drill are listed at the top of the pop-up menu.

- c From the menu, select the object that you want to drill to.

How drilling and selectors work together

When you drill on a document that contains an element selector, the attribute, consolidation, or custom group used in the selector becomes the page-by element for the drilled-to report or document.

- If only one element is chosen in the selector, the drilled-to report displays that element.
- If multiple elements are chosen in the selector, the drilled-to report displays the first selected element.

For example, a document contains a grid report that displays revenue values by Category and Subcategory. The document also contains a selector on Year that targets the grid. (Although Year is not displayed on the grid, it is included in the dataset report.) The document is displayed below in Interactive Mode, after 2010 has been selected in the selector. Note that the revenue for the Art & Architecture subcategory is \$158,651.

Select the years to display

☐ (All) ☐ 2009 ☒ 2010 ☐ 2011

Category	Subcategory	Revenue
Books	Art & Architecture	\$158,651
	Business	\$132,268
	Literature	\$98,868
	Books - Miscellaneous	\$103,587
	Science & Technology	\$265,505
	Sports & Health	\$109,327
Electronics	Audio Equipment	\$1,236,604
	Cameras	\$1,707,737
	Computers	\$614,989
	Electronics - Miscellaneous	\$1,510,733
	TV's	\$1,245,876
	Video Equipment	\$1,704,725
Movies	Action	\$202,680
	Comedy	\$217,477
	Drama	\$230,661
	Horror	\$207,623
	Kids / Family	\$218,171
	Special Interests	\$268,890
Music	Alternative	\$233,895
	Country	\$239,625
	Music - Miscellaneous	\$198,216
	Pop	\$225,185
	Rock	\$230,412
	Soul / R&B	\$155,903

Drill to Item from Art & Architecture. On the drilled-to report, display subtotals (from the **Data** menu, select **Show Totals**). Notice that the report is paged by Year (2010 only) and the revenue total for Art & Architecture is \$158,651, the same as shown in the grid in the document.

PAGE-BY:		Year:	2010
Category	Subcategory	Item	Revenue
Books	Art & Architecture	100 Places to Go While Still Young at Heart	\$20,638
		Art As Experience	\$7,721
		The Painted Word	\$7,262
		Hirschfeld on Line	\$16,412
		Adirondack Style	\$12,930
		Architecture : Form, Space, & Order	\$13,663
		50 Favorite Rooms	\$8,996
		500 Best Vacation Home Plans	\$5,992
		Blue & White Living	\$8,451
		Ways of Seeing	\$7,973
		Gonzo, the Art	\$14,216
		Cabin Fever : Rustic Style Comes Home	\$6,056
		American Bungalow Style	\$13,619
		Building With Stone	\$8,231
		Voyaging Under Power	\$6,491
	Total	\$158,651	
Total		\$158,651	
Total		\$158,651	

Return to the original document, which still has 2010 selected. Select 2011 in the selector as well. The revenue amount for Art & Architecture is now \$365,872, as shown below. (Only a portion of the full document is shown in the sample.)

Select the years to display		
☐ (All)	☐ 2009	☒ 2010 ☒ 2011
Category	Subcategory	Revenue
Books	Art & Architecture	\$365,872
	Business	\$302,789
	Literature	\$223,600
	Books - Miscellaneous	\$236,491
	Science & Technology	\$610,623
	Sports & Health	\$250,526
	Audio Equipment	\$2,859,428
Electronics	Cameras	\$3,823,372
	Computers	\$1,441,638
	Electronics - Miscellaneous	\$3,521,771

Once again drill to Item from Art & Architecture. On the drilled-to report, display subtotals. Notice that the report is paged by Year (2010 only, since it is the first year selected in the original report) and the revenue subtotal for

Art & Architecture is \$158,651, the same as shown in the grid in the document.

PAGE-BY:		Year:	2010
Category	Subcategory	Item	Revenue
Books	Art & Architecture	100 Places to Go While Still Young at Heart	\$20,638
		Art As Experience	\$7,721
		The Painted Word	\$7,262
		Hirschfeld on Line	\$16,412
		Adirondack Style	\$12,930
		Architecture : Form, Space, & Order	\$13,663
		50 Favorite Rooms	\$8,996
		500 Best Vacation Home Plans	\$5,992
		Blue & White Living	\$8,451
		Ways of Seeing	\$7,973
		Gonzo, the Art	\$14,216
		Cabin Fever : Rustic Style Comes Home	\$6,056
		American Bungalow Style	\$13,619
		Building With Stone	\$8,231
		Voyaging Under Power	\$6,491
	Total	\$158,651	
Total		\$158,651	
Total		\$158,651	

Linking to other documents and reports

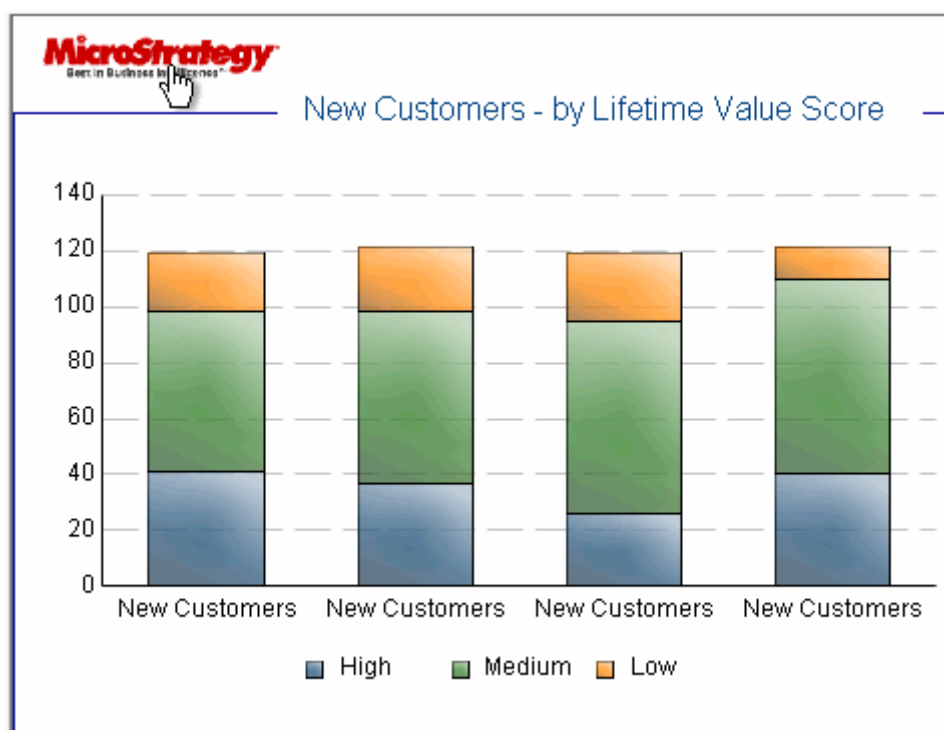
An underlined attribute can also mean that the object is linked. A link is a connection in a document to another document, a report, or a web page. A link lets you execute another document or report (the **target**) from a document (the **source**), and to pass parameters to answer any prompts that are in the target.

For example, if you are viewing a document containing regional sales, you can click a particular region to execute another document that displays sales for the stores in that region. This is a form of drilling, where you have drilled from region to store. The source document could also link to the underlying dataset report, to display profit and cost values as well. The source could link to a web page that contains economic information about the region.

Linking a document to a web page

Text or images can link a document to a web page. When you open the document in MicroStrategy Web, you can click the link to navigate to the

link's target web page. For example, when you hover the pointer over the logo, it changes to a hand to indicate the link, as shown below:



When you click the logo, your home page is displayed.

Linking from text

The underlined text in the following document, which is shown in Editable Mode in MicroStrategy Web, indicates the links. Note that both the revenue

data (indicated by the hand pointer in the image) and the metric headers (the text 2005 Revenue, 2006 Revenue, and 2007 Revenue) are linked.

Region	Category	<u>2005 Revenue</u>	<u>2006 Revenue</u>	<u>2007 Revenue</u>
Central	Books	<u>\$64,368</u>	<u>\$83,697</u>	<u>\$103,215</u>
Central	Electronics	<u>\$1,393,794</u>	<u>\$1,665,919</u>	<u>\$2,247,755</u>
Central	Movies	<u>\$65,247</u>	<u>\$76,243</u>	<u>\$99,915</u>
Central	Music	<u>\$300,306</u>	<u>\$356,773</u>	<u>\$455,703</u>
Mid-Atlantic	Books	<u>\$54,763</u>	<u>\$70,210</u>	<u>\$85,347</u>
Mid-Atlantic	Electronics	<u>\$5,971,153</u>	<u>\$7,460,047</u>	<u>\$9,134,630</u>



The complete document is not shown; the full document contains data for all regions and all categories.

If you click the link indicated by the hand pointer, the following report is executed. It provides data for the selected Region (Central), Category (Books), and Year (2006).

REPORT DETAILS						
Report Description:						
Prompt Details:						
Prompt 1: Year						
2006						
Prompt 2: Region						
Central						
Prompt 3: Category						
Books						
Report Filter:						
(Year = 2006) And (Region = Central) And (Category = Books)						
						Data rows: 1
Region	Category	Metrics	Revenue	Units Sold	Last Year's Revenue	Last Year's Units Sold
<u>Central</u>	<u>Books</u>		\$83,697	5,176	\$64,368	4,138

If you click the link on the text 2006 Revenue instead, the following report is executed. It is the same report as the previous one, except that it contains all regions and all categories. (Only a portion of the report is shown below.)

REPORT DETAILS					
Report Description:					
Prompt Details:					
Prompt 1: Year					
2006					
Report Filter:					
Year = 2006					
Region	Category Metrics	Revenue	Units Sold	Last Year's Revenue	Last Year's Units Sold
Central	Books	\$83,897	5,176	\$64,368	4,138
Central	Electronics	\$1,665,919	4,980	\$1,393,794	4,023
Central	Movies	\$76,243	4,947	\$65,247	4,159
Central	Music	\$356,773	24,253	\$300,306	20,416
Mid-Atlantic	Books	\$70,210	4,295	\$54,763	3,459
Mid-Atlantic	Electronics	\$7,460,047	21,431	\$5,971,153	17,351
Mid-Atlantic	Movies	\$67,772	4,395	\$53,926	3,425
Mid-Atlantic	Music	\$64,756	4,285	\$51,983	3,518
Northeast	Books	\$666,781	41,212	\$529,702	32,993

Linking from an attribute in a grid or graph

The following document, which is shown in Interactive Mode in MicroStrategy Web, links the Region attribute in the grid to a report called **Revenue Rank with Region prompt**. The links are indicated by the underlined region names. When you hover over a region, the hand pointer appears and the name of the link is displayed in a tooltip, as shown below.

Employee	Region	Metrics	Revenue	Profit	Cost
Bates	Michael	Southwest	\$1,068,907	\$163,911	\$904,996
Becker	Kyle	North West	\$508,234	\$77,887	\$430,346
Bell	Caitlin	South	\$157,039	\$883,441	
Benner	Ian	Southeast	\$520,737	\$79,664	\$441,073
Bernstein	Lawrence	Mid-Atlantic	\$1,060,632	\$158,930	\$901,702
Brown	Vernon	Mid-Atlantic	\$331,735	\$51,231	\$280,504

When you click Southwest, the **Revenue Rank with Region prompt** report is executed, as shown below. (This report is reproduced in its entirety.) Notice that only employees in the Southwest are included in the report.

Region	Employee	Metrics	Revenue	Revenue Rank
Southwest	Bates	Michael	\$1,068,907	1
	Bell	Caitlin	\$1,040,481	2
	Hunt	Matthew	\$731,413	3
	Johnson	Andrew	\$445,052	5
	Schafer	Rose	\$408,280	4

This is because the **Revenue Rank with Region prompt** report includes a prompt on Region. The document designer has created the link so that the link answers the prompt with the object selected in the source (Southwest in this case).

Linking from an attribute in a widget

The following document, which is shown in Flash Mode in MicroStrategy Web, links the Region attribute in the widget to a report called **Revenue Top 2 Employees by Call Center**. When you hover over a region, a tooltip appears with information from the widget and a Links option, which lists the available links, as shown below.



When you click **Top 2 Employees by Call Center**, that report is executed, as shown below. (This report is reproduced in its entirety.) Notice that only call centers in the Mid-Atlantic are included in the report.

Region	Call Center	Employee	Metrics	Revenue	Revenue Rank
Mid-Atlantic	Washington, DC	Bernstein	Lawrence	\$1,060,632	2
		Folks	Adrienne	\$1,047,776	1
	Charleston	Brown	Vernon	\$331,735	2
		Corcoran	Peter	\$325,147	1

This is because the **Top 2 Employees by Call Center** report includes a prompt on Region. The document designer has created the link so that the

link answers the prompt with the object selected in the source (Mid-Atlantic in this case).

Accessing the target from your link

- 1 Right-click the object that is linked.
- 2 Point to **Links**, and click the link to open.

Interacting with grids and graphs in Flash Mode and Express Mode

Sorting and pivoting in grids and graphs in Flash Mode and Express Mode

In Flash Mode and Express Mode in MicroStrategy Web, you can sort and pivot data in a Grid/Graph report displayed as a grid or as both a grid and a graph:

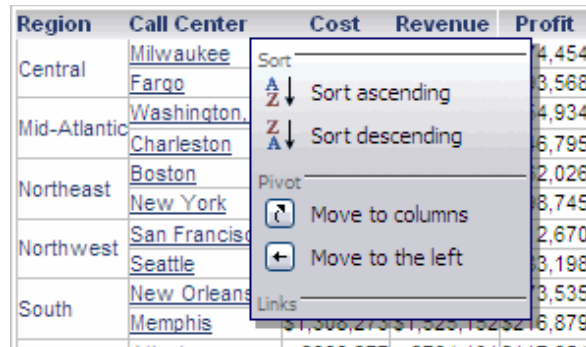
- You can sort data in ascending or descending order
- You can pivot data to change:
 - The relative position of a row or column
 - A row into a column
 - A column into a row

In Flash Mode, you sort or pivot data using a floating toolbar. This floating toolbar is displayed when you hover the cursor over the columns of a grid, as shown in the image below:

Region	Employee	Metrics	Revenue	Cost	Profit
Central	Ellerkamp	Nancy	\$847,227		\$126,778
	Gale	Loren	\$1,669,290	\$1,416,035	\$253,254
	Torrison	Mary	\$1,690,350	\$1,430,865	\$259,485
	Zemlicka	George	\$822,500	\$697,693	\$124,807
	Bernstein	Lawrence	\$1,060,632	\$901,702	\$158,930
	Brown	Vernon	\$331,735	\$280,504	\$51,231
	Corcoran	Peter	\$325,147	\$275,752	\$49,395

The  icon in the toolbar sorts the data in ascending order, while the  icon sorts in descending order. These arrows   pivot the data.

In Express Mode, you can sort or pivot data using a pop-up menu, as shown below:



Region	Call Center	Cost	Revenue	Profit
Central	Milwaukee			4,454
	Fargo			3,568
Mid-Atlantic	Washington			4,934
	Charleston			6,795
Northeast	Boston			2,026
	New York			8,745
Northwest	San Francisco			2,670
	Seattle			3,198
South	New Orleans			3,535
	Memphis			16,879

For instructions, see [To sort or pivot data in a document in Flash Mode, page 78](#) and [To sort or pivot data in a document in Express Mode, page 75](#).

If the toolbar and pop-up menu do not display, sorting and pivoting has been disabled in the document by the document designer. If sorting and pivoting are disabled, drilling in Express Mode is also disabled.

The document designer can also enable additional interactive data manipulations to be performed in Flash Mode, such as filtering or grouping data in a grid, as described in [Filtering, drilling, and moving objects in grids and graphs in Flash Mode](#) below.

Filtering, drilling, and moving objects in grids and graphs in Flash Mode

In Flash Mode in MicroStrategy Web, you can sort and pivot data on a grid or graph, using a pop-up menu that also allows the additional data manipulations listed below:

- Sorting data in a row or column
- Sorting data using multiple conditions (advanced sorting)
- Pivoting a row or column
- Filtering data:
 - Based on the value of a metric
 - Based on a list of attribute elements

- To include only the data for a selected attribute element
- By excluding data for a selected attribute element
- Clearing filtering conditions to display all data
- Moving an attribute to the first row or the first column

The attribute is moved to the far left of the rows or the top of the columns on the grid or graph, the data is sorted by the attribute, and the row/column header cells are merged.

- Adding or removing report objects to display in the grid or graph



Only objects contained in the Grid/Graph's dataset report can be added to the Grid/Graph report. (The dataset report is the report that provides the data to the Grid/Graph.)

- Drilling within the grid's or graph's dataset report

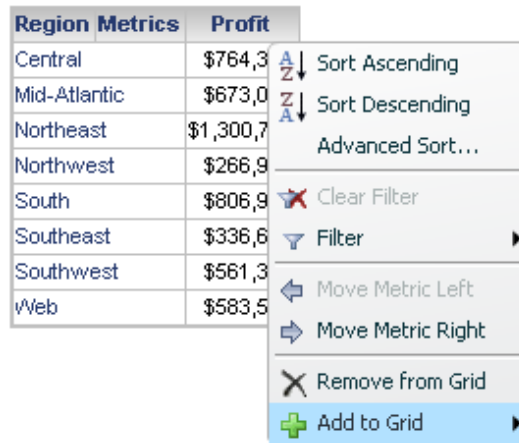
Drilling lets you view report data at levels other than that displayed in the grid or graph. You can only drill to report objects within the dataset report that are not included in the grid or graph. (The dataset report is the report that provides the data to the Grid/Graph.) If all objects within the dataset report are displayed in the grid or graph, no drilling options are displayed. For background information on drilling, see [Drilling into related data on grids and graphs, page 53](#).

- Opening a linked report or document

A link is a connection in a document to another document or report. For background information on links and steps to add a link to a document, see [Linking to other documents and reports, page 58](#).

These manipulations are performed directly in Flash Mode and applied to Grid/Graph reports displayed as grids or as both grids and graphs.

If this additional interactivity is enabled, you can access a pop-up menu when you hover the cursor over a grid or graph in Flash Mode. The pop-up menu, shown below, displays the various data manipulation options.

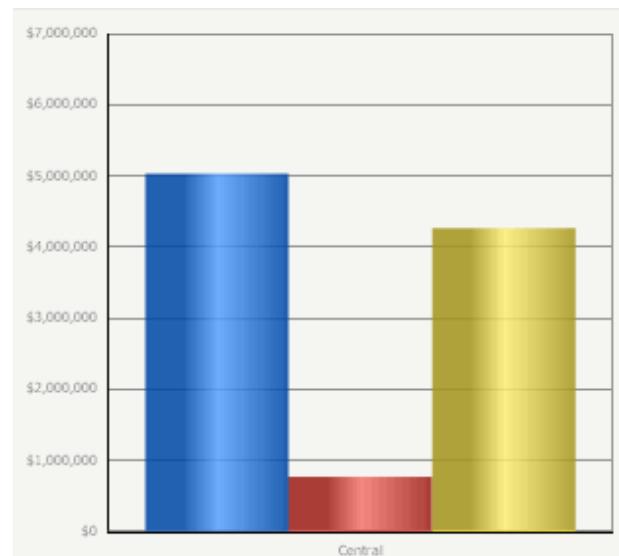


This pop-up menu is available only in Flash Mode. For instructions, see [Analyzing a document in Flash Mode, page 77](#).

How links, drilling, and selectors work together

When an attribute element in a grid or graph is underlined, such as Northeast in the example below, you can click it.

Region	Metrics	Revenue	Profit	Cost
Central		\$5,029,366	\$764,323	\$4,265,043
Mid-Atlantic		\$4,452,615	\$673,084	\$3,779,531
<u>Northeast</u>		\$8,554,415	\$1,300,732	\$7,253,683
<u>Northwest</u>		\$1,761,187	\$266,986	\$1,494,202
South	Employee and Region document			582,324
Southeast		\$2,239,951	\$336,675	\$1,903,276
Southwest		\$3,694,132	\$561,331	\$3,132,800
Web		\$3,902,762	\$583,538	\$3,319,225

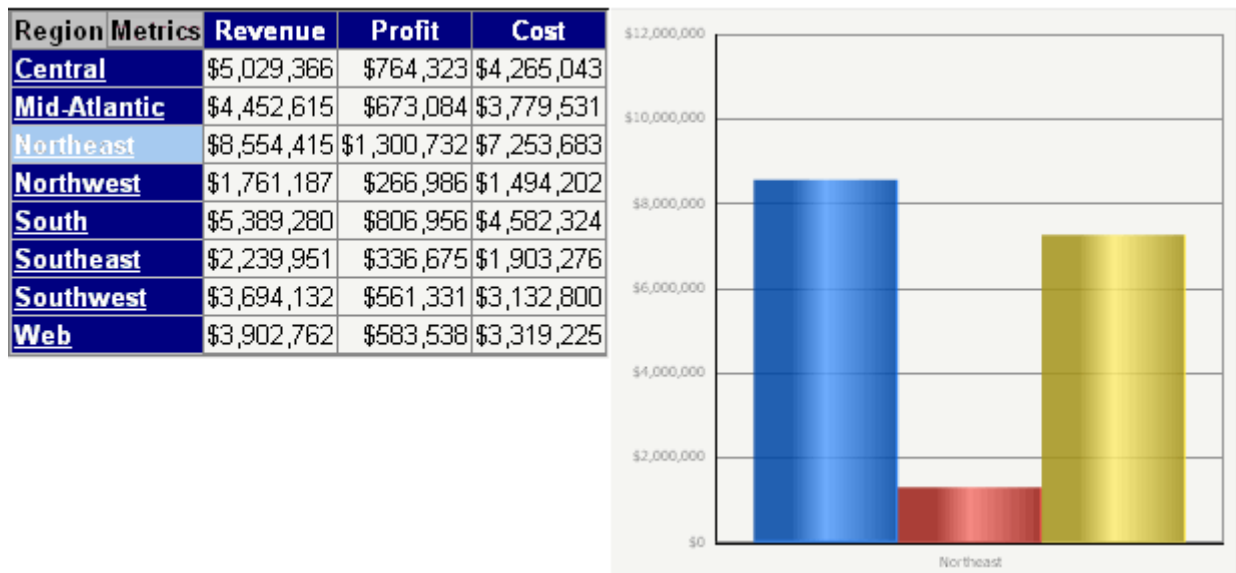


Northeast can be underlined because it is any of the following:

- A link (to another document or a report)

- A selector (that displays a different attribute element in a grid or graph)
- A drill (to another level of aggregation, as defined by a drill path)
- Any combination of these possibilities

If Northeast is a link, a selector, and a drill, what happens when you click it? It functions as a selector, because you can access the link and the drill from the right-click menu, unlike selectors. When you click Northeast in the example shown above, the graph on the right displays the values for Northeast, as shown below:



If Northeast has a default link and a drill, the link is executed when Northeast is clicked, as shown below. By definition, a default link is the action that occurs when the link is clicked, so it takes precedence over the drill. In this case, the target document is executed, displaying information about employees in the Northeast region.

Employee	Region	Metrics	Revenue	Profit	Cost
De Le Torre	Sandra	Northeast	\$607,895	\$93,100	\$514,795
Kelly	Laura	Northeast	\$2,350,720	\$357,994	\$1,992,726
Kieferson	Jack	Northeast	\$584,933	\$87,470	\$497,463
Sawyer	Leanne	Northeast	\$2,411,912	\$368,219	\$2,043,693
Sonder	Melanie	Northeast	\$295,108	\$43,925	\$251,183
Yager	Beth	Northeast	\$2,303,847	\$350,024	\$1,953,823

For more information, including instructions and examples, on each of these, see:

- [Linking to other documents and reports, page 58](#)
- [Drilling into related data on grids and graphs, page 53](#)
- [Interacting with the RS dashboard: Selectors, page 47](#)
- [Using a grid or graph as a selector, page 52](#)

Grouping documents: Page-by

If the document results are grouped by page, drop-down lists are displayed at the top of the interface in Interactive Mode, as shown below. You can select which elements, or subsets of data, to display.

GROUPING:	Region:	Mid-Atlantic	
		(All)	
		Central	
		Mid-Atlantic	
		Northeast	
		Northwest	
		South	
		Southeast	
		Southwest	
		Web	
		Total	
Mid-Atlantic			Profit
Bernstein:Lawrence			\$158,930
Brown:Vernon			\$51,231
Corcoran:Peter			\$49,395
Folks:Adrienne			\$159,074
Hollywood:Robert			\$155,195
Ingles:Walter			\$34,588
Smith:Thomas			\$33,368
Young:Sarah			\$31,303

The result of such a selection is called a page of the original document. Pages let you decide what subsets of your business data you want to display as separate pages of your document.

The drop-down list can also contain these options:

- All, which displays all the pages (in the example above, All would display all the available regions)
- Total, which displays a total of all the pages (in the example above, Total would display the total revenue and total profit for all regions)



If All and Total are included as options, when you select All, the document also displays totals.

Uncluttering the RS dashboard: Full Screen mode

A document may open without all of the navigation information displayed on the interface—the toolbars, menus, and panels such as the Dataset Objects panel. This helps focus attention on the data itself and maximizes the amount of the document that can be shown at one time. This view is called Full Screen Mode, and it is particularly helpful when you are analyzing an RS dashboard that contains multiple Grid/Graph reports, sections, and images, making it easier for you to use the interface.

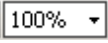
MicroStrategy's Standard toolbar (displaying icons) and Grouping panel (displaying RS dashboard pages) still appear in Full Screen Mode, so you can interact with the document as usual.

- The Standard toolbar allows you to quickly switch viewing modes, save, print, export, and deliver the document, among other tasks.
- The Grouping panel allows you to display the different groups of data in the document.

Zooming in or out of the document

You can zoom in or out of a document by using the Zoom drop-down list next to the Full Screen mode icon on the toolbar. This zoom tool works like the zoom tool available in browsers, as described below. It can be useful to zoom in on a document while viewing the document in Full Screen mode.

To zoom in or out on a document

- 1 Open the document in Express Mode, Interactive Mode, Editable Mode, or Flash Mode in MicroStrategy Web.
- 2 From the toolbar, click the arrow on the **Zoom** drop-down list . A list of zoom percentages is displayed.
- 3 Do one of the following:
 - Select a numeric zoom percentage to zoom in or out on your document. Smaller numbers such as 25% present a smaller view of your document.
 - Select **Fit Width** to stretch the document out to the left-most and right-most edges of your browser window. The document is stretched out if it is currently smaller than the width of the browser. If the

document width is currently larger than the width of the browser, the document shrinks to fit the browser's width.

- Select **Fit Page** to view the document within the working space available in MicroStrategy Web.

Opening and interacting with a document in MicroStrategy Web

When you open a document in MicroStrategy Web, it displays in the default mode selected by the document designer. Each display mode is optimized for a different type of user or analysis. For example, you can display and analyze the document in Express Mode. You can use Interactive Mode to analyze and manipulate grid and graph reports, or Flash Mode to work with Flash-only features like widgets. Refer to the table below for descriptions of each display

mode. Additional modes are available for document designers; see the *Report Services Document Creation Guide* for descriptions of those modes.

Display Mode	What You Can Do in It	Limitations
Express Mode (formerly called View Mode)	- View the results of the document. - Use selectors to flip through the panels in a panel stack or display different attribute elements or metrics in a grid or graph report displayed on the document. You can reset all the selectors and groups on the document to their initial values, without re-executing the document. This is helpful if you want to start over and make different selections. - Sort grid reports, drill on them, and pivot report objects on them. - Export grid or graph reports to Excel or PDF. - Change how Grid/Graph reports are displayed (as grids, graphs, or both at the same time). - Use links, which are connections to other documents, reports, or web pages. - Displays in Full Screen mode. - Pause and resume automatic document refreshing, if the document designer enabled this feature. Refreshing a document provides real-time monitoring to ensure that the document cache is still valid. - Provides better performance than all other modes. - Intended for analysts that need to view information rather than create and edit documents.	- Cannot create a new document. - Cannot edit an existing document. - Cannot manipulate or format Grid/Graph reports, except to sort, pivot, drill, and change how they are displayed. Note: Internet Explorer 7 is required for the interactivity of Express Mode. If you are using Internet Explorer 6 or earlier, you cannot interact with the document. You can instead view the results only, as you might in a static PDF file.
Interactive Mode	- Edit an existing document. - View the results of the document. - Use selectors to flip through the panels in a panel stack or display different attribute elements or metrics in a grid or graph report displayed on the document. - Format grid and graph reports. - Sort grid reports, drill on them, and pivot report objects on them. - Add totals. - Resize rows and columns. - Create metrics based on report objects already on the grid report. - Optimized for RS dashboard viewing.	- Cannot create a new document. - Cannot format the layout and positioning of objects or the entire document. - Cannot format the Flash settings of widgets.

Display Mode	What You Can Do in It	Limitations
Flash Mode	• Access and interact with features provided by Flash, such as widgets. Widgets are interactive Flash-only graphs, such as gauges and time series slides, that dynamically update when you select a new set of data. • Format widget Flash settings. • Edit an existing document. • View the results of the document. • Use selectors to flip through the panels in a panel stack or display different attribute elements or metrics in a grid or graph report displayed on the document. • Sort grid reports, drill on them, and pivot report objects on them. • Export a grid or graph to Excel or PDF.	• Cannot create a new document. • Cannot manipulate or format grid or graph reports, except to sort, drill, and pivot. • If a graph report uses a graph type that is not supported in Flash, the graph is not displayed.



For more details about the different modes, see the *MicroStrategy Web Help*.

If a display mode is not available in MicroStrategy Web, that display mode has not been made available for the document. In addition, to view and interact with a document in Flash Mode, Flash Player version 10.1 must be installed on your machine.



See [Troubleshooting common Flash Mode issues, page 193](#), which describes some common issues you may encounter when working in or switching to Flash Mode. The issues contain information about how Flash Mode is designed to work.

Although MicroStrategy Web does not provide a PDF View, you can still view or print the PDF by exporting it to a PDF. MicroStrategy Web allows you to do this easily, simply by clicking the **Print** icon on the toolbar. For detailed instructions to print a document, see [Printing a document in MicroStrategy Web, page 130](#).

Opening a document in MicroStrategy Web

The document opens in the default mode selected by the document designer.

To open a document in MicroStrategy Web

- 1 From a project in MicroStrategy Web, navigate to the folder containing the document.
- 2 Click the document name or icon, as shown below. The document displays in its default display mode.



- 3 To change the mode, click its icon on the toolbar.



If the icon for a particular mode is unavailable, that mode has not been made available for this document.

Analyzing a document in Express Mode

Express Mode is a quick-loading display mode for documents and RS dashboards in MicroStrategy Web. It allows you to view document results, format the look and feel of Grid/Graph reports within the document, and manipulate the data in the Grid/Graph reports in several ways. Express Mode provides better performance than all other modes in most situations.



If you are using Internet Explorer as your web browser, you must have Internet Explorer 7 or higher to use the interactive functionality listed below. You can still view documents in a static view in Internet Explorer 6.

If you enable accessibility in Web by selecting the **Enable screen reader compatibility** check box in the User Preferences, you can view the results of a document as you might in a static PDF file. For instructions, see the *MicroStrategy Web Help*.

You can perform the following in Express Mode:

- Manipulate Grid/Graph reports by pivoting and sorting based on report objects already on the Grid/Graph report, as described in [Interacting with grids and graphs in Flash Mode and Express Mode, page 63](#).

- Change the view in which a Grid/Graph report is displayed. For example, you can switch a Grid/Graph report from Grid view to Grid and Graph view. The **View** button is displayed on the Grid/Graph's title bar.
- Change the display size of a Grid/Graph report. You can minimize or maximize the Grid/Graph, and then restore it to its original size, by clicking the **Minimize**, **Maximize**, or **Restore** button on the Grid/Graph's title bar.
- Use selectors such as radio buttons and drop-down lists to change the data that is displayed in a Grid/Graph report or panel. For examples of selectors, see [Interacting with the RS dashboard: Selectors, page 47](#).
- Reset all the selectors and groups on the document to their initial values, without re-executing the document. This is helpful if you want to start over and make different selections. To reset, click the **Reset Selections** icon .
- Open links to other documents and reports, as described in [Linking to other documents and reports, page 58](#).
- View the document in Full Screen mode, as described in [Uncluttering the RS dashboard: Full Screen mode, page 69](#).
- Export the document, as described in [Exporting a document in MicroStrategy Web, page 126](#), or export a single grid or graph report, as described in [Exporting a Grid/Graph from a document, page 128](#).

To view a document or RS dashboard in Express Mode

- 1 In MicroStrategy Web, navigate to the folder containing the document. Click the name of a document to execute it.
- 2 From the **Home** menu, select **Express Mode**.



If **Express Mode** is not available on the **Home** menu, it is not an available display mode for this document. A document designer must enable the view, as described in the *Report Services Document Creation Guide*.

Prerequisites

- To sort data, you must have the Web Sort privilege.
- To pivot data, you must have the Web Pivot Report privilege.

To sort or pivot data in a document in Express Mode

- 1 Open the document in Express Mode.
- 2 Hover the cursor over a row or column of data. The pop-up menu is displayed.
- 3 To sort data in the row or column, do one of the following:
 - To sort the data in ascending order, click **Sort ascending**.
 - To sort the data in descending order, click **Sort descending**.
- 4 To pivot the row or column, do one of the following:
 - Click **Move to the left** to move a row or column heading to the left. The heading and its data are moved to reflect your choice.
 - Click **Move to the right** to move a row or column heading to the right. The heading and its data are moved to reflect your choice.
 - Click **Move to columns** to move a row to the columns.
 - Click **Move to rows** to move a column to the rows.

Analyzing a document in Interactive Mode

Interactive Mode is a MicroStrategy Web display mode for documents and RS dashboards. It allows you to view report results within the document, format the look and feel of grid reports within the document, and manipulate the data in the reports in several ways. For example, you can use selectors to flip through the panels in a panel stack or display different attribute elements or metrics in a grid or graph.

You can perform the following in Interactive Mode:

- Manipulate grids and graphs by pivoting, sorting, adding totals, resizing rows and columns, and creating metrics based on report objects already on the grid report.
- Apply a view filter to a report's results.
- Change the view in which a Grid/Graph report is displayed. For example, you can switch a Grid/Graph report from Grid view to Grid and Graph view. The **View** button is displayed above the Grid/Graph's title bar.

- Rename objects on a report.
- Format the metric values on a grid report.
 -  If you have Document Designer privileges, you can format all objects within the Grid/Graph report.
- Format the legend and data labels on a graph report.
 -  If you have Document Designer privileges, you can also format colors, series, and other objects on a graph report.
- View the underlying dataset report of a Grid/Graph. This is the report that the Grid/Graph is based on. To open the dataset report, click the **Zoom In** icon on the Grid/Graph's title bar. To return to the document, click the **Back** button  in the top left.
- Change the display size of a Grid/Graph report. You can minimize or maximize the Grid/Graph, and then restore it to its original size, by clicking the **Minimize**, **Maximize**, or **Restore** button on the Grid/Graph's title bar.
- Use selectors such as radio buttons and drop-down lists to change the data that appears in a Grid/Graph report or the panel that is displayed. For examples of selectors, see [Interacting with the RS dashboard: Selectors, page 47](#).
- View the document in Full Screen Mode, as described in [Uncluttering the RS dashboard: Full Screen mode, page 69](#).
- Export the document, as described in [Exporting a document in MicroStrategy Web, page 126](#).

To view a document or RS dashboard in Interactive Mode

- 1 In MicroStrategy Web, navigate to the folder containing the document. Click the name of a document to execute it.

- 2 From the **Home** menu, select **Interactive Mode**.

 If **Interactive Mode** is not available on the **Home** menu, it is not an available display mode for this document. A document designer must enable the view, as described in the *Report Services Document Creation Guide*.

Analyzing a document in Flash Mode

Flash Mode lets you access interactive features on a document that are supported by Flash, such as widgets. In Flash mode, you can also perform some data manipulations, such as sorting and pivoting objects on the document.

You can do the following in Flash Mode:

- Interact with widgets such as Gauges and Time Series Sliders. For example, you can use the graph controller in the Time Series Slider to select a time range for data. For descriptions of the different types of widgets, and information on interacting with them, see [Flash analysis and interactivity: widgets, page 83](#).
 - Sort data in grid reports, as described in [Sorting and pivoting in grids and graphs in Flash Mode and Express Mode, page 63](#).
 - Pivot report objects from rows to columns and columns to rows in grid reports, as described in [Sorting and pivoting in grids and graphs in Flash Mode and Express Mode, page 63](#).
 - Quickly switch between views of a report, such as between Grid view and Graph view.
-  If a graph uses a graph style that is not supported in Flash, the graph is not displayed.
- Change the display size of a Grid/Graph report. You can minimize or maximize the Grid/Graph, and then restore it to its original size, by clicking the **Minimize**, **Maximize**, or **Restore** button on the Grid/Graph's title bar.
 - Export the document, as described in [Exporting a document in MicroStrategy Web, page 126](#), or export a single grid or graph report, as described in [Exporting a Grid/Graph from a document, page 128](#).

Prerequisites

Before you open a document in Flash Mode, you must have:

- The MicroStrategy Report Services product.
- The Adobe Flash Player installed on your computer.

- Flash Mode enabled in your User Preferences. To do this, click **Preferences** at the top of the page, click **Report Services** on the left, and select the **Enable Flash Mode** check box.

To view a document or RS dashboard in Flash Mode

- 1 In MicroStrategy Web, navigate to the folder containing the document. Click the name of a document to execute it.
- 2 From the **Home** menu, select **Flash Mode**.



If **Flash Mode** is not available on the **Home** menu, it is not an available display mode for this document. A document designer must enable the view, as described in the *Report Services Document Creation Guide*.

To sort or pivot data in a document in Flash Mode

Prerequisites

- To sort data, you must have the Web Sort privilege.
 - To pivot data, you must have the Web Pivot Report privilege.
- 1 Open the document in Flash Mode.
 - 2 Hover the cursor over a row or column of data. The floating toolbar is displayed.
 - 3 To sort data in the row or column, do one of the following:
 - To sort the data in ascending order, click the **Sort ascending** icon
 - To sort the data in descending order, click the **Sort descending** icon
 - 4 To pivot the row or column, do one of the following:
 - Click the **Move to the left** icon
 - Click the **Move to the right** icon
 - Click the **Move to the columns** icon

- Click the **Move to the rows** icon  to move a column to the rows.
- 5 To sort data using multiple conditions, do the following:
 - a Hover the cursor over a row or column header. The pop-up menu icon  is displayed in the top right.
 - b Click the pop-up menu icon . The pop-up menu is displayed.
 - c Select **Advanced Sort**. The Sort dialog box opens.
 - d Do one of the following:
 - To sort by data in the rows, click the **Rows** tab.
 - To sort by data in the columns, click the **Columns** tab.
 - e From the **Sort by** drop-down list, select the attribute form or metric to use to sort data.
 - f Do one of the following:
 - To sort the data in ascending order, select **Ascending**.
 - To sort the data in descending order, select **Descending**.
 - g Specify additional sorting criteria using the appropriate steps above.
 - h Click **OK** to apply changes.

To filter data based on the value of a metric

Prerequisite

To filter data, you must have the Web Use View Filter Editor privilege.

- 1 Open the document in Flash Mode.
- 2 Hover the cursor over the header of the metric that you want to use to filter data. The pop-up menu icon  is displayed in the top right.
- 3 Click the pop-up menu icon . The pop-up menu is displayed.
- 4 Point to **Filter**, then specify the conditions to use to filter the data by typing a metric value in the appropriate field:
 - To display only data for the top x values, type a number in the **Top** field. For example, you can filter data to display only the top 5 store

locations based on revenue. You can also enter a value followed by %, such as 5%, to display the top x% of data.

- To display only data for a specified number of the lowest values, type a number in the **Bottom** field. For example, you can filter data to display only the three stores with the lowest costs. You can also enter a value followed by %, such as 5%, to display the bottom x% of data.
 - To display only data equal to a specific value, type a number in the **=** field. For example, you can display data only for an employee whose tenure is exactly 40 years.
 - To display data with a value greater than or equal to a specified value, type a number in the **At least** field. For example, you can display data only from product categories in which 1,000,000 or more units were sold.
 - To display data with a value less than or equal to a specified value, type a number in the **At most** field. For example, you can display data only from months in which cost was less than or equal to \$5 million.
 - To display data with a value between a specified range, type the lower bound of the range in the **At least** field and the upper bound in the **At most** field. For example, you can display data for individuals who have been employees for 5 to 10 years.
 - To display data for any value outside a specified range, type the upper bound of the range in the **At least** field and the lower bound in the **At most** field. For example, you can display data only for stores with revenue greater than \$5 million or less than \$100,000.
- 5 Click **OK** to save changes. The filter icon  appears in the top right, indicating that you have defined a filter on the metric.

To filter data based on a list of attribute elements

Prerequisite

To filter data, you must have the Web Use View Filter Editor privilege.

- 1 Open the document in Flash Mode.
- 2 Hover the cursor over the header of the attribute that you want to use to filter data. The pop-up menu icon  is displayed in the top right.
- 3 Click the pop-up menu icon . The pop-up menu is displayed.

- 4 Point to **Filter**. Depending on the number of elements in the attribute, either a pop-up menu containing each element of the attribute, or a search form in which to search for and filter large numbers of attribute elements is displayed.
 - To filter data based on a small number of attribute elements, select the check box for each attribute element for which you want to include data.
 - To filter data based on a large number of attribute elements, type a value in the search field to use to filter data.
- 5 Click **OK** to save changes. The filter icon  appears in the top right, indicating that you have defined a filter on the attribute.

To filter data to include or exclude data for a selected attribute element

Prerequisite

To filter data by including or excluding elements, you must have the Web Filter on Selections privilege.

- 1 Open the document in Flash Mode.
- 2 Hover the cursor over the attribute element that you want to use to filter data. The pop-up menu icon  is displayed in the top right.
- 3 Click the pop-up menu icon . The pop-up menu is displayed.
- 4 Do one of the following:
 - To include data only for the selected element, click **Keep Only**.
 - To exclude data for the selected element, click **Exclude**.

To clear filter conditions and display all data in the grid

Prerequisite

To clear filter conditions, you must have the Web Use View Filter Editor privilege.

- 1 Open the document in Flash Mode.

- 2 Hover the cursor over a row or column header. The pop-up menu icon  is displayed in the top right.
- 3 Click the pop-up menu icon . The pop-up menu is displayed.
- 4 Click **Clear Filter**.

To add or remove report objects for display in the grid

Prerequisite

You must have the Web Modify Grid Level In Document privilege.

- 1 Open the document in Flash Mode.
- 2 Hover the cursor over a row or column header. The pop-up menu icon  is displayed in the top right.
- 3 Click the pop-up menu icon , then point to **Add to Grid**. The pop-up menu is displayed, with a list of attributes and metrics in the document's dataset report.
- 4 Click **Attributes** or **Metrics** to expand or collapse the list of attributes and metrics displayed. For each attribute or metric that you want to add or remove, do one of the following:
 - To add an attribute or metric to the grid, select the check box next to the attribute or metric.

Only objects in the grid's dataset report can be added to the grid. (The dataset report is the report that provides the data to the grid.)
 - To remove an attribute or metric from the grid, clear the check box next to the attribute or metric.
- 5 Click **OK**. The data in the grid is updated.

To drill within the grid's dataset report

Prerequisite

You must have the following privileges:

- Drill Within Intelligent Cube

- Web Drill And Link
- Web Drill On Metrics
- Web Advanced Drilling

- 1 Open the document in Flash Mode.
- 2 Hover the cursor over the row or column to drill from. The pop-up menu icon  is displayed in the top right.
- 3 Click the pop-up menu icon . The pop-up menu is displayed, with a list of objects that you can drill to.



You can only drill to report objects within the dataset report that are not included in the grid report. If all objects within the dataset report are displayed in the grid, no drilling options are displayed.

- 4 Select the object that you want to drill to.

To open a linked report or document

Prerequisite

You must have the Web Drill And Link privilege.

- 1 Open the document in Flash Mode.
- 2 Hover the cursor over the header of a row or column that contains a link. The pop-up menu icon  is displayed in the top right.
- 3 Click the pop-up menu icon . The pop-up menu is displayed, with the name of the linked report or document displayed at the top. Select it to open the report or document.

Flash analysis and interactivity: widgets

A widget is a Flash-based display of the results of a dataset report, allowing you to visualize data in different ways than traditional reports displayed as Grid/Graph reports do. Widgets are sophisticated visualization techniques that can combine with rich interactivity to enable users to understand their data more effectively. RS dashboards can display a variety of widget types,

such as Gauge, Heat Map, and Stacked Area widgets. Although each type of widget looks different and is used in a unique way, the main purpose of all widgets remains the same: to provide a visual and interactive look into your data.

Use Flash View in MicroStrategy Developer and Express Mode, Flash Mode, and Interactive Mode in MicroStrategy Web to interact with widgets. In Flash View in Developer and in Express Mode in MicroStrategy Web, you cannot save your changes.

You can also view certain widgets on mobile devices that have MicroStrategy Mobile, as described in [Widgets for mobile devices, page 86](#).

Types of widgets

The sections below describe each type of widget, its purpose, and how you can use it to analyze a specific set of data while working in MicroStrategy Web. The following list briefly summarizes each type of widget that can be used in a document:

- **Bubble Grid:** Bubbles of different colors and sizes representing the values of two metrics. It can help identify important trends or anomalies in data, relative to the total contribution of accompanying data. See [Analyzing a Bubble Grid widget, page 87](#) for more details and an example.
- **Cylinder:** A simple status indicator that displays a vertical cylinder with fluid in it. The level of the fluid within the cylinder is a visual representation of a single metric value. See [Analyzing a Cylinder widget, page 88](#) for more details and an example.
- **Data Cloud:** A list of attribute elements displayed in various sizes to depict the differences in metric values between the elements. The varying sizes allow you to quickly identify the most significant, positive, or negative contributions. See [Analyzing a Data Cloud widget, page 89](#) for more details and an example.
- **Date Selection:** A calendar selector that allows you to select which dates you want to see data about in a document or RS dashboard. You are able to see all of the dates of each month in the widget, which allows you to be able to select dates more easily. See [Using a Date Selection widget, page 90](#) for more details and an example.
- **Fish Eye Selector:** An interactive selector that magnifies an item when you hover the cursor over it. It allows a user to choose from a list of

attribute elements, metrics, or images without having to see all of the elements, metrics, or images. Any item that a user hovers over or selects remains magnified, while the remaining items are minimized and hidden from view. This can be especially helpful when the user has to browse through a lengthy list. See [Using a Fish Eye Selector, page 92](#) for more details and an example.

- **Funnel:** A variation of a stacked bar graph that displays data that adds up to 100%. It allows you to visualize the percent contribution of a metric to the whole. See [Analyzing a Funnel widget, page 94](#) for more details and an example.
- **Gauge:** A simple status indicator that displays a needle that moves within a range of numbers displayed on its outside edges. An example of a gauge is a car's speedometer. See [Analyzing a Gauge widget, page 95](#) for more details and an example.
- **Graph Matrix:** A group of area graphs that display actual values and line graphs that display forecasted values. It allows you to quickly analyze various trends across several metric dimensions. See [Analyzing a Graph Matrix widget, page 96](#) for more details and an example.
- **Heat Map:** A combination of colored rectangles, each representing an attribute element, that allow you to quickly grasp the state and impact of a large number of variables at the same time. See [Analyzing a Heat Map widget, page 99](#) for more details and an example.
- **Interactive Bubble Graph:** A conventional bubble plot that allows you to visualize the trends of three different metrics for a set of attribute elements. See [Analyzing an Interactive Bubble Graph widget, page 107](#) for more details and an example.
- **Interactive Stacked Graph:** A combination of a check box list and area graph. The graph allows you to see the contribution of various metric series to the change in value of a larger set of data. See [Analyzing an Interactive Stack Graph widget, page 109](#) for more details and an example.
- **Map:** Locations displayed as image markers or bubble markers on a map, along with additional data for those locations, such as attribute and metric data. See [Analyzing a Map widget, page 111](#) for more details and an example.
- **Media:** Video, audio, images, or website content. One of the primary purposes of the Media widget is to present supplemental information about the data on an RS dashboard. It can also be used for instructional content or HTML content from a website. See [Viewing a Media widget, page 113](#) for more details and an example.

- **Microcharts:** One or more compact representations of data that allow you to quickly visualize trends. Use a Microcharts widget to quickly visualize the trend of a metric at a glance without having to know many additional details. The bar, sparkline, and bullet microcharts used in the Microcharts widget convey information that you can understand just by looking at the graph once. See [Analyzing a Microcharts widget, page 115](#) for more details and an example.
- **RSS Reader:** RSS (Really Simple Syndication) is a data format used to display updated Web content when you click a URL. An RSS document is called a feed, and it contains either a summary of the content from an associated website or the full text. The RSS Reader widget can help provide context to your business data. Use RSS Reader widgets on an RS dashboard to view and update RSS feeds as a user analyzes grids, graphs, and other objects in the same RS dashboard. See [Analyzing an RSS Reader widget, page 120](#) for more details and an example.
- **Thermometer:** A simple status indicator that displays a thermometer set to a certain temperature level. The temperature level within the thermometer is a visual representation of a single metric value. See [Analyzing a Thermometer widget, page 121](#) for more details and an example.
- **Time Series Slider:** An area graph that allows you to choose which section of the graph to view at a time. See [Analyzing a Time Series Slider widget, page 122](#) for more details and an example.
- **Waterfall:** A group of clustered bars displayed from left to right. It highlights the increments and decrements of the values of metrics over time. The widget can help identify what is contributing to fluctuations in the metric values and can be used for “what-if” analyses. See [Analyzing a Waterfall widget, page 124](#) for more details and an example.
- **Weighted List Viewer:** A combination of the data visualization techniques of thresholds and graphical weighting in a single visualization. This enables you to assess the performance of a group of items. See [Analyzing a Weighted List Viewer widget, page 125](#) for more details and an example.

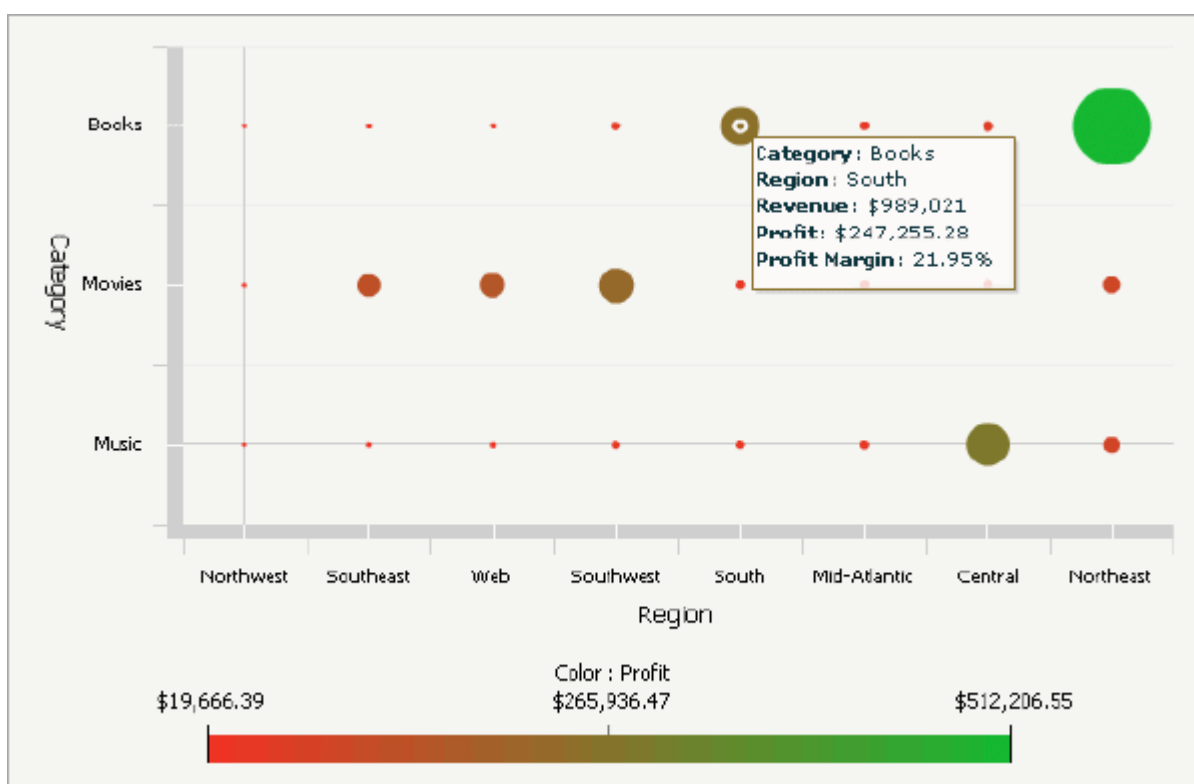
Widgets for mobile devices

Widgets can be displayed on iPhones, iPads, and Android devices that have MicroStrategy Mobile installed. Examples include the Map widget, Interactive Grid widget, Microcharts widget, Time Series widget, RSS Reader widget, Photo Uploader widget, and Image Viewer widget. For instructions

to work with these widgets, and for information on MicroStrategy Mobile in general, see the *Mobile Analysis Guide*.

Analyzing a Bubble Grid widget

The Bubble Grid widget displays information to help you identify important trends or anomalies in data, relative to the total contribution of accompanying data. In the widget, metric values are plotted as bubbles of different colors and sizes; the colors and sizes of the bubbles represent the values of two distinct metrics on the widget. Each bubble is generated at the intersection of two different attribute elements. For example, in the widget below, a single bubble depicts the profit and revenue for books (an element of the Category attribute) in the South region (an element of the Region attribute). The Revenue metric determines the size of the bubble, while the Profit metric determines the color. When you hover the cursor over a bubble, a tooltip is displayed. Notice that in the tooltip shown below, data for a third metric, Profit Margin, is shown. The Profit Margin data does not affect the size or color of the bubbles, but is provided for additional information.

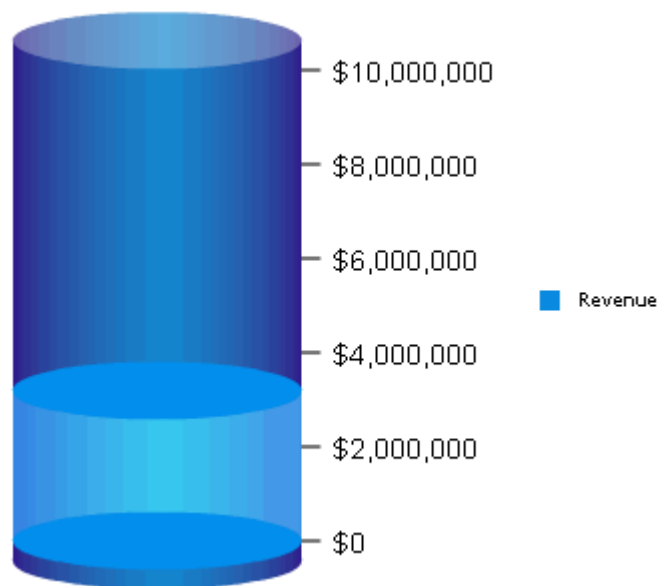


The Bubble Grid widget is most beneficial when it is used to perform analyses involving key business ratios, such as the number of customers in a store vs. the revenue generated per customer. For example, the widget can

help you investigate questions such as “Does the number of customers that visit a certain store correlate to the amount of money each customer spends?” You can use the widget to answer these types of questions in the context of business attributes, such as different stores, regions, and times of the day or year. Positive correlations in the data show that stores with a large number of customers generate a large amount of revenue, and negative correlations show the opposite. When you detect negative correlations for stores in specific regions, you can investigate reasons for the issue and recommend changes such as adding more sales personnel to the stores.

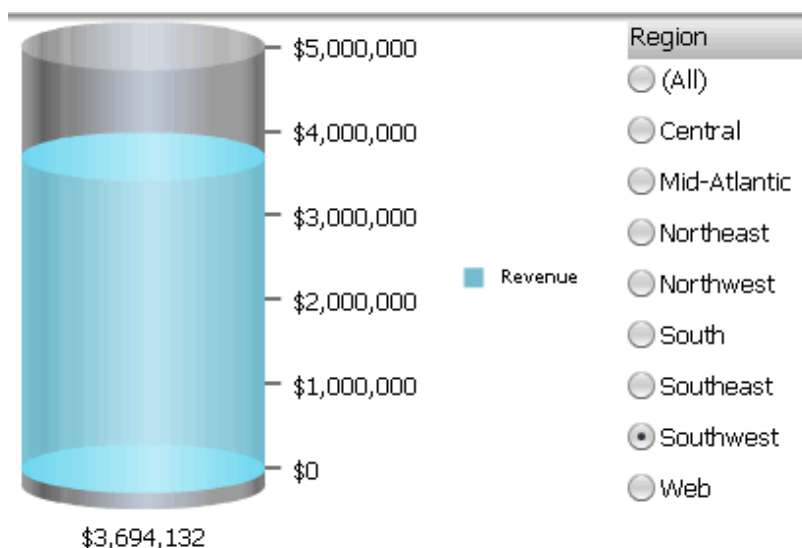
Analyzing a Cylinder widget

A Cylinder widget is a simple status indicator that displays a vertical cylinder with fluid in it. The level of the fluid within the cylinder is a visual representation of a single metric value. In the image below, the liquid level in the cylinder represents the amount of revenue generated (the Revenue metric).



A Cylinder widget is usually combined with an interactive selector so you can choose an attribute element. The metric value for the selected element displays in the cylinder. For example, select Southwest from the Region

selector to update the Cylinder widget with Southwest's revenue value, as shown below.



Analyzing a Data Cloud widget

A Data Cloud widget displays attribute elements in various sizes to depict the differences in metric values between the elements. This allows you to quickly identify the most significant, positive, or negative contributions.

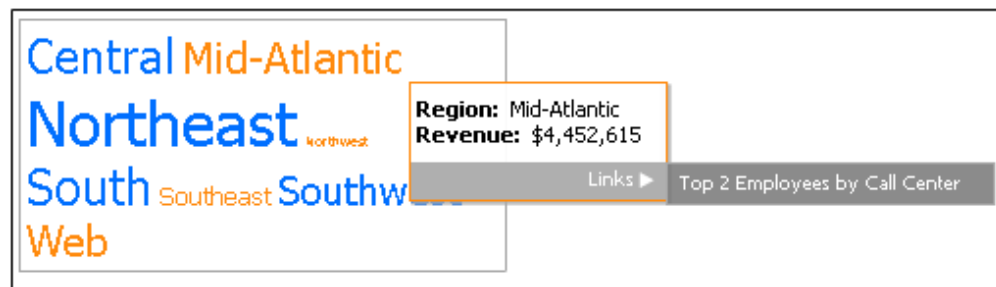
A Data Cloud widget is basically a list of attribute elements. The first metric determines the font size for the attribute elements. A bigger font for an element indicates a larger metric value. In the Data Cloud widget shown below, the size of each attribute element from the Subcategory attribute represents the amount of revenue generated by each type of book. Hover your cursor over a subcategory to view its metric values. In this case, the Profit metric is displayed in the resulting tooltip for informational purposes, although the Profit metric does not affect the element's font size.



Executing a report or another document from a Data Cloud widget

A Data Cloud widget can have links, which allow you to connect from the widget (the source) to another document or a report (the target). Information can be passed from the source to the target. For example, the target can display information only for the object selected in the source, for the objects chosen in the source's prompt, or for specific, pre-determined objects, among other options. If the widget has links, when you hover your cursor over an attribute element in the widget, the Links menu is displayed. You can click a link in the Links menu, and the target opens.

For example, the Region attribute in the Data Cloud widget shown below is linked to the Top 2 Employees by Call Center report. This report is prompted for region, and the link passes the current region to the report. In Flash Mode in MicroStrategy Web, you hover the cursor over Mid-Atlantic, then point to **Links** in the tooltip, to display the available links, as shown below:



When you click the link **Top 2 Employees by Call Center**, the target report is displayed. Only the call centers in the Mid-Atlantic region are included, as shown below:

Region	Call Center	Employee	Metrics	Revenue	Revenue Rank
Mid-Atlantic	Washington, DC	Bernstein	Lawrence	\$1,060,632	2
		Folks	Adrienne	\$1,047,776	1
	Charleston	Brown	Vernon	\$331,735	2
		Corcoran	Peter	\$325,147	1

Using a Date Selection widget

A Date Selection widget is a calendar selector that allows you to select which dates you want to see data about in a document or RS dashboard. You are able to see all of the dates of each month in the widget, which allows you to select dates more easily.

For example, the Date Selection widget is useful if you are working with an RS dashboard that displays data from Q4 2007 and you want to view data from a date before that. You can select the date that you want to see and the data for that date will display on the RS dashboard, as shown below:

Day Metrics	Revenue	Profit	Profit Margin	Units Sold
1/6/2007	\$22,501	\$3,939	17.51%	550



The Date Selection widget above is shown in Flash Mode. In Interactive Mode and Express Mode, the document designer determines if the widget displays as:

- A Date Selection widget
- A grid or graph
- A selector, such as a listbox or button bar
- Hidden (nothing is displayed)

For example, the same RS dashboard is shown below in Interactive Mode, and the Date Selection widget is displayed as a grid. Notice the scroll bar at the left: all the dates are not shown in this sample, because the list is so long. Because the list is so long, dates even further down the list do not appear in

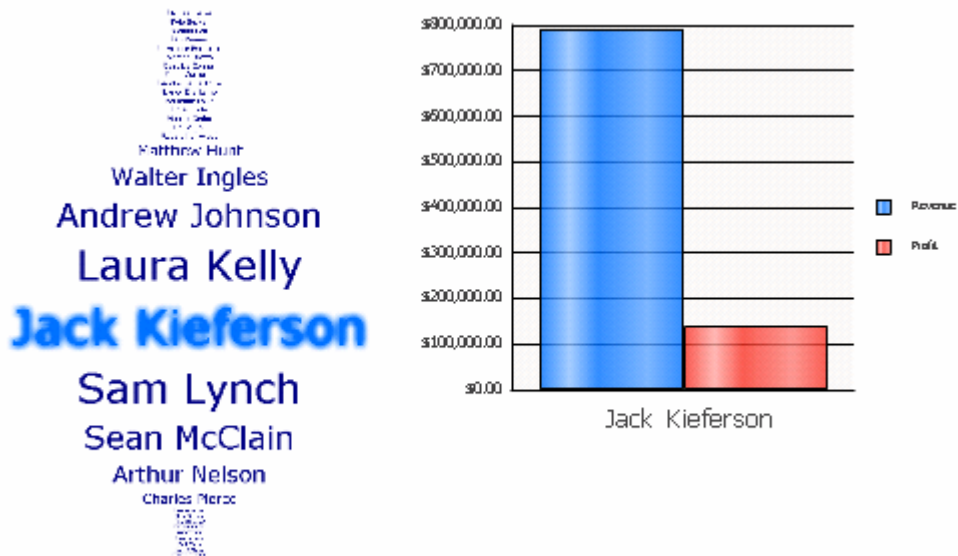
the same screen as the grid, which is why the Date Selection widget is so useful.

Day Metrics	Revenue	Profit	Profit Margin	Units Sold
1/6/2007	\$22,501	\$3,939	17.51%	550

Day
1/1/2007
1/2/2007
1/3/2007
1/4/2007
1/5/2007
1/6/2007
1/7/2007
1/8/2007
1/9/2007
1/10/2007

Using a Fish Eye Selector

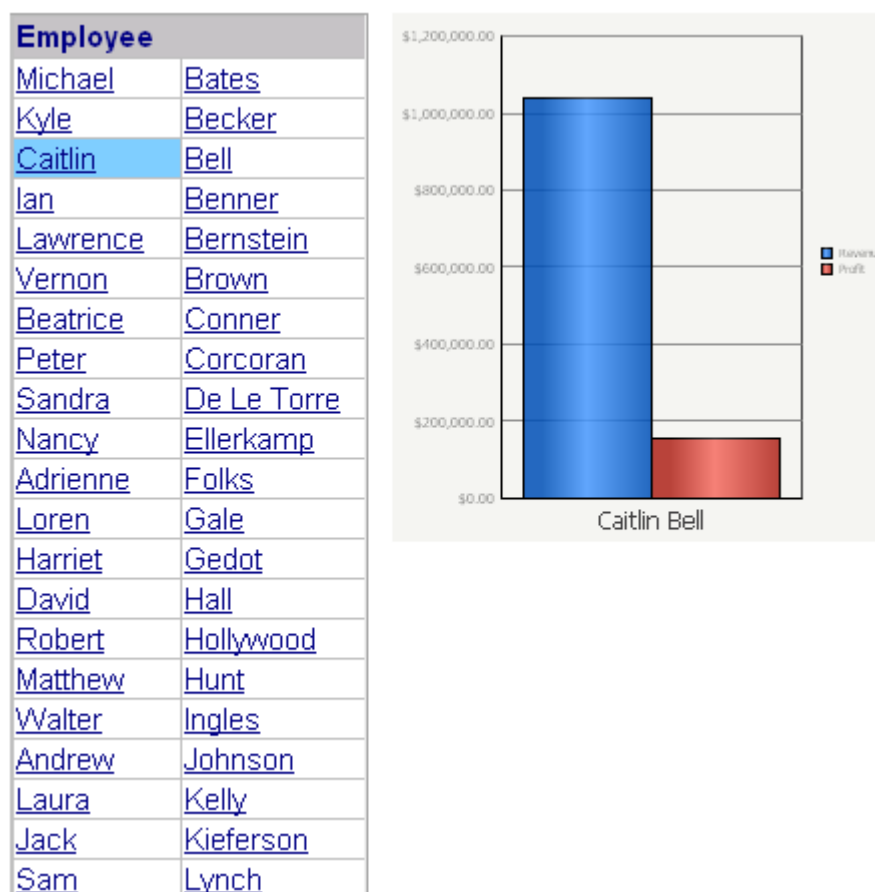
The Fish Eye Selector magnifies an item when you hover the cursor over it in Flash Mode, Interactive Mode, or Express Mode. Any item that you hover over or select remains magnified, while the remaining items are minimized and displayed in the background of the selector. A Fish Eye Selector in Flash Mode is shown below, targeting a grid.



The Fish Eye Selector above is shown in Flash Mode. In Interactive Mode and Express Mode, the document designer determines if the widget displays as:

- A Fish Eye Selector
- A grid or graph
- A selector, such as a listbox or button bar
- Hidden (nothing is displayed)

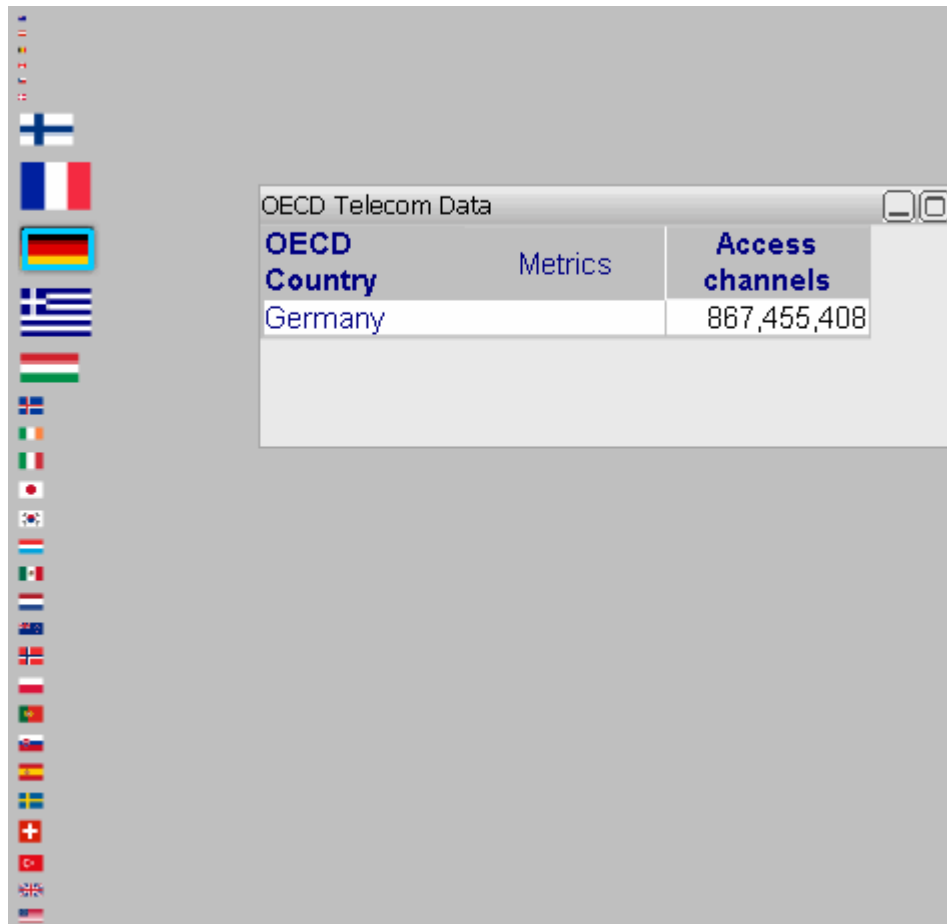
The same RS dashboard is shown below in Interactive Mode in MicroStrategy Web. The Fish Eye Selector is now displayed as a grid. All the employees are not shown in this sample, because the list is so long. Notice that the previous selection, Jack Kieferson, is far down the list. Because the list is so long, names even further down the list may not appear in the same screen as the graph, which is why the Fish Eye Selector is so useful.



The Fish Eye Selector can display a series of images instead of text. These images can replace any element, metric, or panel names in the selector.

When an image is selected, any target panel stacks or Grid/Graph reports are updated with related data.

In the example below, the Fish Eye Selector on the left displays a collection of flags from various countries. Each flag represents an attribute element from the Country attribute, which is the attribute used to define the Fish Eye Selector. Select a flag to see that country's data in the target grid on the right.



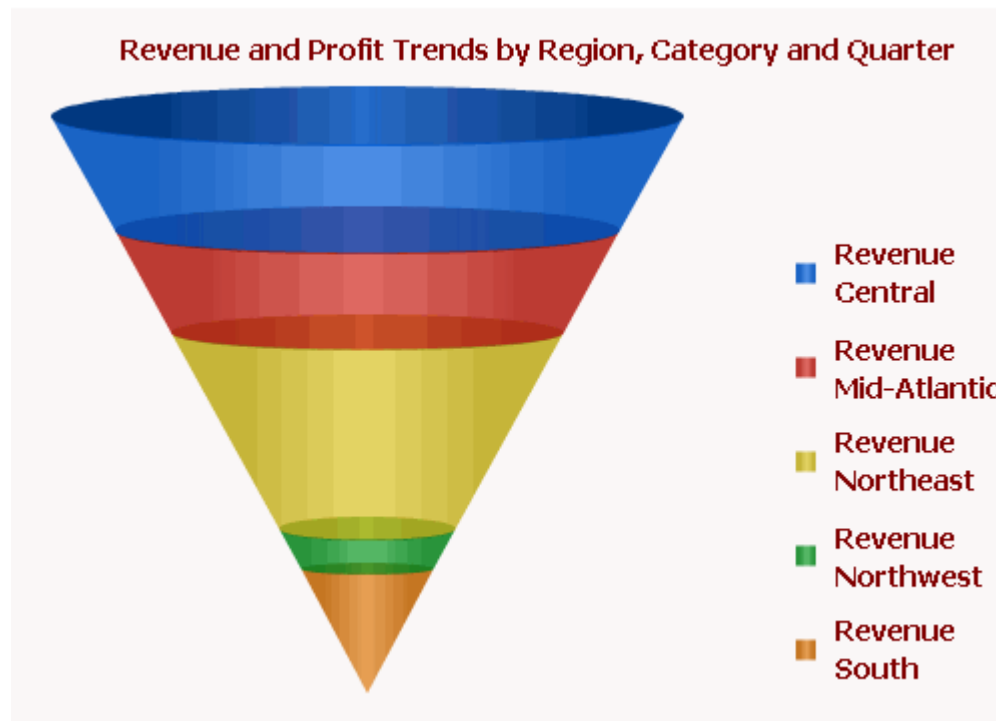
Analyzing a Funnel widget

A Funnel widget allows you to quickly analyze various trends across several metric values. It can be used for a wide variety of business purposes, including application management, click management, pipeline analyses for sales forecasts, and sales process analysis.

The widget is a variation of a stacked percent bar graph that displays data that adds up to 100%. Therefore, it can allow you to visualize the percent contribution of sales data. It can also show the stages in a sales process and

reveal the amount of potential revenue for each stage. When the widget is used to analyze a sales process, you can use the widget to drill down to key metrics such as deal size, profit potential, and probability of closing. The widget can also help identify potential problem areas in an organization's sales processes.

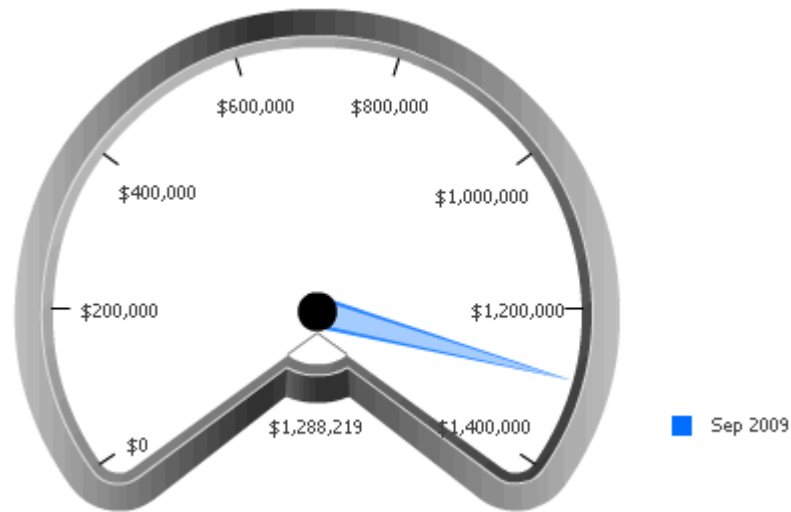
For example, the following Funnel widget displays the percent contribution of revenue data by region. Each section of the funnel is a different region, and the size of each section is proportional to the amount of revenue that the region contributed.



Analyzing a Gauge widget

A Gauge widget is a simple status indicator that displays a needle that moves within a range of numbers displayed on its outside edges. A real-world example of a gauge is a car's speedometer. This type of widget is designed to display the value of a single metric. The needle within the gauge is a visual representation of that single metric value.

In the image below, the location of the needle in the gauge represents the amount of revenue generated (the Revenue metric).



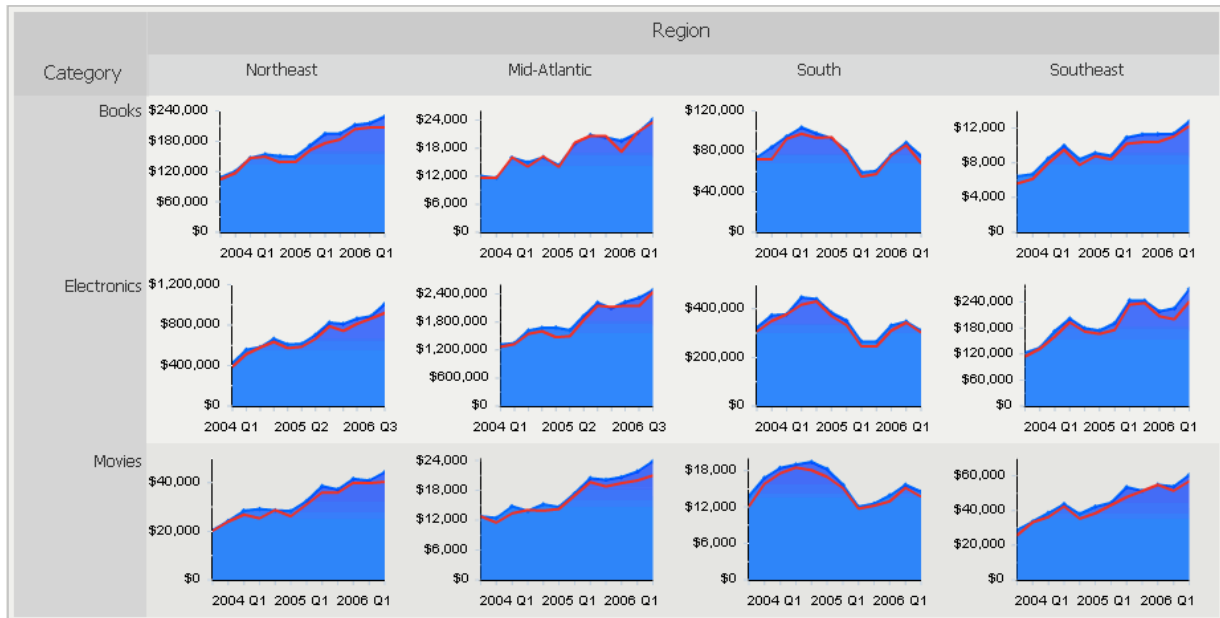
A Gauge widget is usually combined with an interactive selector so you can choose an attribute element, and the metric value for the element is displayed in the gauge. For example, you can select the Southwest region to have the Gauge widget display the Revenue value for Southwest.

Analyzing a Graph Matrix widget

A Graph Matrix widget allows you to quickly analyze various trends across several metric dimensions. You can use the widget to assess questions such as “How are sales comparing vs. forecast, by time and region?”.

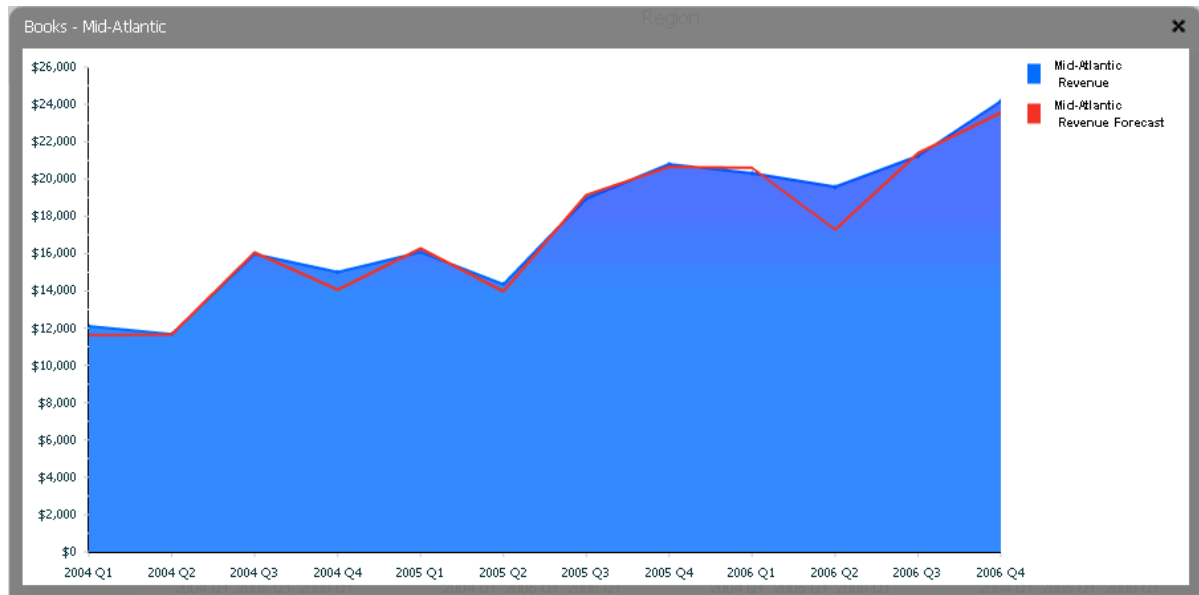
The Graph Matrix widget consists of several area graphs that display current values. Each area graph also has a line graph above it to show forecasted values. One graph is displayed for every combination of elements from the attributes on the rows and columns of the Grid/Graph report that contains the widget. For example, in the widget below, the rows of the report contain the Category attribute elements and the columns contain the Region

attribute elements. Twelve graphs are displayed because data exists for four regions and three categories of products.



A separate area graph is produced for each combination of region and product category. For example, one area graph focuses solely on electronics product figures in the Northeast region. Values in that graph are plotted across quarter (on the X-axis) and revenue (on the Y-axis). The line graph at the top of the area graph represents revenue forecast metric values, or the amount of revenue the company predicted that it would generate.

You can maximize a specific area graph by double-clicking it. The graph opens in a new window, as shown below.



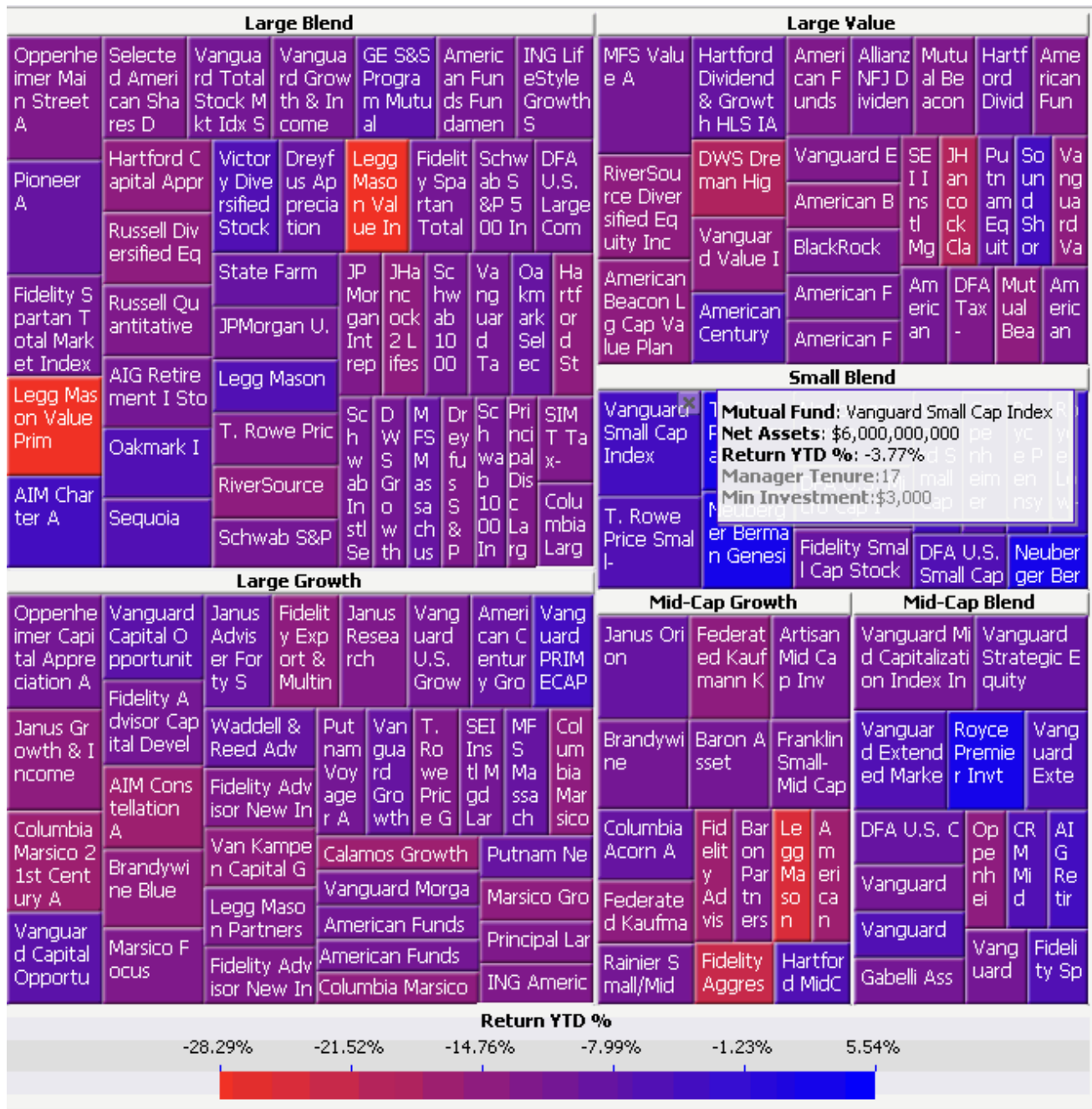
Each area graph in a Graph Matrix widget has the following characteristics, as shown above.

- The X-axis provides the time scale. For example, the X-axis can represent weeks, quarters, or years. In the example above, the X-axis represents quarters.
- The Y-axis provides the metric values. For example, the Y-axis can represent revenue, profit, or units sold. In the example above, the Y-axis represents the Revenue metric.
- The area graph shows the current values, allowing you to see how values changed over time.
- The line graph at the top of the area graph shows the predicted, or forecasted, values.
- The black reference line in the area graph (not displayed above) shows the average for only the specific graph you are looking at.
- The red reference line in the area graph (not displayed above) shows the average metric value for all of the graphs in the same row of the Graph Matrix widget. This allows you to easily compare one graph in the widget to another.

Analyzing a Heat Map widget

A Heat Map widget presents a combination of colored rectangles, each representing an attribute element, that allow you to quickly grasp the state and impact of a large number of variables. Heat Maps are often used in the financial services industry to review the status of a portfolio. The rectangles contain a variety and shadings of colors, which emphasize the status of the various components. In a Heat Map, the size of each rectangle represents its relative weight and the color represents the relative change in value of that rectangle. You can hover over each rectangle to see which attribute element the rectangle represents and its metric values.

For information on what each object is represented by on the widget, review the following example:



Some of the rectangles in the Heat Map widget above are hidden from view.

- The headings along the top of the rectangles represent a set of attributes. In this example, they represent different categories (such as Large Blend and Large Value) of mutual funds.

- The individual rectangles under each heading represent single attributes. In this example, they represent different mutual funds, such as Oppenheimer Main Street A (in the top right) and Vanguard Small Cap Index (by the tooltip).
- The size of each rectangle represents its relative weight. This widget shows that Large Blend funds are weighted more heavily than Mid-Cap Blend funds in regard to net assets.
- The colors displayed in the widget represent different ranges of return year-to-date percentages generated by the mutual funds. In the image above, blue denotes higher percentages, while red and purple denote lower percentages. You can define the colors used to denote these values, as described in [Interacting with a Heat Map widget in Flash Mode and Interactive Mode, page 102](#).
- When you hover your cursor over a rectangle, data about that rectangle is displayed in a tooltip. This includes the data described in the bullet points above, as well as additional information that does not affect the Heat Map widget. In this example, the Vanguard Small Cap Index data is displayed.



To successfully analyze Heat Map widgets with large datasets, Flash Player 10 or later must be installed on your computer.

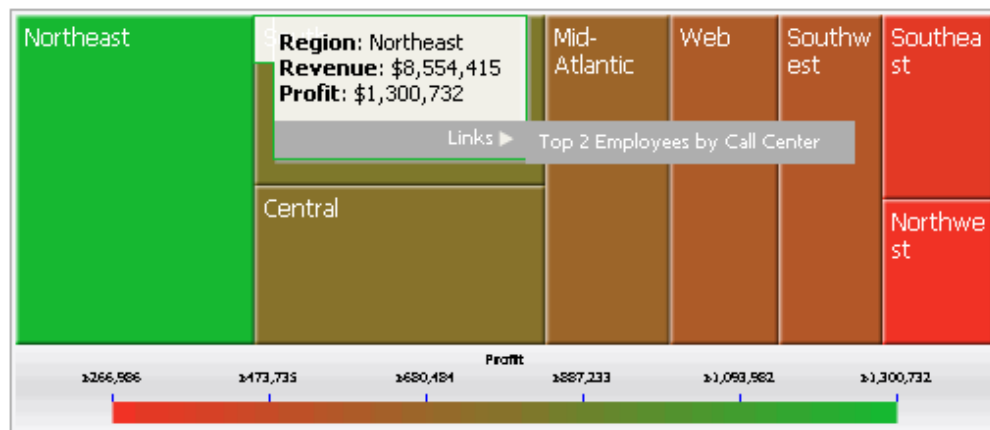
Some Heat Map widgets are combined with an interactive selector so you can select a different attribute element to view on the Heat Map widget. For example, a Heat Map widget displays Revenue values for categories and subcategories. The selector allows you to choose which regions to display category and subcategory for.

Executing a report or another document from a Heat Map widget

A Heat Map widget can have links, which allow you to connect from the widget (the source) to another document or a report (the target). Information can be passed from the source to the target. For example, the target can display information only for the object selected in the source, for the objects chosen in the source's prompt, or for specific, pre-determined objects, among other options. If the widget has links, when you hover your cursor over an attribute element in the widget, the Links menu is displayed. You can click a link in the Links menu, and the target opens.

For example, the Region attribute in the Heat Map widget shown below is linked to the Top 2 Employees by Call Center report. This report is prompted for Region, and the link passes the current region to the report. In Flash

Mode in MicroStrategy Web, hover your cursor over Northeast, then point to **Links** in the tooltip, to display the available links, as shown below:



When you click the link **Top 2 Employees by Call Center**, the target report is displayed. Only the call centers in the Northeast region are included, as shown below:

Region	Call Center	Employee	Metrics	Revenue	Revenue Rank
Northeast	Boston	De Le Torre	Sandra	\$607,895	2
		Kieferson	Jack	\$584,933	1
	New York	Kelly	Laura	\$2,350,720	1
		Sawyer	Leanne	\$2,411,912	2

Interacting with a Heat Map widget in Flash Mode and Interactive Mode

In Flash Mode and Interactive Mode in MicroStrategy Web, you can change various aspects of the Heat Map widget. This is convenient because you make the changes and view the results immediately, without switching to Design Mode or Editable Mode, and then returning to Flash Mode or Interactive Mode.

To interact with a Heat Map widget

- 1 Open the widget in either Flash Mode or Interactive Mode.
- 2 Right-click the widget and select **Interactive**. The Heat Map dialog box opens.

- 3 You can dock and undock the Heat Map dialog box. A docked dialog box is attached to the right side of the widget and cannot be moved. An undocked dialog box can be moved and resized.

Refresh the widget

- 4 To return to the widget as defined by the Grid/Graph report, in the Controls section, click the **Refresh** icon and select **Default Configuration**.
- 5 To return to the last saved version of the widget, in the Controls section, click the **Refresh** icon and select **Saved Configuration**.

Delete and restore rectangles

Deleting rectangles provides additional room for other rectangles or eliminates outliers. You can disable and enable deleting rectangles.

- 6 To enable deletion, click the **Enable Delete** icon in the Controls section.
- 7 To delete a rectangle, hover the cursor over the rectangle to be deleted. Click the **X** that appears in the top right.
- 8 To display a list of deleted rectangles, click the **List of Deleted Items** icon in the Controls section. A dialog box opens, displaying a list of all the deleted rectangles. To close the list, click the **X** button.
- 9 To replace any rectangles that you removed, click the **Refresh** icon in the Controls section.
- 10 To disable deleting rectangles, click the **Disable Delete** icon in the Controls section.

Zoom in on a rectangle

- 11 To view details of the data within a rectangle, click the **Zoom** icon in the Controls section. When you hover the cursor over the Heat map widget, the cursor turns into a magnifying glass. Click the rectangle that you want to zoom in on.

The path that you are creating is displayed at the top of the widget. You can click a step to return to that view of the widget. For instance, to return to the full view of the widget, click **Home**.

To turn zoom off, click the **Zoom** icon again.

Change the metrics that define the rectangles

- 12 To change the metric that determines the size of the rectangles in the Heat Map widget, select the metric from the **Size** drop-down list in the Controls section.
- 13 To change the metric that determines the color of the rectangles in the Heat Map widget, select the metric from the **Color** drop-down list in the Controls section.

Change the attributes used in the widget

To focus on the data on a specific attribute, you can remove other attributes from the widget. You cannot remove all the attributes from the widget; at least one must remain so that the widget can be displayed.

- 14 To remove an attribute, drag the attribute from the **Grouping** list to the **Unused Attributes** list, in the Attributes section.
- 15 To replace an attribute that you removed, drag the attribute from the **Unused Attributes** list to the **Grouping** list, in the Attributes section.



If the **Unused Attributes** list is not displayed, removing attributes is disabled. A document designer must enable this option.

- 16 To rearrange the grouping of categories on the Heat Map widget, click and drag attributes in the **Grouping** list, in the Attributes section. The attribute at the top of the list creates the headers in the Heat Map and the attribute at the bottom creates the individual rectangles under each header.

Filter the metric

- 17 To display rectangles based on the metric values that determine size, move the sliders for **Size** in the Metric Filters section.
- 18 To display rectangles based on the metric values that determine color, move the sliders for **Color** in the Metric Filters section.
- 19 To display only the rectangles in the **Size** and **Color** ranges, select the **Filters** check box in the Metric Filters section. If the check box is cleared, those rectangles are highlighted. This allows you to see how your choices affect the widget.

Change the colors of the Heat Map widget

- 20 To blend the colors between points, select the **Blend Colors** check box in the Heat Map Colors section.
- 21 To display a specific color for a specific range, select the **Band Colors** check box in the Heat Map Colors section.
- 22 To add a new point when the colors are blended, click the slider where you want the new point to appear.
- 23 To add a new band when the colors are banded, press **CTRL** and click the slider where you want the new point to appear.
- 24 To move a point or band, slide the point or band to its new location. As you slide it, the metric value is displayed.
- 25 To delete a point when the colors are blended, click the point and drag it off the slider.
- 26 To delete a band when the colors are banded, hover over the band and click the **X** that appears.
- 27 To change the color of a point or band, double-click the point or band in the slider. Select the new color in the dialog box which opens.
- 28 To have the color of a band become darker towards the right, click the arrow at the bottom of the band until it points towards the right.
- 29 To have the color of a band become darker towards the left, click the arrow at the bottom of the band until it points towards the left.
- 30 To have the color become darker towards both ends of the band, click the arrow at the bottom of the band until the arrow points both ways.
- 31 To display a band as a solid color, click the arrow at the bottom of the band until it becomes a circle.

Search in the Heat Map widget

- 32 To find an attribute in the widget, in the Search section, type the text to search for, then do one of the following:
 - To highlight the rectangles whose attributes match the text, clear the **Filter** check box.

- To display only the rectangles whose attributes match the text, select the **Filter** check box.

Click **Search**. If a match cannot be found, a message is displayed at the top of the widget. To clear the search results, click the **X** at the top of the widget.

Execute a report or another document

- 33** If the widget has a link to a report or another document, when you hover your cursor over an attribute element in the widget, the Links menu displays a list of available links. Click a link in the Links menu, and the target report or document opens.



Unlike the other tasks described above, you do not use the Heat Map dialog box to access links.

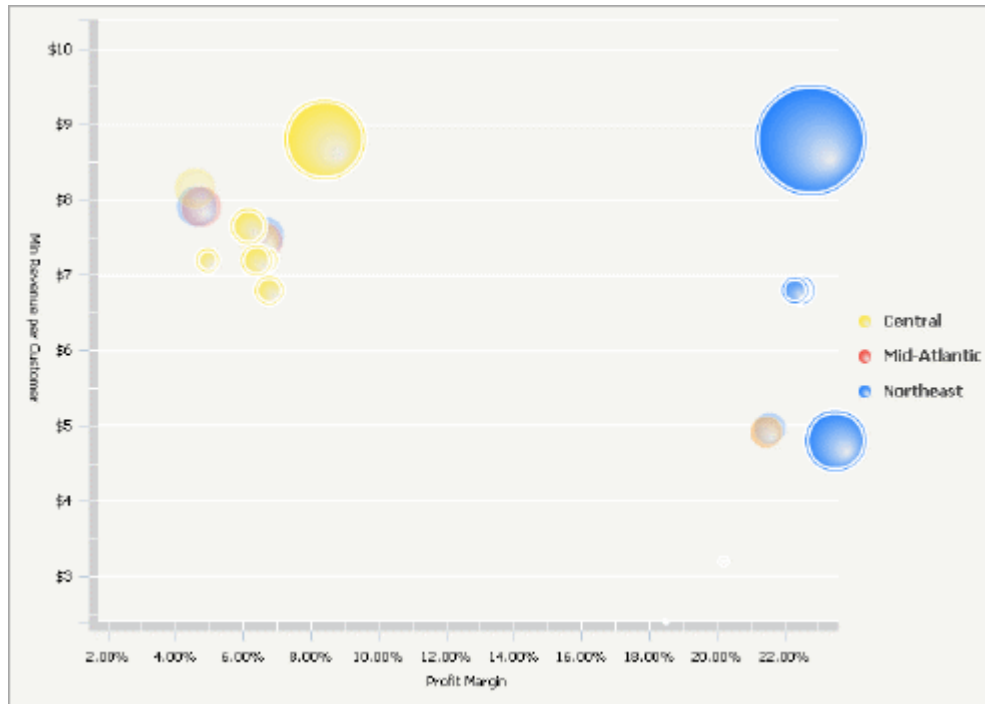
- 34** If the widget is combined with an interactive selector, you can choose which attribute element to view on the Heat Map widget.



Unlike the other tasks described above, you do not use the Heat Map dialog box to work with a selector.

Analyzing an Interactive Bubble Graph widget

An Interactive Bubble Graph widget is a conventional bubble plot that allows you to visualize the trends of three different metrics for a set of attribute elements. An example is shown below:



In an Interactive Bubble Graph widget:

- One bubble is displayed for each attribute element. In this example, the attribute is Call Center, and the elements are Boston, New York, and so on.
- Groups of attribute elements are displayed as different colored bubbles. In this example, the attributes are grouped by Region, as indicated by the key.
- Each bubble's position on the X-axis and Y-axis represents the values of metrics. In this example, the X-axis is the Profit Margin metric, and the Y-axis is the Minimum Revenue per Customer metric.
- The size of each bubble represents the value of another metric.

Analyzing data in an Interactive Bubble Graph widget

To analyze data in the Interactive Bubble Graph widget:

- To view metric information for a bubble, hover over the bubble.
- To highlight groups of related data in the widget, hover over an item in the graph legend to highlight all bubbles associated with that item.
- To see underlying data within a bubble, double-click on any of the bubbles. For example, you can drill on a Region bubble (the parent attribute) down to bubbles that represent different cities (child attributes) within that region. In the widget shown above, the green bubbles have been drilled to their child attribute bubbles.
- To see an animation that plots the bubble values through time, move the time slider or click the animation play button.
- If the document contains a Grid/Graph report or a panel stack that is connected to this widget, click a bubble in the graph or an item in the graph legend to display related data in connected Grid/Graph reports and panel stacks.
- You can change which metric is displayed on which axis. For example, in the widget shown above, the Profit Margin is displayed on the X-axis (the horizontal axis) and the Minimum Revenue per Customer on the Y-axis (the vertical axis). You can switch the metrics, so that the Profit Margin is shown on the Y-axis, and the Minimum Revenue per Customer on the X-axis.
- To zoom in and enlarge a section of the widget, draw a selection box (or lasso) around a cluster of bubbles, and enlarge that area of the widget. You can return to the original view when you have finished reviewing the data.
- To link to another document or a report, hover the cursor over a bubble in the widget. The Links menu is displayed. Click a link in the menu to open the target document or report. For an example, see [Executing a report or another document from an Interactive Bubble Graph widget, page 108](#).



Not all features described above are enabled in all documents.

Executing a report or another document from an Interactive Bubble Graph widget

Links allow you to connect from a widget in a document (the source) to another document or a report (the target). Information can be passed from

the source to the target. For example, the target can display information only for the object selected in the source, for the objects chosen in the source's prompt, or for specific, pre-determined objects, among other options. If the widget has links, a Links menu is displayed when you hover your cursor over a bubble in the widget. Click a link in the Links menu to open the target.

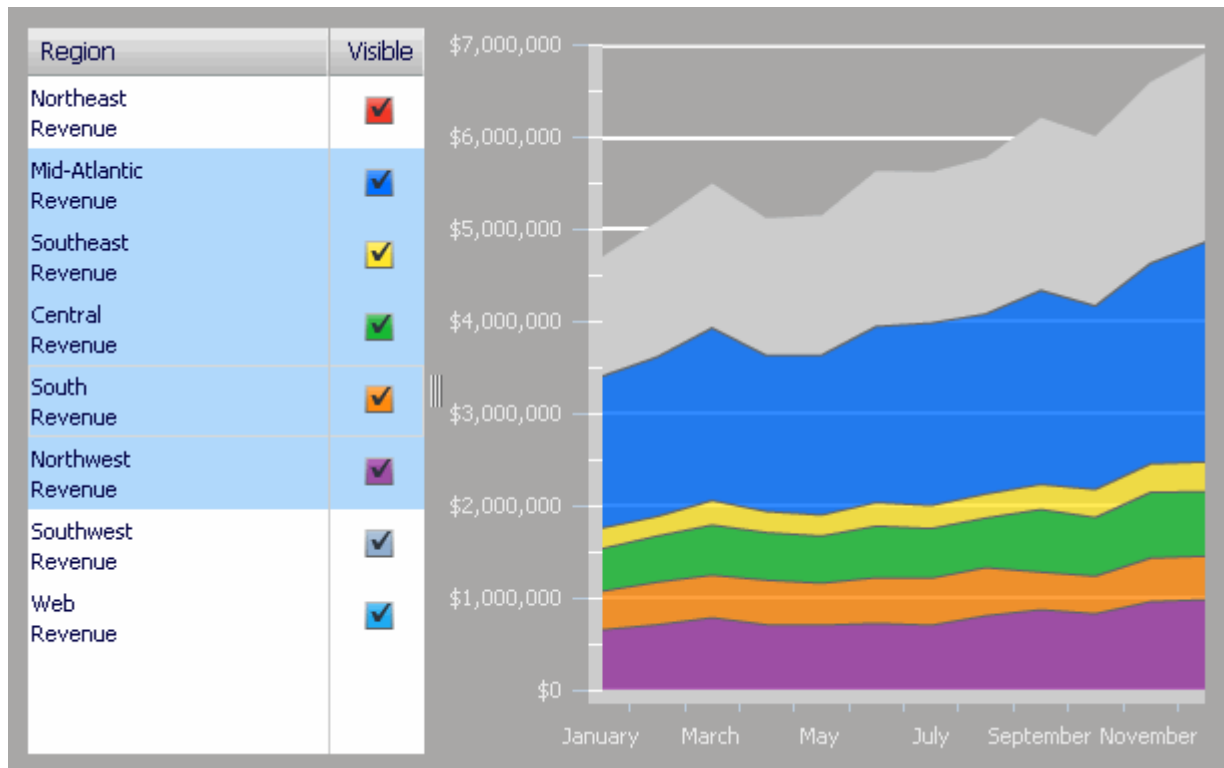
For example, the Region attribute in an Interactive Bubble Graph widget is linked to the Top 2 Employees by Call Center report. This report is prompted for Region, and the link passes the current region to the report. In Flash Mode in MicroStrategy Web, hover the cursor over the bubble for Mid-Atlantic, then point to **Links** in the tooltip, to display the available links.

When you click the link **Top 2 Employees by Call Center**, the target report is displayed. Only the call centers in the Mid-Atlantic region are included.

Analyzing an Interactive Stack Graph widget

An Interactive Stacked Graph widget presents a combination of a check box list and an area graph. The graph allows you to see the contribution of various metric series to the change in value of a larger set of data. This widget allows you to visualize total metric values as one large stacked area, and the individual pieces of that total as smaller stacked areas within the large stacked area. You can quickly analyze how the individual parts make up the whole, which is useful when making percent-to-total comparisons.

An example of an Interactive Stacked Graph widget is shown below:



By selecting individual attribute elements (the list of regions in the example above) using the check boxes, you can determine what data is displayed on the area graph on the right. When all check boxes are selected, as shown in the example, the area graph is at its maximum size because it is representing contributions from each individual element.

To analyze data in an Interactive Stacked Graph widget:

- To change the data that is displayed in the area graph on the right, select individual attribute elements using the check boxes on the left. When all check boxes are selected, the area graph is at its maximum size.
- To analyze how the individual parts make up the whole, for example when making percent-to-total comparisons, click the name of the attribute element on the left. The portion of the area graph representing the attribute element is highlighted. Select multiple items by pressing **CTRL** and selecting elements.
- If the document contains a Grid/Graph report or panel stack that is connected to this widget, click the check boxes or area graph to display related data in connected Grid/Graph reports and panel stacks.



Not all features described above are enabled in all documents.

Analyzing a Map widget

You can display your data as locations on a map using the Map widget. An example of a Map widget is shown in the image below, with data displayed using colored image markers in the widget.

This section contains details and information to analyze data in using the Map widget that MicroStrategy provides out-of-the-box. For details and information on analyzing data in a custom Map widget, see the *MicroStrategy GIS Integration Help*.



The table below contains a list of actions you can perform to analyze the data in a Map widget, and steps to perform them.

Prerequisite

- From the dashboard's toolbar, click the **Flash Mode** icon.

Actions	Steps to Perform
Zoom in or out of the map display	1 Click the thumb on the slider located on the left side of the map, then do one of the following: - To zoom in on the map, drag the thumb towards the + side of the slider. - To zoom out of the map, drag the thumb towards the - side of the slider.
Pan the map display to display a different region of the map	1 Click on the map, then drag it in the direction you want to pan the map display.

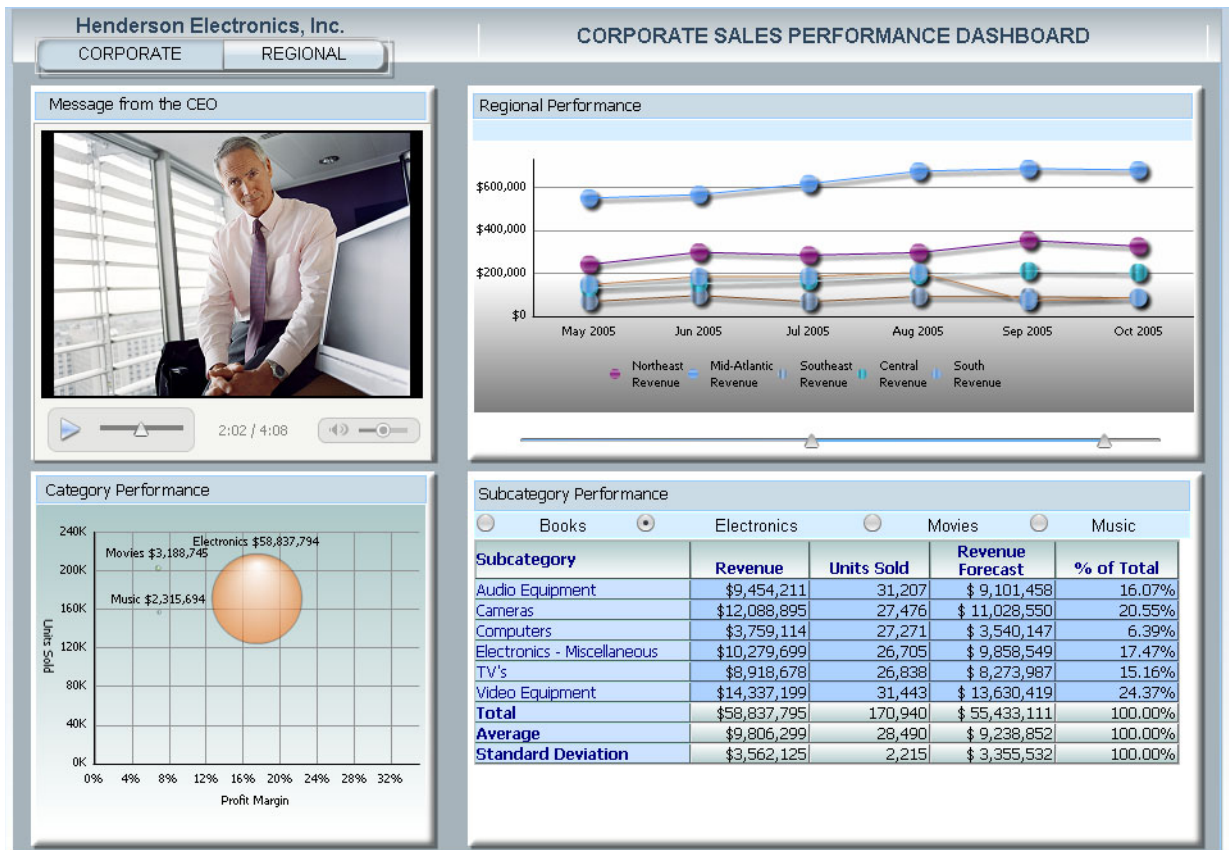
Actions	Steps to Perform
Change the metric used to display data in the map	1 From the drop-down list at the top of the map, select the metric to use to display data. For example, the designer of the widget has chosen to format the color of map markers based on the value of the Profit metric. If you select the Profit metric, green map markers are displayed for larger profit values and red map markers are displayed for smaller profit values.
Select map markers in the map one at a time If the widget has been designed to be used as a selector, you can automatically filter data displayed in grids, other widgets, panel stacks, and so on by selecting items in the map.	1 From the visualization's toolbar, click the Mouse Click Selection icon. 2 Click a map marker to select it. You can select multiple map markers by pressing CTRL and clicking additional map markers.
Select the map markers within a rectangular region If the widget has been designed to be used as a selector, you can automatically filter data displayed in grids, other widgets, panel stacks, and so on by selecting items in the map.	1 From the visualization's toolbar, click the Rectangular Area Selection icon. 2 Click and drag on the map to enclose a set of map markers within a rectangle shape. All the map markers fully or partially inside the rectangle are selected.
Drill on data in the map This option is available if the Map widget has been designed to allow drilling.	1 Select map markers in the visualization by doing one of the following: • To select map markers one at a time, from the visualization's toolbar, click the Mouse Click Selection icon. Click a map marker to select it. You can select multiple map markers by pressing CTRL and clicking additional map markers. • To select the map markers within a rectangular region, from the visualization's toolbar, click the Rectangular Area Selection icon. Click and drag on the map to enclose a set of markers within a rectangle. All the map markers within the rectangle are selected. 2 From the visualization's toolbar, click the Drill icon. The map is updated and displayed.

Actions	Steps to Perform
Open a link to another report or dashboard This option is available if the designer has added links to the Map widget.	1 Select one or more areas or markers on the map by doing one of the following: • To select map markers one at a time, from the visualization's toolbar, click the Mouse Click Selection icon. Click a map marker to select it. You can select multiple map markers by pressing CTRL and clicking additional map markers. • To select the map markers within a rectangular region, from the visualization's toolbar, click the Rectangular Area Selection icon. Click and drag on the map to enclose a set of markers within a rectangle. All the map markers within the rectangle are selected. 2 From the visualization's toolbar, click the Drill icon. The linked report or dashboard is displayed.
Display additional information for a map marker in the visualization	1 From the visualization's toolbar, click the View Information Window icon. When you click a map marker in the visualization, an Information Window is displayed, containing detailed information about the location.

Viewing a Media widget

The Media widget can present a variety of media such as video, audio, images, or website content on your RS dashboard. Media in the widget can provide background information about data or instructions on how to use the RS dashboard. In the following RS dashboard, the Media widget in the

top left corner shows a company's CEO addressing his employees on important trends in the latest figures.



By default, the video plays automatically when the document is opened. You can, at any time, pause, rewind, stop, or replay the video in the Media widget.

Configuring IIS 6 in Microsoft Windows 2003 SP2 (R2) to display Flash video

If your machine is running Microsoft Windows 2003 SP2 (R2) and Microsoft Internet Information Services (IIS) 6, you must add .flv files to the Multipurpose Internet Mail Extension (MIME) types in IIS Manager. If you do not modify the MIME types in IIS, the Media widget cannot function properly in this environment. A procedure to add the .flv files is included below. If your machine is operating in a different environment, this procedure is not required.



The third-party product(s) discussed in the procedure below is manufactured by vendors independent of MicroStrategy. MicroStrategy makes no warranty, express, implied, or otherwise, regarding this product, including its performance or reliability.

To add .flv files to the MIME types in Microsoft IIS 6



This procedure is only required if your machine is running Microsoft Windows 2003 SP2 (R2) and Microsoft IIS 6.

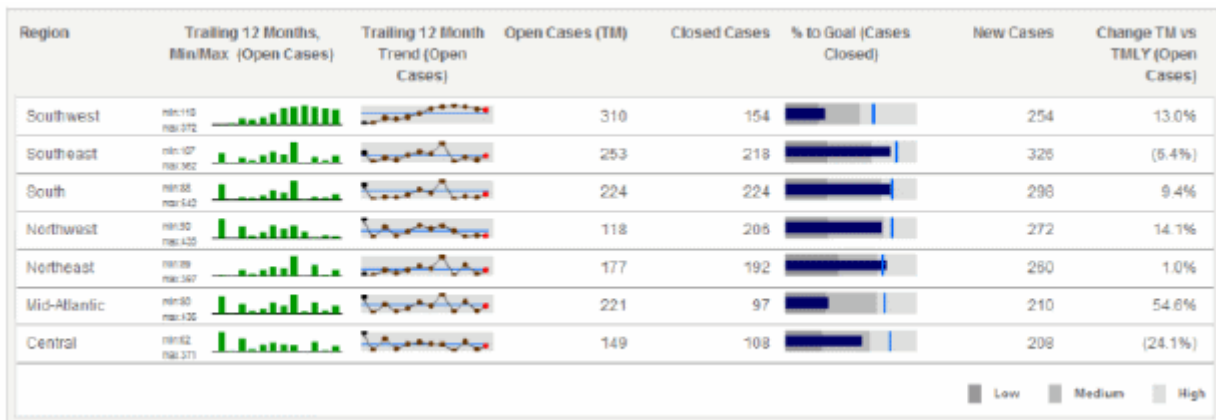
- 1 From your Windows **Start** menu, select **Control Panel**, and then select **Administrative tools**. The Administrative Tools window opens.
- 2 Double-click **Internet Information Services (IIS) Manager**. IIS Manager opens.
- 3 Expand the **(local computer)** folder, expand **Web Sites**, and then expand **Default Web Site**.
- 4 Right-click **MicroStrategy**, and select **Properties**. The MicroStrategy Properties dialog box opens.
- 5 On the **HTTP Headers** tab, click **MIME Types** in the MIME Types area. The MIME Types dialog box opens.
- 6 Click **New**. The MIME Type dialog box opens.
- 7 In the **Extension** text field, type `flv`.
- 8 In the **MIME Type** text field type `video/x-flv`.
- 9 Click **OK**. The MIME Type dialog box closes.
- 10 Click **OK**. The MIME Types dialog box closes.
- 11 Click **OK**. The MicroStrategy Properties dialog box closes.
- 12 Restart IIS.

Analyzing a Microcharts widget

The Microcharts widget consists of compact representations of data that allow you to quickly visualize trends in data. Microcharts convey information so that you can, at a glance, determine the trend of a metric over time or how a metric is performing compared to forecasted figures. The Microcharts widget is useful for this purpose because individual microcharts can display

attribute and metric data in a small graph that would otherwise be displayed as a single value in a grid report cell.

One, two, or three microcharts can be displayed in the Microcharts widget, depending on how the document designer defined the widget. For example, bar and sparkline microcharts are included on the left side of the widget shown below. These microcharts convey the trend of a metric over time, from left to right. On the right side of the widget, bullet microcharts reveal the percentage of cases that were closed, in correlation with the goals for the regions, which are represented by the vertical lines within the bullet microcharts.



When you hover your cursor over a data point in a microchart, information about that data point is displayed in a tooltip. For example, if you hover over a bar in the bar chart microchart shown above (Trailing 12 Months, Min/Max), the tooltip displays the month and the number of open cases.

Types of microcharts

The different types of microcharts are:

- **Bar charts**, which plot a metric with respect to time using a single bar, displaying a metric's current value and historical value to visualize the shape of the trend.



- **Sparklines**, which plot a metric with respect to time using a line graph, displaying a metric's current value and historical data to visualize the shape of the trend. Sparkline microcharts consist of the following:
 - A line graph that depicts the metric's value over time.

- A horizontal reference line, which provides a comparison point between the actual values and the reference values.



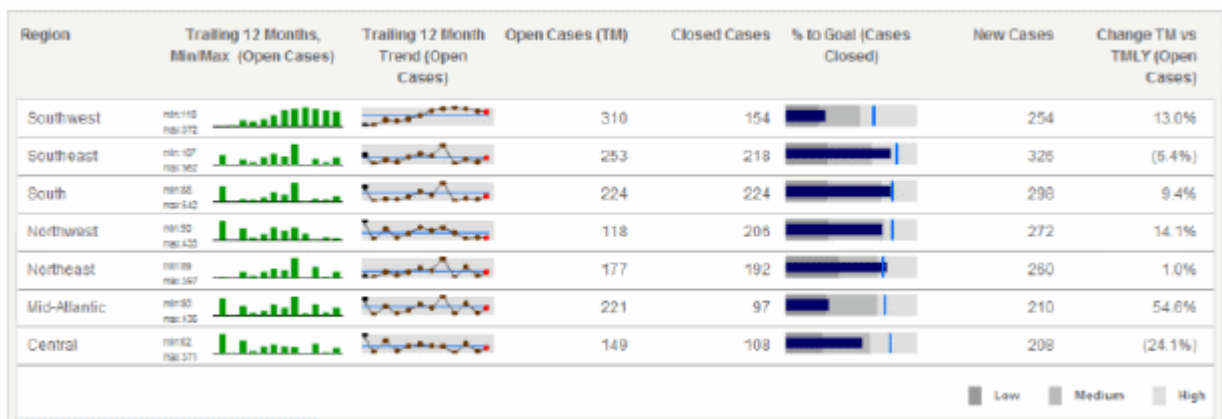
- **Bullet microcharts** compare the value of one metric against other metrics, typically representing a target value. One common example is comparing the year-to-date value of a metric to the annual target or the forecast of the metric. Bullet charts consist of the following:
 - A horizontal performance measure bar. This represents the actual metric value.
 - A vertical reference line, which is typically the target value for the metric.
 - Colored reference bands (Band 1, Band 2, and Band 3) that indicate a numeric range in which the metric's values exist.



How the widgets are displayed: Operation modes

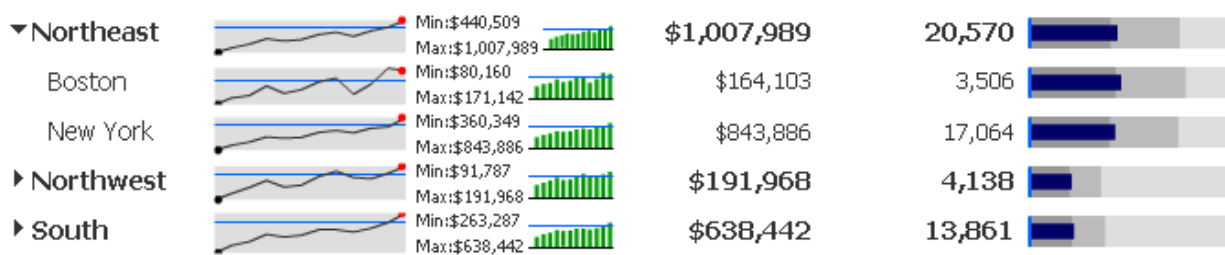
You can view and interact with a Microcharts widget in several ways, known as operation modes. Each of these modes provides a unique way of analyzing the microcharts and data within the widget. Which mode is used in a particular Microcharts widget is defined by the document designer. These modes include the following:

- **Grid:** All the rows of microcharts are displayed at the same time, from top to bottom, as shown below:



While in Grid mode, if the rows of the grid have at least three attributes, each attribute except the right-most attribute is combined and displayed as a row in the widget. For example, if Region is the first attribute and Call Center is the second attribute, rows are displayed for Northeast Boston and Northeast New York.

If the widget groups and indents these rows in a hierarchical tree display, you can collapse or expand the groups to show different levels of detail, with each level representing a different attribute. For example, in the image below, rows are grouped by the Region attribute. The Northeast group is expanded to display the elements of the Call Center attribute, with the rows Boston and New York.

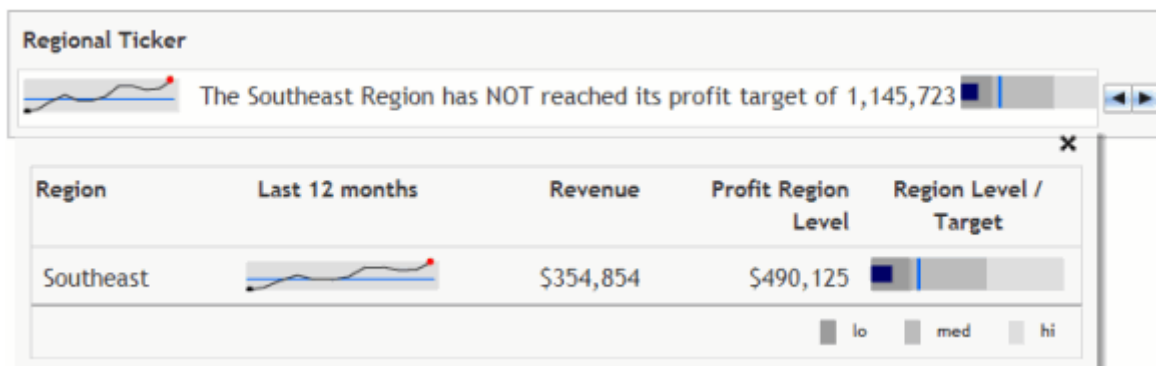


- **Vertical Scroll:** The rows of microcharts automatically scroll from the top to the bottom. You can also manually navigate from one row to the next using the **Previous** and **Next** buttons on the right side of the widget, as shown below:



- **Ticker:** Microcharts and supplemental text are displayed in a scrolling ticker that moves from right to left, as shown below. You can also manually scroll from one ticker to the next using the **Previous** and **Next** buttons on the right side of the widget. Text may have been added next to each microchart to provide background information or highlight a trend

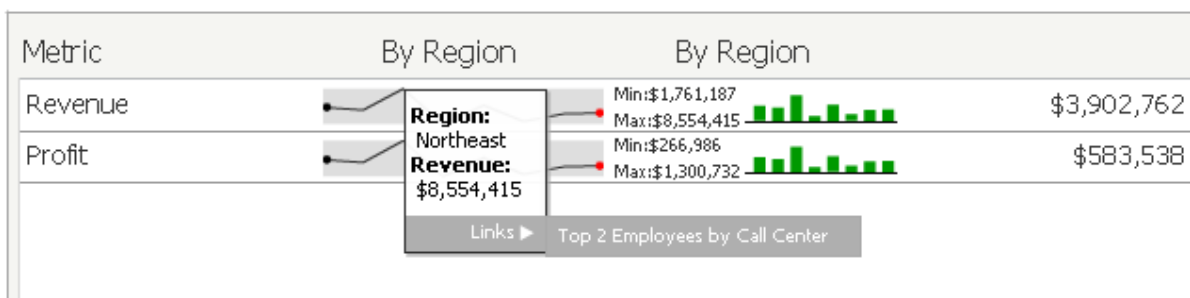
displayed in the microchart. This text is displayed alongside the microcharts as they scroll horizontally, as shown below:



Executing a report or another document from a Microcharts widget

Links allow you to connect from a widget in a document (the source) to another document or a report (the target). Information can be passed from the source to the target. For example, the target can display information only for the object selected in the source, for the objects chosen in the source's prompt, or for specific, pre-determined objects, among other options. If the widget has links, a Links menu is displayed when you hover your cursor over a bubble in the widget. Click a link in the Links menu to open the target.

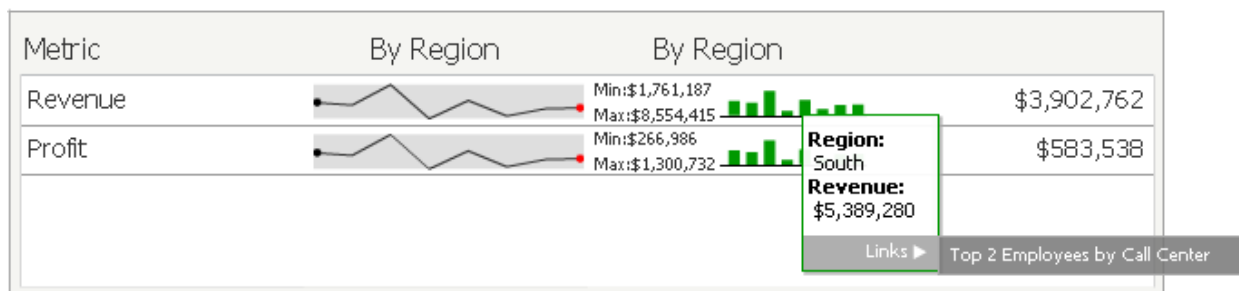
For example, the Region attribute in the Microcharts widget shown below is linked to the Top 2 Employees by Call Center report. This report is prompted for Region, and the link passes the current region to the report. In Flash Mode in MicroStrategy Web, hover your cursor over the Northeast region data point in the sparkline graph for Revenue, then point to **Links** in the tooltip, to display the available links, as shown below:



When you click the link **Top 2 Employees by Call Center**, the target report is displayed. Only the call centers in the Northeast region are included, as shown below:

Region	Call Center	Employee	Metrics	Revenue	Revenue Rank
Northeast	Boston	De Le Torre	Sandra	\$607,895	2
		Kieferson	Jack	\$584,933	1
	New York	Kelly	Laura	\$2,350,720	1
		Sawyer	Leanne	\$2,411,912	2

The link is also displayed in the bar chart, as shown below, when you hover your cursor over the South region bar:



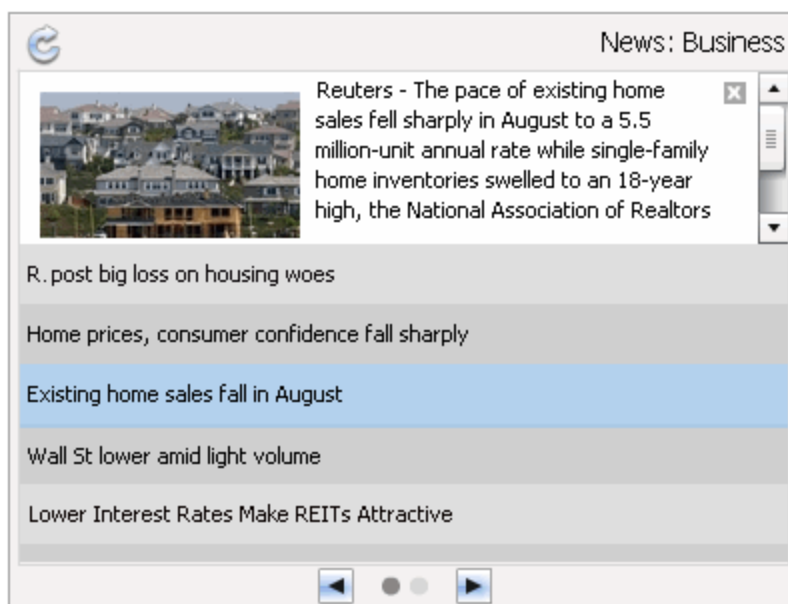
Analyzing an RSS Reader widget

RSS (Really Simple Syndication) is a data format used to display updated web content when you click a URL. An RSS document is called a feed, and it contains either a summary of the content from an associated website or the full text.

The RSS Reader widget helps provide a 360-degree view of your business by allowing you to compare and contrast data in your RS dashboard with information from external news feed sources.

The RSS Reader widget in the example below retrieves news from an RSS news feed, which can be displayed alongside the other components of your RS dashboard. The RSS feed is automatically reloaded to display the most up-to-date news about a variety of topics that you specify. When you select a news item from the list, the beginning of the article is displayed in the details section at the top. Clicking the article's text opens the full article in a new window.

You can refresh the list of news articles by clicking the **Refresh** icon at the top left of the widget. You can also navigate to and from different pages of news articles by using the arrows at the bottom.



You can use RSS Reader widgets on an RS dashboard to view and update your favorite RSS news feeds as you analyze grids, graphs, and other objects in the RS dashboard.

For example, an RS dashboard displays sales figures for some of your local customers, and an RSS Reader widget that displays up-to-the-minute news about those customers. This allows you to view both sales data and news information about the same customers in one place. Consider another example. One of your reports provides sales figures for a group of stores in northern California. An RSS feed displays local industry news for that specific region, which can provide valuable background information about those sales figures.

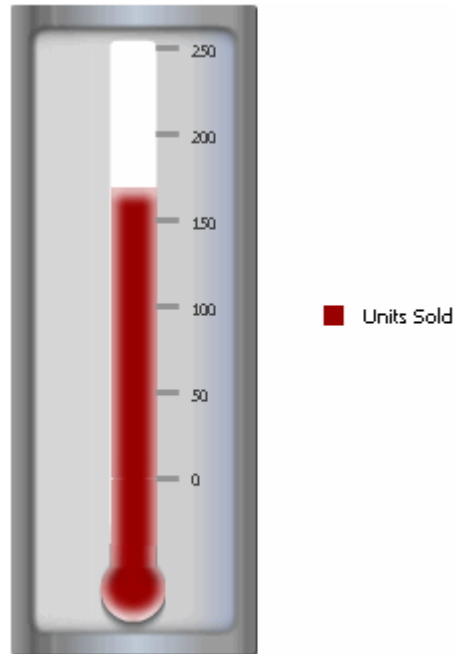
To extend this relationship between your business data and recent news, an RSS feed can be connected to specific attributes in your document. For example, you can click a customer's name on a report to view updated RSS news information about that customer.

Analyzing a Thermometer widget

A Thermometer widget is a simple status indicator that displays a thermometer set to a certain temperature level. The temperature level within

the thermometer is a visual representation of a single metric value. This type of widget is ideal for tracking progress toward a goal.

In the image below, the thermometer level represents the number of units sold.

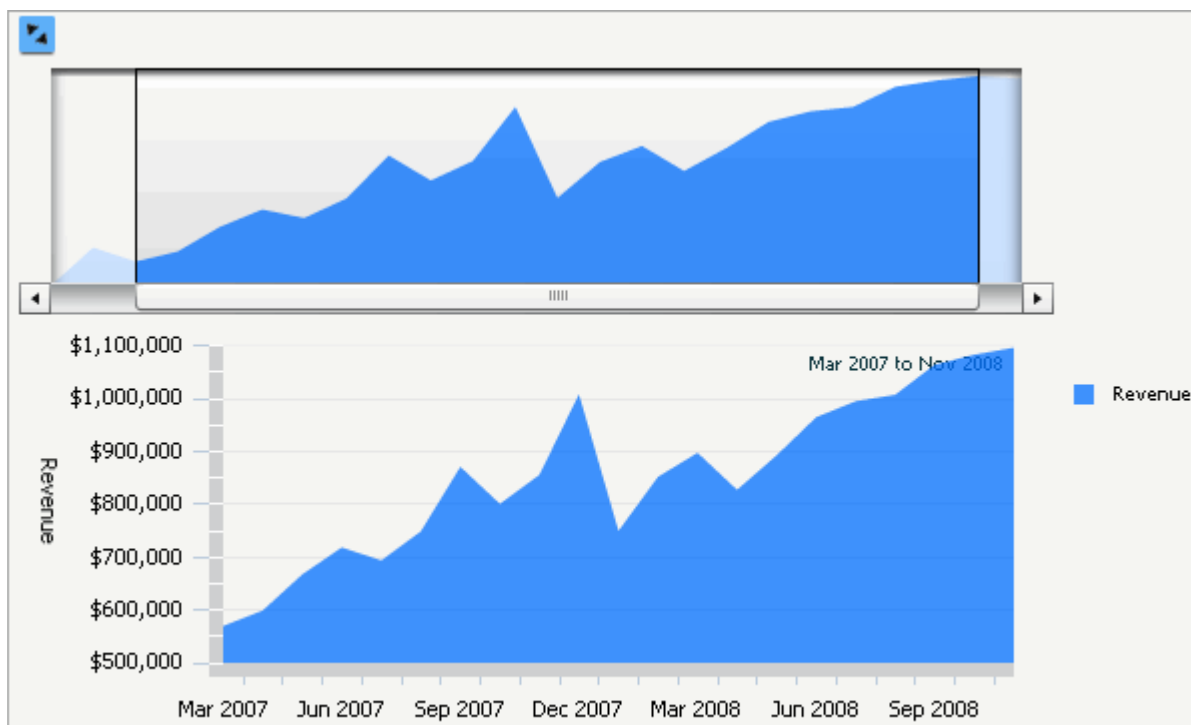


The Thermometer widget is most useful when combined with a selector because this allows you to selectively choose specific metric values to display in the thermometer. For example, you could select the year 2008 from a selector or a Grid/Graph report to display 2008 revenue in the Thermometer widget.

Analyzing a Time Series Slider widget

A Time Series Slider widget is an area graph that allows you to choose which section of the graph to view at a time. The widget consists of two related graphs, one positioned above the other. The top graph is the controller, and contains a slider. The bottom graph is the primary graph. Use the slider on the controller to select some portion of the controller, which determines the range of data visible in the primary graph. Time series datasets are often long and require analysis from both a macro and micro view. The Time Series Slider widget allows you to focus on the details of a short range of time, and

then expand the time range to see trends over time. An example of a Time Series Slider is shown below:



A Time Series Slider widget can be combined with an interactive selector so you can change the attributes that are displayed in the widget. For example, you can select the Southwest region to have the Time Series Slider widget display the Revenue values for Southwest, in the time frame selected in the widget.

To analyze data in a Time Series Slider widget:

- To determine which part of the graph to view, use the scroll bar at the top of the widget to adjust the slider's position.
- To determine the range of graph values to view, drag the left or right edge of the slider at the top of the widget to adjust its size.
- To hide (or show) the graph controller, select the **Expand/Collapse** button at the top left of the widget.
- If the document contains a Grid/Graph report or panel stack that is connected to this widget, use the Time Series Slider controller and primary graph to display related data in the connected Grid/Graph reports and panel stacks.



Some features described above are not enabled in all documents.

Analyzing a Waterfall widget

A Waterfall widget highlights the increments and decrements of the values of metrics over time. You can use the widget to identify aspects of your business that are contributing to the fluctuations in the values. The widget can also be used to perform “what-if” analyses.

The widget consists of a group of clustered bars displayed from left to right. The X-axis contains either attribute elements or metrics, depending on where the attributes and metrics are placed on the widget’s template. The Y-axis displays a range of values based on the metrics on the widget’s template. The increments and decrements in the widget are calculated and displayed according to the metrics included on the Grid/Graph report that contains the widget, and the order of those metrics.

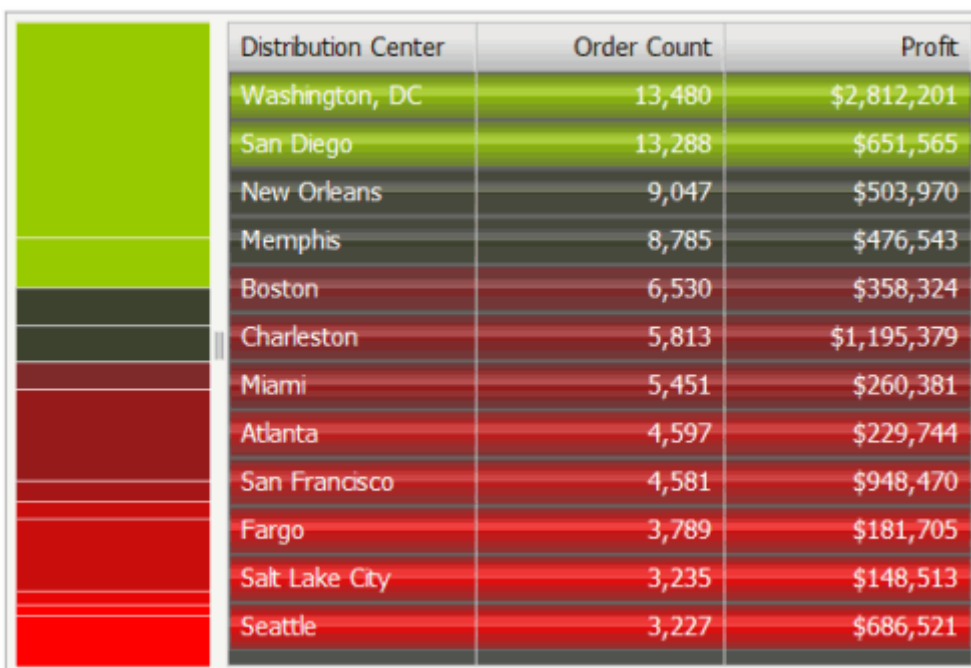
In the example shown below, metrics are displayed along the X-axis. The first bar represents the amount of sales revenue generated in 2006. The remaining bars in the widget represent the other metrics on the X-axis, including the Depreciation and Tax Expense metrics. These bars depict the business factors that diminished revenue and one factor (the Other Gains and Losses metric) that increased revenue. As a group, these bars highlight the contributions of various aspects of the business on total revenue from sales. This final value is represented by the last bar on the right, which represents Net Income for 2006.



Analyzing a Weighted List Viewer widget

A Weighted List Viewer widget combines the data visualization techniques of thresholds and graphical weighting into a single visualization. This enables you to assess the performance of a group of items.

Thresholds in the widget highlight rows based on the value of the first metric on the Grid/Graph report that contains the widget. Specifically, rows are highlighted according to the range of values from the first metric on the Grid/Graph report's columns. The rows are also ordered automatically so that metrics that are performing well are at the top and metrics that are performing poorly are at the bottom. A stacked bar graph is included next to the grid; it indicates the relative contribution, or weight, of each row.



	Distribution Center	Order Count	Profit
	Washington, DC	13,480	\$2,812,201
	San Diego	13,288	\$651,565
	New Orleans	9,047	\$503,970
	Memphis	8,785	\$476,543
	Boston	6,530	\$358,324
	Charleston	5,813	\$1,195,379
	Miami	5,451	\$260,381
	Atlanta	4,597	\$229,744
	San Francisco	4,581	\$948,470
	Fargo	3,789	\$181,705
	Salt Lake City	3,235	\$148,513
	Seattle	3,227	\$686,521

In summary, the Weighted List Viewer widget has the following characteristics:

- A grid that provides attribute and metric values with threshold colors applied to the values from top to bottom. The color bands on the grid reflect the range of values of the first metric on the Grid/Graph report that contains the widget.

In the example above, the top rows are green and represent the maximum value of the Order Count metric. The next rows are black, denoting neutral metric values, and gradually change into the red of the bottom rows. Red represents the minimum range of values of the Order Count

metric. The green-to-black-to-red color gradient is automatically generated by the widget.

- A stacked contribution bar graph on the left that depicts the relative contribution or percent-to-total calculation of a metric. This bar reflects the values of the second metric on the Grid/Graph report that contains the widget.
- Specific colors are used to depict good, neutral, and poor performance. By default:
 - Green indicates good performance
 - Black indicates neutral performance
 - Red indicates poor performance

These color settings can be changed by the document designer.

Exporting a document in MicroStrategy Web

Exporting a document allows you view and interact with the document results outside of MicroStrategy Web. For example, you can view results in a PDF file within Adobe Reader, manipulate exported data in an Excel spreadsheet, or create an interactive Flash RS dashboard for off-line use.

You can export a document to the following formats:

- PDF file: Export the document to a PDF file in a reader, such as Adobe Reader. You can view the PDF on any device with a PDF reader, such as another computer, a Linux machine, a Nook, or a Kindle.
- Excel spreadsheet (.xls): Export the document to a Microsoft Excel spreadsheet for further manipulation and use. See the *Report Services Document Creation Guide* for tips to create a document that will display correctly when it is exported to Excel.
- HTML file: Export the document to an html file in a separate window.
- Flash file: Export the document to a fully interactive, stand-alone Flash file. All the Flash files in a project are exported in one of the following formats:
 - MHT format, which can be opened in Internet Explorer, and in Firefox with a third-party plug-in

- PDF file format, which can be opened in Adobe Reader

The document designer determines the Flash file format. For more information and steps to change the format in which to export Flash files, see [Exporting a document to Flash, page 34](#).

You are prompted for the following when you export a document, unless the document designer has specified the default exporting options for the document:

- If your document is grouped, you can choose to export the entire document or only the selected group element. Page-by allows you to view the document by a selected group element. For information on grouping and page-by, including examples, see [Grouping documents: Page-by, page 68](#).
- If your document contains multiple layouts, you can choose to export the entire document or only the layout currently being viewed by the user. For more information on how layouts are exported to Excel, see [Exporting a multi-layout document to Excel, page 32](#).

You can export a document from within the document, or directly from a folder. The following procedures describe both tasks. You can also export a single Grid/Graph to a PDF file or an Excel spreadsheet. For directions, see [Exporting a Grid/Graph from a document, page 128](#).

To export an open document

- 1 In MicroStrategy Web, click the name of the document to execute it.
- 2 From the **Home** menu, select **Export**, then select the file format in which to export the document. The options are:
 - Excel
 - HTML
 - PDF
 - Flash



If an export format is not available on the toolbar, that export format has not been made available for this document.

- 3 Depending on the file type, you may be prompted to open or save the exported file. You can choose to either:

- Open the file, by clicking **Open**. A copy of the document opens in a browser.
- Save the file, by clicking **Save**. Name and save the file. Do not change the file type.

To export a document directly from a folder

- 1 In MicroStrategy Web, right-click the document and select **Run as**.
- 2 If the document contains prompts, answer them and click **Export**.
- 3 If DHTML is disabled, click the **Export** icon or **PDF** icon in the Actions column.
 If an export format is not available on the toolbar, that export format has not been made available for this document.
- 4 If DHTML is enabled, select the format to export to:
 - To export to a PDF, select **Export to PDF**.
 - To export to Microsoft Excel, select **Export to Excel**.
 - To export to HTML, select **Export to HTML**.
 - To export to Flash, select **Export to Flash**.
- 5 Depending on the file type, you may be prompted to open or save the exported file. You can choose to either:
 - Open the file, by clicking **Open**. A copy of the document opens in a browser.
 - Save the file, by clicking **Save**. Name and save the file. Do not change the file type.

Exporting a Grid/Graph from a document

You can export a single Grid/Graph displayed in a document to either a PDF file or an Excel spreadsheet. This provides additional flexibility to share and print your data, so that you do not have to export the entire document.

The document must be displayed in Express or Flash Mode. In Express Mode, the title bar of the Grid/Graph must be displayed. The following procedures describe both tasks.



A widget is exported as a Grid/Graph.

To export a Grid/Graph from Express Mode

- 1 In MicroStrategy Web, open the document in **Express Mode**.
- 2 Click the  icon on the title bar of the Grid/Graph and point to either **Export to PDF** or **Export to Excel**.
 - If you choose PDF, the PDF file opens in another browser window.
 - If you choose Excel, you are prompted to open or save the exported file. You can choose to either:
 - Open the file, by clicking **Open**. A copy of the document opens in another browser window.
 - Save the file, by clicking **Save**. Name and save the file. Do not change the file type.

To export a Grid/Graph from Flash Mode

- 1 In MicroStrategy Web, open the document in **Flash Mode**.
- 2 Hover your cursor over the Grid/Graph. Icons for exporting to Excel and to PDF are displayed.
- 3 Do one of the following:
 - To export the Grid/Graph to Excel, click the **Export to Excel** icon. You are prompted to open or save the exported file. You can choose to either:
 - Open the file, by clicking **Open**. A copy of the document opens in another browser window.
 - Save the file, by clicking **Save**. Name and save the file. Do not change the file type.
 - To export the Grid/Graph to PDF, click the **Export to PDF** icon. The PDF file opens in another browser window.

Printing a document in MicroStrategy Web

To view or print the document in MicroStrategy Web, you must first export the document to a PDF.

To print a document in MicroStrategy Web

- 1 In MicroStrategy Web, you can export a document directly from a folder, or you can export it while viewing it, as described below. (You must export it before you can print it.)
 - To export a document directly from a folder, hover your mouse over the document to display the action icons or links. Do one of the following:
 - In Icon view, click the **PDF** link below the document name.
 - In List view, click the **PDF** icon in the Actions column.
 - To export a document while viewing it, click the **Print** icon on the toolbar.

The Export to PDF dialog box opens.



Note the following:

- If the PDF link or Print icon is unavailable, PDF exporting has not been made available for this document.
 - If the Export to PDF dialog box is not displayed, you do not need to complete the remaining steps of this procedure. The PDF opens immediately and you can click **Print**.
- 2 If your document contains multiple layouts, you can choose to export the entire document or only the current layout.
 - To export the entire document, select **All layouts**. Each layout will start on a new page.
 - To export the current layout only, select **Current layout**.
 - 3 If your document contains page-by fields (see [Grouping documents: Page-by, page 68](#) for a description of groups and pages), you can choose to export the entire document or only the selected group element to PDF. Page-by allows you to view the document by a selected group element.

- To export the entire document, clear the **Expand page-by** check box.
 - To export only the selected group element, select the **Expand page-by** check box.
- 4 Click **OK**. The PDF opens in another browser window.
 - 5 Click the **Print** icon on the Acrobat Reader toolbar. The Print dialog box opens.
 - 6 You can change print settings, such as the printer to be used and the page range to print, as needed. Click **OK**.

Adding documents to your History List

Your MicroStrategy project may be set up to automatically store the results of every document in your History List folder. If this is not the case, you can store specific document results in your History List folder.

You can add a document to the History List either while it is executing, or after it has executed and you are viewing the results. Both procedures are provided below.

To view the results stored in your History List folder, click the MicroStrategy icon at the top of any page, then select **History List**. For details about the options in your History List, see the *MicroStrategy Web Help*.

If you own the MicroStrategy Distribution Services product, you also have the option to add document results to your History List based on a subscription. This lets you designate a specific set of report/document results to be added automatically to your History List on a scheduled basis. For details, see [Subscribing to documents using MicroStrategy Distribution Services, page 132](#).

To add a document to the History List as it is executing

- 1 From a project in MicroStrategy Web, navigate to the folder containing the document.
- 2 Click the name of the document to execute it.

- 3 On the wait page that displays while the document is executing, click **Add to History List**.

To add a document to the History List after it is executed

- 1 From a project in MicroStrategy Web, navigate to the folder containing the document.
- 2 Click the name of the document to execute it.
- 3 From the **Home** menu, select **Add to History List**.



If this option is not available, then the document has already been added to your History List.

Subscribing to documents using MicroStrategy Distribution Services

If you own the MicroStrategy Distribution Services product, you can schedule a document to be automatically delivered to:

- Your History List (see *To subscribe a document to the History List with MicroStrategy Distribution Services, page 133*)
- A folder on your network (see *To schedule a document to be sent to a network folder with MicroStrategy Distribution Services, page 134*)
- A printer on your network (see *To schedule a document to be sent to a network printer with MicroStrategy Distribution Services, page 137*)
- An email account (see *To schedule a document to be emailed with MicroStrategy Distribution Services, page 139*)
- Mobile devices using MicroStrategy Mobile (you must own MicroStrategy Mobile to see this option) (see *To subscribe a document to a mobile device with MicroStrategy Distribution Services, page 142*)

You can schedule deliveries on a regular schedule or when a specific event occurs. Scheduling lets you view the documents when you need them.



If you do not own the MicroStrategy Distribution Services product, you can add a document to your History List, as described in *Adding*

[documents to your History List, page 131](#). You can also email a document, send it to the cache, or send it to a mobile device. For instructions, see the *MicroStrategy Web Help*.

If you are subscribing to a Flash-enabled document that is to be delivered to another user, the recipient can use the Flash document only to the extent that you are able to, as determined by your MicroStrategy privileges. For example, if you do not have the privilege to modify a widget in the Flash document, the recipient of the document will not be able to modify a widget in the document.

To subscribe a document to the History List with MicroStrategy Distribution Services

- 1 From a project in MicroStrategy Web, navigate to the folder containing the document.
- 2 Click the name of the document to execute it.
- 3 From the **Home** menu, point to **Subscribe to**, and select **History List**. The Subscribe dialog box opens.



If MicroStrategy Distribution Services is not installed and configured, this option is listed in the **File** menu as **Add to History List**. For instructions to add a document to your History List without Distribution Services, see [Adding documents to your History List, page 131](#).
- 4 Type a **Name** for the subscription.
- 5 From the **Schedule** drop-down list, select a schedule or event to trigger delivery of the document.



The schedule choices are created in MicroStrategy Distribution Services.
- 6 To send the document to your History List immediately after creating the subscription, select the **Run subscription immediately** check box.
- 7 Expand **Advanced Options**.
- 8 To ensure that newer versions of the document overwrite previous versions of the document in the your History List, select the **The new scheduled report will overwrite versions of itself** check box.

- 9 To select a date when the subscription stops sending the document, complete the following steps:
 - a Select the **Do not deliver after** check box.
 - b Click the calendar and select the date to stop the subscription.
- 10 To have a delivery notification email sent when the delivery is sent, select the **Send notification to email address** check box.
- 11 Click **OK** to save the subscription. A notification that the subscription was created is displayed; click **OK** to continue.
- 12 To verify that you are subscribed to the document, at the top of the page, click **My Subscriptions**. The subscription appears in the History List Subscriptions section.

When the schedule is triggered, the Intelligence Server executes the document and places a message in the History List. To see the document after it has been executed, click **History List**, then click the document's name.

To schedule a document to be sent to a network folder with MicroStrategy Distribution Services

- 1 From a project in MicroStrategy Web, navigate to the folder containing the document.
- 2 Click the name of the document to execute it.
- 3 From the **Home** menu, point to **Subscribe to**, and select **File**. The Schedule Delivery to File dialog box opens.
- 4 Type a **Name** for the subscription.
- 5 From the **Schedule** drop-down list, select a schedule or event to trigger delivery of the document.



The schedule choices are created in MicroStrategy Distribution Services.

- 6 Determine the delivery location for the document by doing one of the following:
 - If the destination folder is available in the drop-down list next to **Location**, select the folder.
 - If the destination folder is not available in the drop-down list, you can add the folder. Click **Location**. The Recipients browser opens. Do one of the following:
 - To search for an existing folder on your network, type a folder name in the **Find** field.
 - To select a delivery location (recipient), move one or more locations from the list on the left to the **To** list on the right.
 - To add delivery locations to the drop-down list, type a name in the **Address Name** field for the new delivery location that you are adding. In the **Physical Address** field, specify a folder path to a new or existing folder for the delivery location. For example, a properly specified path is: \\FileServ2\SalesReports\Jan03\. Select a file device from the **Device** drop-down list. When you are finished defining the new delivery location, click **Add to Recipients**.



Any locations that you create must be accessible from the machine on which Distribution Services is installed.

When you have selected all the delivery locations (recipients), click **OK**.

- 7 To create a new folder in which to deliver files, type the folder path (designating the location of where the new folder should be created on your network) with the new folder name in the **Sub-folder** field.
- 8 Select the format to send the document in from the **Delivery Format** drop-down list, as described below:
 - For Excel or PDF, the report is included as an attachment in the email. You can also reduce the size of the Excel or PDF attachment by selecting the **Compress contents** check box.
 - If the document is grouped/paged, the **Expand page-by fields** check box is displayed. To view all objects in the Page-by drop-down lists when viewing the document, select the check box. To copy only the objects currently displayed (currently selected in the Page-by field), clear this check box.

9 You can specify the delimiter character to use to separate values in a report, such as a comma or tab. From the **Delimiter** drop-down list, select one of the following:

- To choose a delimiter from the list, select the delimiter to use, such as **Comma** or **Space**.
- To specify your own delimiter, select **Other**, then type the character that you want to use as the delimiter in the field.



The **Delimiter** list is only available if the Delivery Format option is set to Plain Text.

10 Type a name for the file in the **File Name** field.

You can use variables, such as the current date and/or time, as part of the file name. To see a list of available variables that can be used, hover your cursor over the **Variables** icon next to the **File Name** field. Insert the appropriate variable in the **File Name** field.

11 To preview the document delivery, select the **Send a preview now** check box. The delivery is sent immediately.

12 If the document contains prompts, all prompts are displayed if you are not subscribing to a document that is open. The selections that you make for these prompts are used whenever the document is delivered.

13 Expand **Advanced Options**.

14 If you have selected the **Compress contents** check box, the following options are available:

- **Protect Zip file:** Select the check box and type a password for the zip file.
- **Zip File Name:** Type a name for the zip file.

15 To select a date when the subscription stops sending the document, complete the following steps:

- a Select the **Do not deliver after** check box.
- b Click the calendar and select the date to stop the subscription.

16 To have a delivery notification email sent when the delivery is sent:

- a Select the **Send notification to email address** check box.

- b In the **New Address** field, specify the email address to which to send a delivery notification and select the email client type of the specified email address.
- 17 Click **OK** to save the subscription. A notification that the subscription was created is displayed; click **OK** to continue.
- 18 To verify that you are subscribed to the document, at the top of the page, click **My Subscriptions**. The subscription appears in the File Subscriptions section.

To schedule a document to be sent to a network printer with MicroStrategy Distribution Services



The printer must be available on your organization's network.

- 1 From a project in MicroStrategy Web, navigate to the folder containing the document.
- 2 Click the name of the document to execute it.
- 3 From the **Home** menu, point to **Subscribe to**, and select **Printer**. The Subscribe to Printer dialog box opens.
- 4 Type a **Name** for the subscription.
- 5 From the **Schedule** drop-down list, select a schedule or event to trigger delivery of the document.



The schedule choices are created in MicroStrategy Distribution Services.

- 6 Determine the delivery location for the document by doing one of the following:
 - If the destination printer is available in the drop-down list next to **Printer**, select the printer.
 - If the destination printer is not available in the drop-down list, you can add the printer. Click **Printer**. The Recipients Browser dialog box opens. Do one of the following:
 - To search for an existing printer on your network, type a printer name in the **Find** field.

- To select a printer (recipient), move one or more locations from the list on the left to the **To** list on the right.
- To add a printer to the drop-down list, type a name in the **Address Name** field for the new printer that you are adding. In the **Physical Address** field, specify the path to the printer. For example, a properly specified path is: \\domain-print1\ID-123HP. Select a printer from the **Device** drop-down list. When you are finished defining the new printer, click **Add to Recipients**.



Any locations that you create must be accessible from the machine on which Distribution Services is installed. Special characters such as *, ?, :, ", <, >, and , (comma) are not supported in the printer path.

When you have selected all the delivery locations (recipients), click **OK**.

- 7 To create a new folder in which to deliver files, type the folder path (designating the location of where the new folder should be created on your network) with the new folder name in the **Sub-folder** field.
- 8 If the document is grouped/paged, the **Expand page-by fields** check box is displayed. To view all objects in the Page-by drop-down lists when viewing the document, select the check box. To copy only the objects currently displayed (currently selected in the Page-by field), clear this check box.
- 9 Specify print options, such as the range of document pages to print, the number of copies, and whether or not to collate the printed pages.
- 10 To preview the document delivery, select the **Send a preview now** check box. The delivery is sent immediately.
- 11 Expand **Advanced Options**.
- 12 To select a date when the subscription stops sending the document, complete the following steps:
 - a Select the **Do not deliver after** check box.
 - b Click the calendar and select the date to stop the subscription.
- 13 To have a delivery notification email sent when the delivery is sent:
 - a Select the **Send notification to email address** check box.

- b In the **New Address** field, specify the email address to which to send a delivery notification and select the email client type of the specified email address.
- 14 Click **OK** to save the subscription. A notification that the subscription was created is displayed; click **OK** to continue.
- 15 To verify that you are subscribed to the document, at the top of the page, click **My Subscriptions**. The subscription appears in the Print Subscriptions section.

To schedule a document to be emailed with MicroStrategy Distribution Services

- 1 From a project in MicroStrategy Web, navigate to the folder containing the document.
- 2 Click the name of the document to execute it.
- 3 From the **Home** menu, point to **Subscribe to**, and select **E-mail**. The Subscribe to E-mail dialog box opens.
- 4 Type a **Name** for the subscription.
- 5 From the **Schedule** drop-down list, select a schedule or event to trigger delivery of the document.



The schedule choices are created in MicroStrategy Distribution Services.

- 6 Select an email address to send the document to:
 - a Select **To**. The Recipients Browser dialog box opens.
 - b From the **Address** drop-down list, choose an email address to send the report or document to.

If you do not see the correct email address to use or the **Address** drop-down list is not available, type the email address in the **Address Name** field.
 - c From the **Device** drop-down list, select the email client type of the specified email address.
 - d Click **Add To Recipients** to add the new email address.

- e Click **OK** to return to the Subscribe to E-mail dialog box.
- 7 Repeat the step above for each email address to send the document to.
- 8 From the Send drop-down list, specify how the report is included in the email, by choosing one of the following:
 -  The options available can vary depending on your assigned privileges. For example, you must have the Web Subscribe to History List privilege to send a document to the History List. You must have the Use Link to History List in Email privilege to send a link to the location of a document in the History List via email.
 - **Data in email:** The document is displayed in the email.
 - **Data in email and to history list:** The document is displayed in the email and is also delivered to the History List.
 - **Data and link to history list in email:** The document is displayed in the email, along with a link to the History List location of the document.
 - **Link to history list in email:** A link to the History List location of the report or document is provided in the email.
- 9 From the **Delivery Format** drop-down list, select the format to send the document in.
 - When Excel or PDF is chosen, the report is included as an attachment in the email.
 - If you select a format other than HTML, you can reduce the size of the attachment by selecting the **Compress contents** check box.
 - To avoid large deliveries, choose a delivery format other than Excel.
- 10 If you selected **Plain Text** as the **Delivery Format**, specify the delimiter character, such as a comma or tab, to use to separate values in a document. From the **Delimiter** drop-down list, select one of the following:
 - To choose a delimiter from the list, select the delimiter to use, such as Comma or Space.
 - To specify your own delimiter, select **Other**, then type the character to use as the delimiter.
- 11 If the document is grouped/paged, the **Expand page-by fields** check box is displayed. To view all objects in the Page-by drop-down lists when

viewing the document, select the check box. To copy only the objects currently displayed (currently selected in the **Page-by** field), clear this check box.

- 12 In the **Subject** field, type a description for the emailed report.
- 13 To display a message in the body of the email, type the text in the **Message** field.
- 14 To preview the document delivery, select the **Send a preview now** check box. The delivery is sent immediately.
- 15 Expand **Advanced Options**.
- 16 If you selected the **Compress Contents** check box, you can include the document in a zip file:
 - a Select the **Password protect zip file** check box and type a password for the zip file.
 - b Type a name for the zip file in the **Zip File Name** field.
- 17 To select a date when the subscription stops sending the document, complete the following steps:
 - a Select the **Do not deliver after** check box.
 - b Click the calendar and select the date to stop the subscription.
- 18 If you selected multiple recipients, the following options are displayed:
 - **Allow recipients to change delivery settings:** Select this check box to let the recipients make changes to the settings. For example, the recipient can change the prompt answers for the subscription or change the time of day that the document is sent.
 - **Allow recipients to change personalization:** Select this check box to let the recipients make changes to the personalization. This option allows the recipient to edit the subscription options.
 - **Allow recipients to unsubscribe:** Select this check box to let the recipients unsubscribe from this scheduled delivery.
- 19 For a document with prompts, all prompts are displayed. The selections that you make for these prompts will be used whenever the document is delivered.

- 20 Click **OK** to save the subscription. A notification that the subscription was created is displayed; click **OK** to continue.
- 21 To verify that you are subscribed to the document, at the top of the page, click **My Subscriptions**. The subscription appears in the Print Subscriptions section.

To subscribe a document to a mobile device with MicroStrategy Distribution Services

-  To subscribe a document to a mobile device, you must own the MicroStrategy Mobile product.
- 1 From a project in MicroStrategy Web, navigate to the folder containing the document.
 - 2 Click the name of the document to execute it.
 - 3 From the **Home** menu, point to **Subscribe to**, and select **Mobile**. The Subscribe to Mobile dialog box opens.
 - 4 Type a **Name** for the subscription.
 - 5 From the **Schedule** drop-down list, select a schedule or event to trigger delivery of the document.

 The schedule choices are created in MicroStrategy Distribution Services.
 - 6 To select the mobile device users (contacts) to receive the document, click **To**. The Recipients Browser opens.
 - 7 From the **Device type** drop-down list, select the type of mobile device to deliver the document to. The options are:
 - BlackBerry
 - iPhone
 - iPad
 - 8 To send the document to your History List immediately after creating the subscription, select the **Run subscription immediately** check box.
 - 9 Expand **Advanced Options**.

- 10 To select a date when the subscription stops sending the document, complete the following steps:
 - a Select the **Do not deliver after** check box.
 - b Click the calendar and select the date to stop the subscription.
- 11 If you selected multiple recipients, the following options are displayed.
 - **Allow recipients to change delivery settings:** Select this check box to let the recipients make changes to the settings. For example, the recipient can change the prompt answers for the subscription or change the time of day that the document is sent.
 - **Allow recipients to change personalization:** Select this check box to let the recipients make changes to the personalization. This option allows the recipient to edit the subscription options.
 - **Allow recipients to unsubscribe:** Select this check box to let the recipients unsubscribe from this scheduled delivery.
- 12 Click **OK** to save the subscription. A notification that the subscription was created is displayed; click **OK** to continue.
- 13 To verify that you are subscribed to the document, at the top of the page, click **My Subscriptions**. The subscription appears in the Mobile Subscriptions section.

Updating data using Transaction Services-enabled documents

You can use a Transaction Services-enabled document to:

- Approve requests
- Track business activity
- Execute business decisions

You can perform these tasks directly from the document in Express Mode in MicroStrategy Web, and when you view the document on an iPhone, iPad, or Android device with MicroStrategy Mobile.



For steps to use a Transaction Services-enabled document to update data when viewed on a mobile device, see the *Mobile Analysis Guide*.

Prerequisites

- You must have the Transaction Services product.
- You must have the Execute Transaction privilege.

Using a Transaction Services-enabled document to update data

- 1 Open the document in Express Mode.
- 2 Click the text field or grid cell of the value to edit, then do one of the following:
 - To edit a value in a Text Field or Text Area control, type a value in the field, then press the **ENTER** key.
 - To select a date from a Calendar control, click the date. You can select a month using the left or right arrows, and choose a specific year by clicking the year in the calendar.
 - To select a time from a Time Picker control, do one of the following:
 - To select a time from the clock display, click and drag the hands on the clock to the desired time.
 - To select a time by moving backward or forward using specific time increments, click the up or down arrows. The time increments are defined by the document designer.
 - To type a time directly in the time picker, click the field at the top of the time picker, then type the time in the field.
 - To choose a value in a Switch control, select or clear the check box.
 - To choose a value from a List control, select a value from the drop-down list.
 - To select a value on a Slider control, click and drag the indicator to the value to select.
 - To select an image on a Toggle button, click the toggle button until the image to select is displayed.
- 3 You may be able to select and submit individual rows of data in a grid. To do this, click the **Mark Rows** icon at the top left of the grid. A check box is displayed next to each row of data in the document. Select the check box for each row of data to submit.

4 Do one of the following:



Different action selector buttons or links may be available depending on how the designer has created the document. The names of the submit, recalculate, and discard buttons or links may change depending on how the designer has defined them.

- To submit your changes and update the data using the specified values, click the **Submit** button or link.
- To update the values displayed in the grid, graph, or panel stack, click the **Recalculate** button or link. The values of the derived metrics and subtotals, apply number formatting, apply conditional formatting, and other values calculated by the Analytical Engine are updated and displayed.
- To discard your changes, click the **Discard Changes** button or link. When you click the button or link, any changes that you have made to the input object controls displayed in the grid, graph, or panel stack are reverted to the values from the last time changes were submitted.

EXPLORING YOUR DATA WITH VISUAL INSIGHT DASHBOARDS

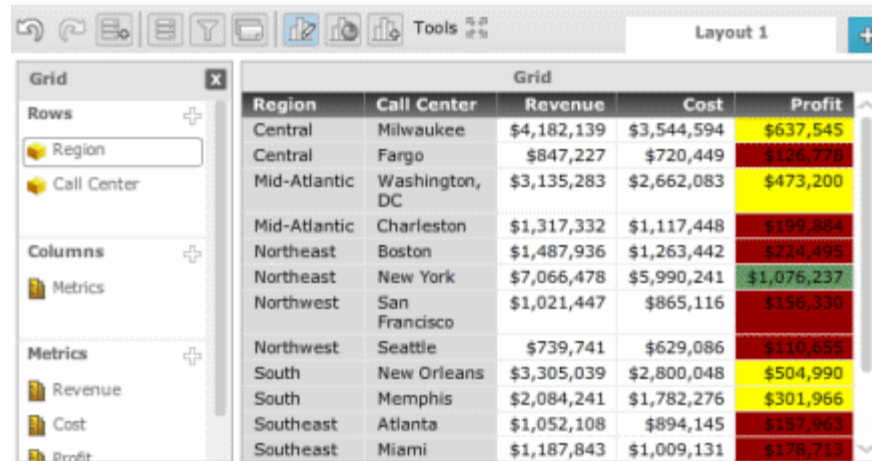
Introduction

A Visual Insight (VI) dashboard is an visually-striking, presentation-quality display that you can use to quickly and easily explore your business data. For example, you can:

- View visual representations of the data (called visualizations) in the VI dashboard to make the data easier to interpret. For a full list of visualizations, see [Visualizations in VI dashboards, page 148](#))
- Sort and rearrange data in visualizations
- Perform manipulations on the data to display only the information you are interested in
- Export the VI dashboard as an image, PDF file, or interactive Flash file for use outside of Web

In the image below, data in a VI dashboard is displayed using a Grid visualization, which contains revenue, cost, and profit data for each Call Center in a Region. Profit values of less than \$300,000 are displayed using a

red background, while values of greater than \$800,000 are displayed in green.



Region	Call Center	Revenue	Cost	Profit
Central	Milwaukee	\$4,182,139	\$3,544,594	\$637,545
Central	Fargo	\$847,227	\$720,449	\$126,778
Mid-Atlantic	Washington, DC	\$3,135,283	\$2,662,083	\$473,200
Mid-Atlantic	Charleston	\$1,317,332	\$1,117,448	\$199,884
Northeast	Boston	\$1,487,936	\$1,263,442	\$224,495
Northeast	New York	\$7,066,478	\$5,990,241	\$1,076,237
Northwest	San Francisco	\$1,021,447	\$865,116	\$156,330
Northwest	Seattle	\$739,741	\$629,086	\$110,655
South	New Orleans	\$3,305,039	\$2,800,048	\$504,990
South	Memphis	\$2,084,241	\$1,782,276	\$301,966
Southeast	Atlanta	\$1,052,108	\$894,145	\$157,963
Southeast	Miami	\$1,187,843	\$1,009,131	\$178,713

For instructions to view a VI dashboard, see [Running and viewing VI dashboards, page 173](#), which also includes instructions for some of the tasks listed above.

Visualizations in VI dashboards

A visualization is a visual representation of the data in a VI dashboard, such as a grid, line chart, or heat map. Visualizations provide a variety of ways for you to display and interact with the data in the VI dashboard. For example, you can explore the relationships between attribute elements in a Network visualization, or view visually striking graphs that summarize key business indicators in a clear, easy-to-understand format. The different types of visualizations available for VI dashboards are:

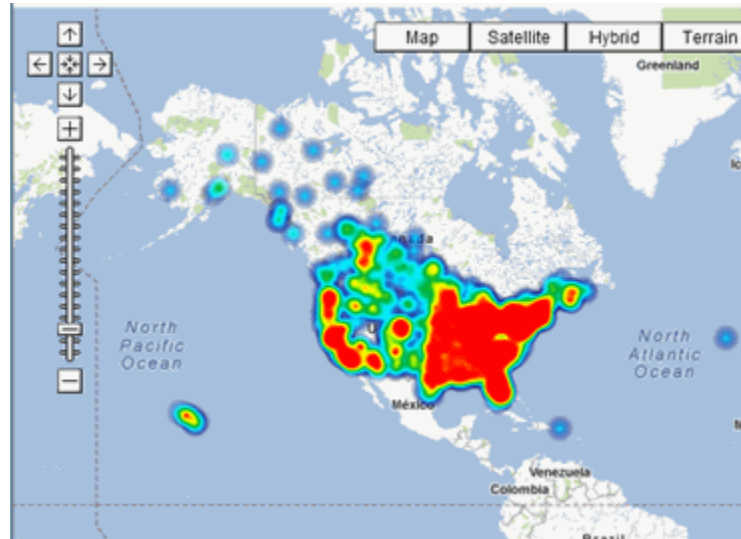
- **Density Map visualization:** You can display your data as areas on a map, which are automatically displayed in different colors based on the population density of locations of interest in the visualization. (For an example, see [Analyzing data in a Density Map visualization, page 149](#).)
- **Graph visualization:** You can display the data in a graphical format and examine your data using a variety of different graph types, such as area graphs, line graphs, or pie charts. (See [Analyzing data in a Graph visualization, page 152](#) for an example.)
- **Grid visualization:** You can display data in an interactive grid. You can pivot, sort, move, drill, filter, and perform additional manipulations on data displayed in the grid. (See [Analyzing data in a Grid visualization, page 160](#) for an example.)

- **Heat Map visualization:** You can display the data as a combination of colored rectangles. Each rectangle represents an attribute element, and is colored and sized according to the value of metrics in the visualization, allowing you to quickly grasp the state and impact of a large number of variables at one time. (For an example, see [Analyzing data in a Heat Map visualization, page 163.](#))
- **Image Layout visualization:** An Image Layout visualization displays an image overlaid with colored areas or bubble markers, providing an easy way to quickly grasp relationships between different locations. (For an example, see [Analyzing data in an Image Layout visualization, page 165.](#))
- **Map visualization:** You can display locations as image markers or bubble markers on a map. Depending on how the visualization was displayed, the map markers may be automatically colored or sized based on the value of a metric, or grouped together in a circle representing multiple map markers. (For an example, see [Analyzing data in a Map visualization, page 168.](#))
- **Network visualization:** You can display the data as a network of nodes, with lines between the nodes representing relationships between attribute elements. (For an example, see [Analyzing data in a Network visualization, page 170.](#))

Analyzing data in a Density Map visualization

The Density Map visualization allows you to display your data on an interactive map as areas color-coded based on the population density of locations on the map. For example, a designer can create a Density Map

visualization to display areas with a high concentration of stores in red, and areas with a low concentration of stores in blue.



You can:

- Filter data to display only the locations you select
- Filter data to display all locations except for those you select
- Zoom in, zoom out, and pan across the map to customize your display
- Display Information Windows with additional information about a location when you click on an area in the visualization.

The table below contains a list of actions you can perform when viewing data in a Density Map visualization, and steps to perform each task.

Prerequisites

- You must have the Web Edit Dashboard and Web Run Dashboard privileges.

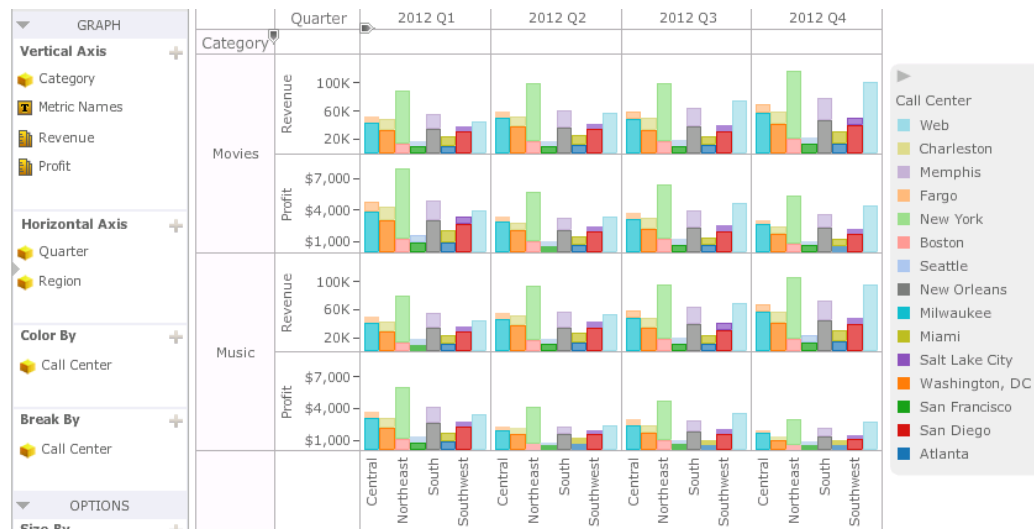
- The procedures below assume that the visualization in which you want to analyze data has already been created.

Goal	Steps
Zoom in or out of the map display	1 Click the thumb on the slider located on the left side of the map, then do one of the following: • To zoom in on the map, drag the thumb towards the + side of the slider. • To zoom out of the map, drag the thumb towards the - side of the slider.
Pan the map display to display a different region of the map	1 Click on the map, then drag it in the direction you want to pan the map display.
Select locations in the map by clicking individual locations	1 From the visualization's toolbar, click the Mouse Click Selection icon . 2 Click a location to select it. You can select multiple locations by pressing CTRL and clicking additional locations.
Select locations in the map by drawing a rectangular lasso shape	1 From the visualization's toolbar, click the Rectangular Area Selection icon . 2 Click and drag on the map to enclose a set of locations within a rectangle shape. All the locations within the rectangle are selected.
Display additional location information when the cursor is hovered over a location in the visualization	1 From the visualization's toolbar, click the View Information Window icon . When you click a location in the visualization, an Information Window is displayed.
Display only the selected locations on the map, or display all locations except those currently selected	1 Select locations in the visualization by doing one of the following: • To select locations in the map by clicking individual locations, from the visualization's toolbar, click the Mouse Click Selection icon . Click a location to select it. You can select multiple locations by pressing CTRL and clicking additional locations. • To select locations in the map by enclosing them in a lasso shape, from the visualization's toolbar, click the Rectangular Area Selection icon . Click and drag on the map to enclose the area you want to select within a rectangle. All the locations within the rectangle are selected. 2 To filter the locations displayed in the map, do one of the following: • To display only the selected locations on the map, from the visualization's toolbar, click the Keep Only icon . Only the locations you selected are displayed. • To display all locations except those currently selected on the map, from the visualization's toolbar, click the Exclude icon . All the locations except those you selected are displayed.

Goal	Steps
Clear all map selections	1 From the visualization's toolbar, click the Clear Selections icon . All map selections are cleared.
Examine the underlying attribute and metric data for a selected area	1 Select areas in the visualization by doing one of the following: • To select a single area in the map, from the visualization's toolbar, click the Mouse Click Selection icon . Click an area to select it. • To select areas in the map by enclosing them in a lasso shape, from the visualization's toolbar, click the Rectangular Area Selection icon . Click and drag on the map to enclose areas within a rectangle. The areas within the rectangle are selected. 2 From the toolbar, click the Show Data icon . The Show Data dialog box opens, with attribute and metric data for the areas you selected. For detailed steps to analyze the data, including steps to create a new visualization using the displayed data or copy the data to the clipboard, see the <i>MicroStrategy Web Help</i>.

Analyzing data in a Graph visualization

A Graph visualization allows you to view your data in a graphical layout, such as a bar graph or scatter graph. A designer can select from a variety of graph styles to display the data. In the example below, the designer chose the vertical bar graph style.



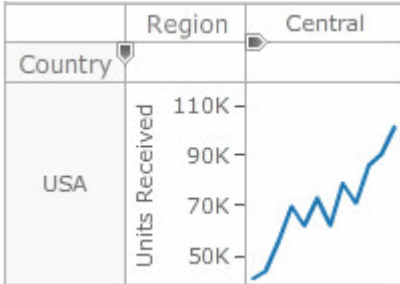
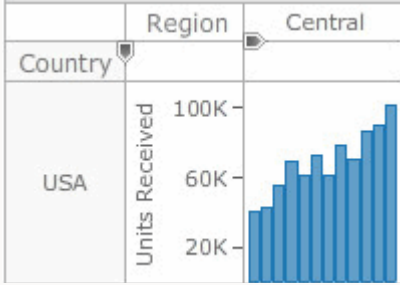
While viewing a Graph visualization, you can swap the data displayed on the horizontal axis with the data displayed on the vertical axis. From the toolbar, click the **Swap** icon . The data displayed on the horizontal axis is swapped with the data displayed on the vertical axis.

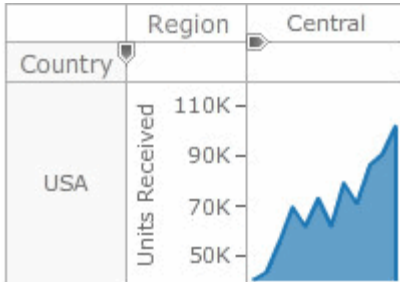
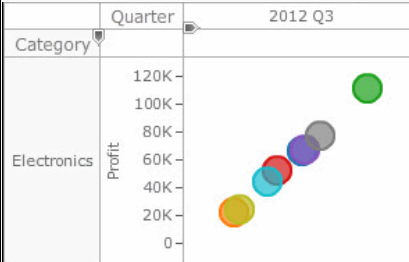
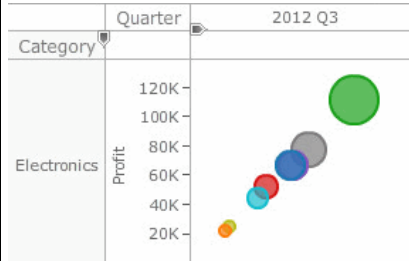
See the appropriate link below for example images and steps to analyze data displayed in different types of graphs:

- For example images of the graph styles available for Graph visualizations, see [Examples of Graph visualization styles, page 153](#).
- For steps to analyze the data in a dual-axis or combination graph, see [Analyzing the data in dual-axis or combination graphs, page 155](#).
- For steps to analyze the data in any other type of Graph visualization, such as bar graphs, line graphs, and pie graphs, see [Analyzing the data in all other graph types, page 156](#).

Examples of Graph visualization styles

The table below contains example images of each graph style available for a Graph visualization.

Graph Style	Description	Example Image
Line	You can view your data in a vertical or horizontal line graph, to view lines representing metric values for each element of an attribute.	
Bar	You can view your data in a vertical or horizontal bar graph, to view bars representing metric values for each element of an attribute.	

Graph Style	Description	Example Image
Area	You can view the data in a vertical or horizontal area graph, to allow users to view an area representing metric values for each element of an attribute.	
Scatter	You can view a scatter plot to visualize the trends of two different metrics for a set of attribute elements. In the scatter plot: • One bubble is displayed for each attribute element. • Each bubble's position on the X-axis represents the value of the first metric. • Each bubble's position on the Y-axis represents the value of the second metric.	
Bubble	You can view a bubble plot to visualize the trends of three different metrics for a set of attribute elements. In the bubble plot: • One bubble is displayed for each attribute element. • Each bubble's position on the X-axis represents the value of the first metric. • Each bubble's position on the Y-axis represents the value of the second metric. • The size of each bubble represents the value of the third metric.	

Graph Style	Description	Example Image
Grid	You can use the Grid style to identify trends across combinations of data. Each marker in the grid can be automatically sized or colored based on the value of a metric. For example, in the image to the right, a separate bubble is displayed for each combination of region and product category. Bubbles representing large revenue values are displayed in dark blue, and bubbles for smaller revenue values are displayed in light blue.	
Pie or Ring	You can view the contribution of attribute elements or metrics to a total by displaying data in a pie or ring graph.	

Analyzing the data in dual-axis or combination graphs

When analyzing the data in a dual-axis or combination graph, you can sort the attribute and metric data to determine the order in which information is displayed. For example, in a bar graph containing flight information across several airports, you can display the bar risers in ascending or descending order based on the number of on-time flights for each airport. The table below contains a list of tasks to analyze data in a dual-axis or combination graph, and steps to perform them.

Prerequisites

- You must have the Web Edit Dashboard and Web Run Dashboard privileges.

- The procedures below assume that the visualization in which you want to analyze data has already been created.

Goal	Steps to Perform
Sort attributes or metrics in ascending or descending order	1 Click the name of the VI dashboard to run it, then click the Graph visualization. 2 If the Graph panel is not displayed, from the Show menu, select Edit Visualization. 3 In the Graph panel, hover the cursor over the name of the attribute or metric to use to sort data, then click the arrow icon on the right. A list of options is displayed. Do one of the following: • To sort the attribute or metric values in ascending order, select Sort Ascending. • To sort the attribute or metric values in descending order, select Sort Descending.
Sort data using multiple conditions	1 Click the name of the VI dashboard to run it, then click the Graph visualization. 2 If the Graph panel is not displayed, from the Show menu, select Edit Visualization. 3 In the Graph panel, hover the cursor over the name of an attribute or metric, then click the arrow icon on the right. A list of options is displayed. 4 Select Advanced Sort. The Sort dialog box opens. Do one of the following: • To sort by data in the rows, click the Rows tab. • To sort by data in the columns, click the Columns tab. 5 From the Sort by drop-down list, select the attribute form or metric to use to sort data. 6 Do one of the following: • To sort the data in ascending order, select Ascending. • To sort the data in descending order, select Descending. 7 Specify additional sorting criteria using the appropriate steps above. 8 Click OK to apply changes.

Analyzing the data in all other graph types

You can drill on and examine your data at the level of a specific attribute element, or filter the data to display only the graph items you are interested in. The table below contains steps to filter or drill on data in a Graph visualization. Depending on how the visualization was designed, you can determine whether to graph or slice data using attributes in a Graph visualization. For example, in a bar graph that contains sales data across several years, you can slice the data to display columns of bar graphs, with each column containing a bar graph for a single year's sales data. For steps, see [Determining whether to graph or slice data using attributes in a Graph visualization, page 158](#).

When analyzing the data in a Graph visualization, you can slice the data into multiple graphs based on an attribute, or graph the attribute along the X-axis or Y-axis.

You can drill on data in the following ways:

- You can drill on a scatter or bubble graph to display only the data for the graph items you choose, then break the data by a selected attribute. For example, a scatter graph contains profit data across several regions. If you select the bubbles for the Northeast and Central regions, then drill to Call Center, profit data for each call center in the Northeast and Central regions is displayed.
- When you drill on a vertical line graph, vertical bar graph, vertical area graph, or grid, you can display only data for the graph items you choose, then display your data in a separate graph column for each attribute element on the horizontal axis. For example, a vertical bar graph contains profit margin data across several years. If you select the bars for 2010 and 2011, then drill to Category, profit margin data for each Category is displayed, and a graph is displayed in a separate column for 2010 and 2011.
- When you drill on a horizontal line graph, horizontal bar graph, or horizontal area graph, you can display only data for the graph items you choose, then display your data in a separate graph row for each attribute element on the vertical axis. For example, a horizontal bar graph contains profit margin data across several years. If you select the bars for 2010 and 2011, then drill to Category, profit margin data for each Category is displayed, and a graph is displayed in a separate row for 2010 and 2011.

Separate steps are below to drill on data, filter data, or undo your filtering or drilling changes. The steps below can be performed for Graph visualizations other than dual-axis and combination graphs.

Prerequisites

- You must have the Web Edit Dashboard and Web Run Dashboard privileges.

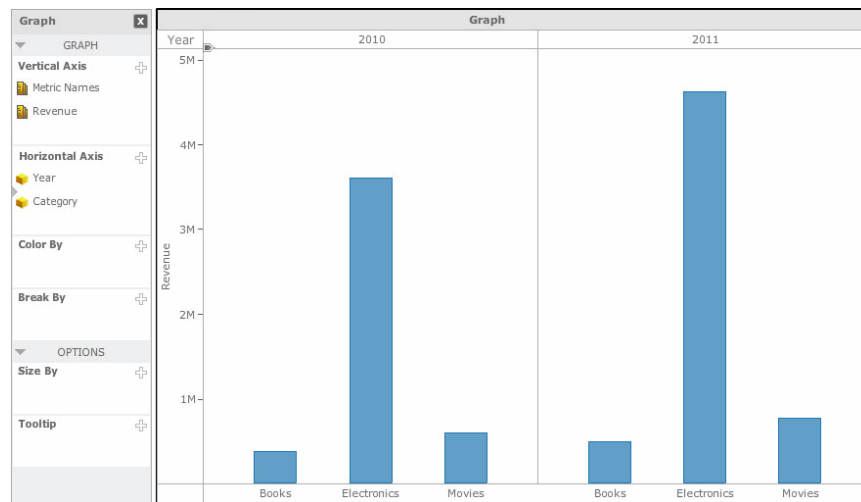
- The procedures below assume that the visualization in which you want to analyze data has already been created.

Goal	Steps to Perform
To drill on data in a Graph visualization	- Click the name of the VI dashboard to run it, then do one of the following: - Click a graph item in the visualization to select it. You can select multiple graph items in the Graph visualization by pressing CTRL, then click additional elements to select them. Click the arrow icon displayed at the top of your selection to display a list of options. - Click and drag over an area of the visualization to choose all the graph items in a selected area. Click the arrow icon displayed at the top of the selected area to display a list of options. - From the context menu, select the object you want to drill to. For example, to drill to the data at the Category level, select Drill to Category.
To filter the data displayed in a Graph visualization	- Click the name of the VI dashboard to run it, then do one of the following: - Click a graph item in the visualization to select it. You can select multiple graph items in the Graph visualization by pressing CTRL, then click additional elements to select them. Click the arrow icon displayed at the top of your selection to display a list of options. - Click and drag over an area of the visualization to choose all the graph items in a selected area. Click the arrow icon displayed at the top of the selected area to display a list of options. - From the context menu, select one of the following: - To display only the graph items you have selected and remove all other elements from the visualization, select Keep Only. - To display all graph items in the visualization except the elements you have selected, select Exclude. - To drill to an object, point to Keep Only and Show, and then select the attribute you want to drill to. For example, to drill to the data at the Category level, select Keep Only and Show Category. Only the rectangles you selected are displayed, and the attribute you selected is used to group rectangles in the visualization.
To undo filtering or drilling on data	- Hover the cursor over the visualization in which you want to undo filtering or drilling, then click the arrow icon in the top right. A list of options is displayed. - Point to Edit Filter, then do one of the following: - To remove all filter conditions from the visualization at once, select Clear All. All filter conditions in the local filter are removed, and are no longer used to filter data in the visualization. - To remove filter conditions one at a time, hover the cursor over each filter condition you want to remove, then click X next to each condition. The filter conditions you delete are no longer used to filter data in the visualization.

Determining whether to graph or slice data using attributes in a Graph visualization

When analyzing the data in a Graph visualization, you can slice the data into multiple graphs based on an attribute, or graph the attribute along the X-axis or Y-axis. For example, in the image below, the visualization is sliced into

multiple columns based on Year. However, Category is graphed on the X-axis, so Books, Electronics, and Movies are included on the X-axis of each graph.



Prerequisites

- You must have the Web Edit Dashboard and Web Run Dashboard privileges.
- The procedure below assumes that the visualization in which you want to analyze data has already been created.
- The designer of the visualization must have enabled slicing the data in the visualization into multiple graphs.

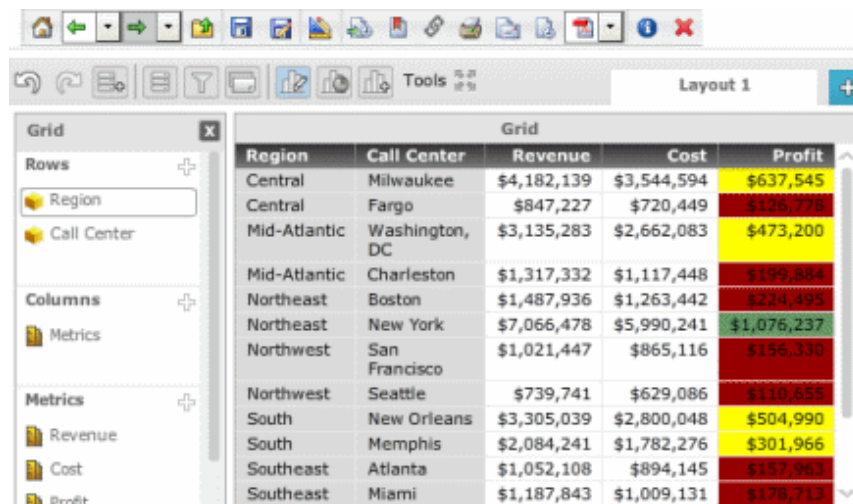
To determine whether to graph or slice data using attributes in a Graph visualization

- 1 Click the name of the dashboard to run it.
- 2 In the Vertical Axis area, if an arrow icon ► is displayed, click and drag the arrow icon so that it is displayed above the attributes to display on the Y-axis, and below the attributes to use to slice data into rows. The graph is updated and displayed.
- 3 In the Horizontal Axis area, if an arrow icon ► is displayed, click and drag the arrow icon so that it is displayed above the attributes to display on the X-axis, and below the attributes to use to slice data into columns. The graph is updated and displayed.

Analyzing data in a Grid visualization

A Grid visualization displays attributes and metrics in a tabular layout.

For example, the Grid visualization shown below contains revenue, cost, and profit data for each Call Center in a Region. Total profit data is calculated and displayed for each region in the grid. Profit values of less than \$100,000 are displayed using a red background, while values of greater than \$400,000 are displayed in green.



Region	Call Center	Revenue	Cost	Profit
Central	Milwaukee	\$4,182,139	\$3,544,594	\$637,545
Central	Fargo	\$847,227	\$720,449	\$126,778
Mid-Atlantic	Washington, DC	\$3,135,283	\$2,662,083	\$473,200
Mid-Atlantic	Charleston	\$1,317,332	\$1,117,448	\$199,884
Northeast	Boston	\$1,487,936	\$1,263,442	\$224,495
Northeast	New York	\$7,066,478	\$5,990,241	\$1,076,237
Northwest	San Francisco	\$1,021,447	\$865,116	\$156,330
Northwest	Seattle	\$739,741	\$629,086	\$110,655
South	New Orleans	\$3,305,039	\$2,800,048	\$504,990
South	Memphis	\$2,084,241	\$1,782,276	\$301,966
Southeast	Atlanta	\$1,052,108	\$894,145	\$157,963
Southeast	Miami	\$1,187,843	\$1,009,131	\$178,713

The table below lists tasks you can perform to analyze data in the visualization, and steps to perform each task.

Prerequisites

- You must have the Web Edit Dashboard and Web Run Dashboard privileges.
- The procedures below assume that the visualization in which you want to analyze data has already been created.

- If the Grid panel is not displayed, from the **Show** menu, select **Edit Visualization**.

Task	Steps to Perform
Resize the columns in a Grid visualization	1 Hover the cursor over the right edge of the column to resize so that the cursor becomes directional arrows, then do one of the following: • To resize the column manually, click and drag the column edge to the desired width. • To have the column automatically sized to fit all of the column contents, double-click on the column edge.
Copy the contents of a Grid visualization to the clipboard	1 In the grid, click the row that contains the data that you want to copy. You can select multiple rows by pressing SHIFT or CTRL and clicking additional rows. 2 Press CTRL + C. The contents of the selected rows are copied to the clipboard.
Sort attributes or metrics in a VI dashboard in ascending or descending order	1 In the Grid panel, hover the cursor over the name of the attribute or metric you want to use to sort data, then click the arrow icon on the right. A list of options is displayed. 2 Do one of the following: • To sort the attribute or metric values in ascending order, select Sort Ascending. • To sort the attribute or metric values in descending order, select Sort Descending.
Sort data using multiple conditions	1 In the Grid panel, hover the cursor over the name of an attribute or metric, then click the arrow icon on the right. A list of options is displayed. 2 Select Advanced Sort. The Sort dialog box opens. Do one of the following: • To sort by data in the rows, click the Rows tab. • To sort by data in the columns, click the Columns tab. 3 From the Sort by drop-down list, select the attribute form or metric to use to sort data. Do one of the following: • To sort the data in ascending order, select Ascending. • To sort the data in descending order, select Descending. 4 Specify additional sorting criteria using the appropriate steps above. 5 Click OK to apply changes.
Pivot a row or column	1 Hover the cursor over the header of the row or column you want to pivot, then click the arrow icon to the right. A list of options is displayed. 2 Do one of the following: • To move the row or column to the left, select Move Left. • To move the row or column to the right, select Move Right. • To move a row to be the first row, select Move to Beginning. • To move a row to the columns, select Move to Columns. • To move a column to the rows, select Move to Rows.
Swap the rows and columns	1 In the toolbar, click the Swap icon . The report objects in the Rows and Columns area are swapped.

Task	Steps to Perform
Rename an attribute or metric	1 In the Grid panel, hover the cursor over the name of the attribute or metric you want to change, then click the arrow icon displayed in the top right. A list of options is displayed. 2 Select Rename. A field displaying the name of the attribute or metric is displayed. 3 Type a new name for the attribute or metric in the field, then press ENTER. The object is renamed.
Display or hide subtotals A subtotal is a total of a specific subset of metric data, totaled at a level you select. For a definition and examples of levels of aggregation, see the <i>Basic Reporting Guide</i> .	1 Hover the cursor over the attribute for which you want to display subtotals, then click the arrow icon displayed in the top right, and point to Show Totals. A list of subtotals is displayed. 2 Do one of the following: • To display a subtotal, select the check box next to the type of subtotal you want to display in the visualization. • To hide a subtotal, clear the check box next to the type of subtotal you want to remove from the visualization. 3 Repeat the step above for each subtotal you want to display or hide, then click OK to apply your changes to the visualization.
Filter data to only include data for selected attribute elements	1 In the grid, hover the cursor over the attribute element to use to filter data. You can select multiple elements by pressing CTRL and clicking additional elements. 2 Click the arrow icon displayed in the top right. A list of options is displayed. 3 Select Keep Only. The data in the visualization is filtered and updated.
Filter data by excluding data for selected attribute elements	1 In the grid, hover the cursor over the attribute element to use to filter data. You can select multiple elements by pressing CTRL and clicking additional elements. 2 Click the arrow icon displayed in the top right. A list of options is displayed. 3 Select Exclude. The data in the visualization is filtered and updated.

Task	Steps to Perform
Drill on an attribute element	1 In the grid, hover the cursor over the attribute element you want to drill from, then click the arrow icon to the right. 2 Select the object you want to drill to. For example, to drill to the data at the Category level, select Drill to Category. You can select multiple elements by pressing CTRL and clicking each element you want to select. When you drill on an attribute element in a grid, you can only drill to report objects within the VI dashboard's dataset that are not included in the Grid panel. If all objects within the dataset are displayed in the VI dashboard, no drilling options are displayed.
Undo filtering or drilling changes You can undo filtering to include, exclude, or drill on data in the visualization.	1 Hover the cursor over the visualization, then click the arrow icon in the top right. Point to Edit Filter, then do one of the following: • To remove all filtering and drilling changes from the visualization at once, select Clear All. All filter and drilling changes in the visualization are removed. • To remove filter or drilling changes one at a time, hover the cursor over each filtering or drilling condition to remove, then click X next to each condition. The conditions you delete are no longer applied to data in the visualization.

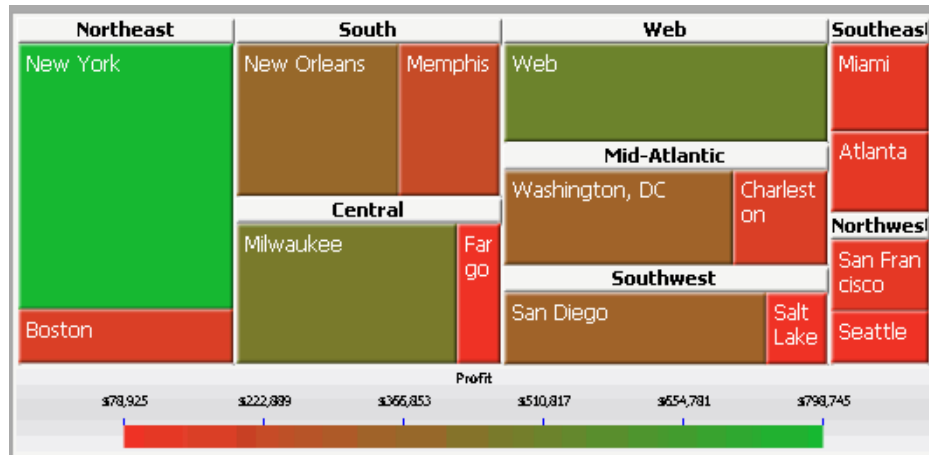
Analyzing data in a Heat Map visualization

A Heat Map visualization is a combination of colored rectangles, each representing an attribute element. A Heat Map visualization allows you to quickly grasp the state and impact of a large number of variables at one time. Heat Maps are often used in the financial services industry to review the status of a portfolio.

The rectangles contain a wide variety and many shadings of colors, which emphasize the weight of the various components. In a Heat Map visualization:

- The size of each rectangle represents its relative weight.
- The color of each rectangle represents its relative value. For example, in the image below, larger values are green and smaller values are red.
- The large areas, such as the Mid-Atlantic area of rectangles in the image below, represent different groups of data.

- The small rectangles, such as New York in the image below, represent individual attribute elements.



Prerequisites

- You must have the Web Edit Dashboard and Web Run Dashboard privileges.
- The procedures below assume that the visualization in which you want to analyze data has already been created.

To drill or filter data in a Heat Map visualization

- 1 Click the name of the VI dashboard to run it.
- 2 Select one or more rectangles in the visualization by doing one of the following:
 - To select individual rectangles, hover the cursor over a rectangle in the visualization. You can select multiple rectangles in the visualization by pressing **CTRL**, then clicking additional rectangles to select them.
 - To select all the rectangles in a lasso shape, click and drag over an area of the visualization to choose all the rectangles in the area.
- 3 Click the arrow icon at the top of the selected rectangles. From the context menu, select one of the following:
 - To drill to an object, point to **Keep Only and Show**, and then select the attribute you want to drill to. For example, to drill to the data at

the Category level, select **Keep Only and Show Category**. Only the rectangles you selected are displayed, and the attribute you selected is used to group rectangles in the visualization.

- To display only the rectangles you have selected and remove all other rectangles from the visualization, select **Keep Only**.
- To display all rectangles in the visualization except the rectangles you have selected, select **Exclude**.

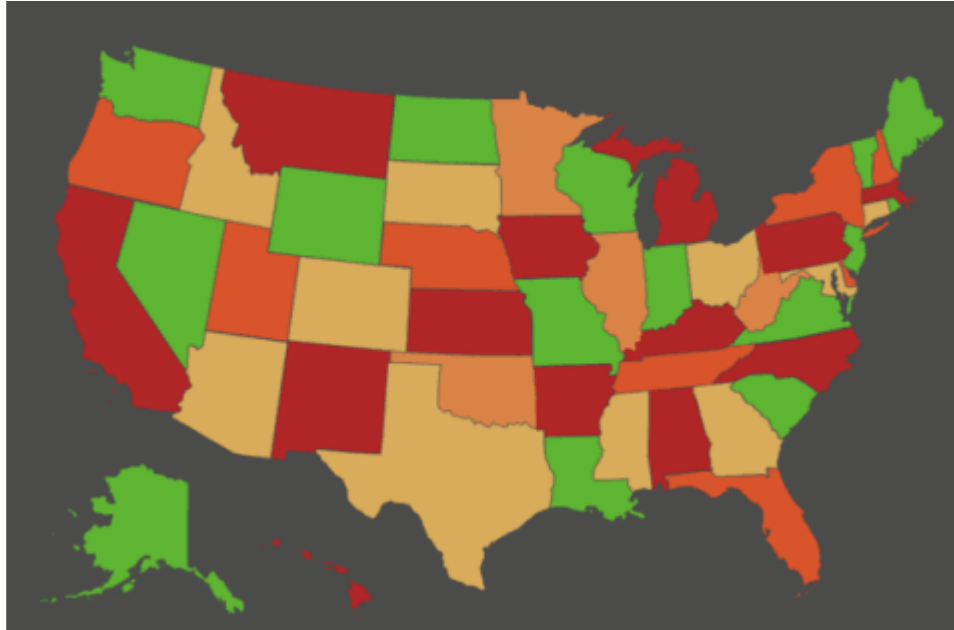
To undo filtering or drilling on data

- 1 Hover the cursor over the visualization in which you want to undo filtering or drilling, then click the arrow icon in the top right. Point to **Edit Filter**, then do one of the following:
 - To remove all filter conditions from the visualization at once, select **Clear All**. All filter and drilling changes in the visualization are removed.
 - To remove filter conditions one at a time, hover the cursor over each filtering or drilling condition to remove, then click **X** next to each condition. The conditions you delete are no longer applied to data in the visualization.

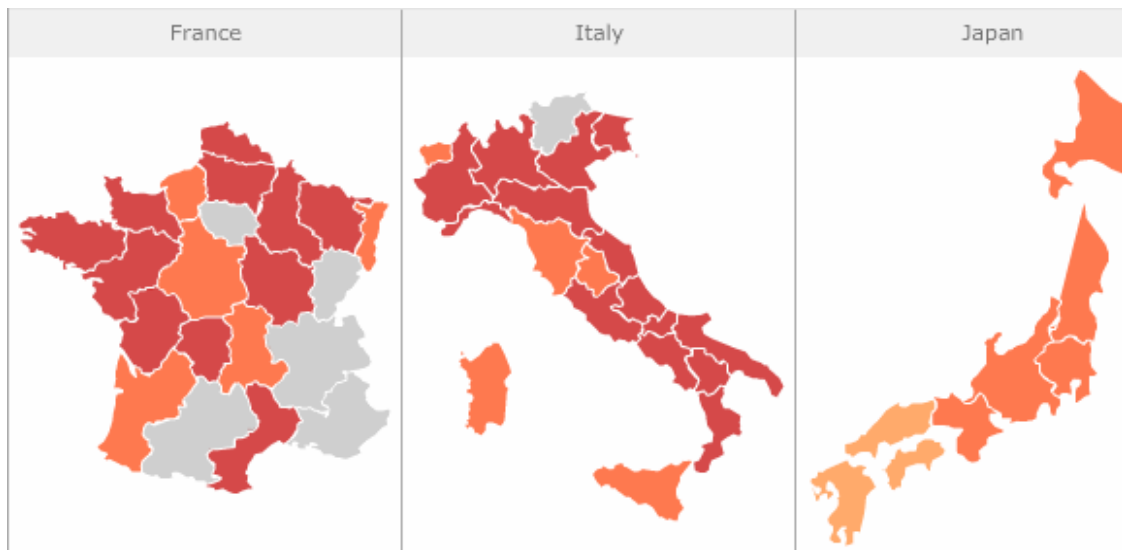
Analyzing data in an Image Layout visualization

An Image Layout visualization displays an image overlaid with colored areas or bubble markers. For example, an Image Layout visualization might display a map of the United States, with a bubble marker displayed over each state. A designer can define the visualization so that states with a high number of stores are displayed using large bubble markers, and states with a low number of stores are displayed using small bubble markers. As another example, a designer can display the layout of a store in the visualization, with

each aisle shown as a separate region, then have Web automatically color each aisle based on the number of visits each aisle receives.



If the visualization contains multiple images in a table, as displayed below, you can size rows or columns of images. Hover the cursor over the edge of a row or column, so that the cursor becomes double arrows, then click and drag the edge to its new location.



Prerequisites

- You must have the Web Edit Dashboard and Web Run Dashboard privileges.
- The procedures below assume that the visualization in which you want to analyze data has already been created.

To filter data in an Image Layout visualization

- 1 Click the name of the VI dashboard to run it.
- 2 In the visualization, select one or more elements to either include or exclude, by doing one of the following:
 - To select individual elements, hover the cursor over an element in the visualization. You can select multiple elements in the visualization by pressing **CTRL**, then clicking additional elements to select them.
 - To select all the elements in a rectangle shape, click and drag over an area of the visualization to choose all the elements in the area.
- 3 Hover the cursor over your selection, then click the arrow icon and select one of the following:
 - To display only the elements you have selected and remove all other elements from the visualization, select **Keep Only**.
 - To display all elements in the visualization except the elements you have selected, select **Exclude**.

To undo filtering or drilling on data

- 1 Hover the cursor over the visualization in which you want to undo filtering or drilling, then click the arrow icon in the top right. Point to **Edit Filter**, then do one of the following:
 - To remove all filter conditions from the visualization at once, select **Clear All**. All filter and drilling changes in the visualization are removed.
 - To remove filter conditions one at a time, hover the cursor over each filtering or drilling condition to remove, then click **X** next to each condition. The conditions you delete are no longer applied to data in the visualization.

Analyzing data in a Map visualization

The Map visualization allows you to display locations as image markers or bubble markers on a map. Depending on how the visualization was displayed, the map markers may be automatically colored or sized based on the value of a metric, or clustered together and displayed as a circle when a large number of map markers must be displayed in the same map area.



This section contains details and information to analyze data in the Map visualization that MicroStrategy provides out-of-the-box. For details and information on analyzing data in a custom Map visualization, see the *MicroStrategy GIS Integration Help*.

You can:

- Filter data to display only map markers for the locations you select
- Filter data to display all map markers except those for the locations you select
- Zoom in, zoom out, and pan across the map to customize your display
- Display an Information Window with additional information about a location when you click a map marker in the visualization

The table below contains a list of actions you can perform when viewing data in an Map visualization, and steps to perform each task.

Prerequisites

- You must have the Web Edit Dashboard and Web Run Dashboard privileges.
- The procedures below assume that the visualization in which you want to analyze data has already been created.

Goal	Steps
Zoom in or out of the map display	1 Click the thumb on the slider located on the left side of the map, then do one of the following: • To zoom in on the map, drag the thumb towards the + side of the slider. • To zoom out of the map, drag the thumb towards the - side of the slider.
Pan the map display to display a different region of the map	1 Click on the map, then drag it in the direction you want to pan the map display.
Select locations in the map by clicking individual locations	1 From the visualization's toolbar, click the Mouse Click Selection icon . 2 Click a location to select it. You can select multiple locations by pressing CTRL and clicking additional locations.
Select locations in the map by drawing a rectangular lasso shape	1 From the visualization's toolbar, click the Rectangular Area Selection icon . 2 Click and drag on the map to enclose a set of locations within a rectangle shape. All the locations within the rectangle are selected.
Display additional location information when the cursor is hovered over a location in the visualization	1 From the visualization's toolbar, click the View Information Window icon . When you click a location in the visualization, an Information Window is displayed.

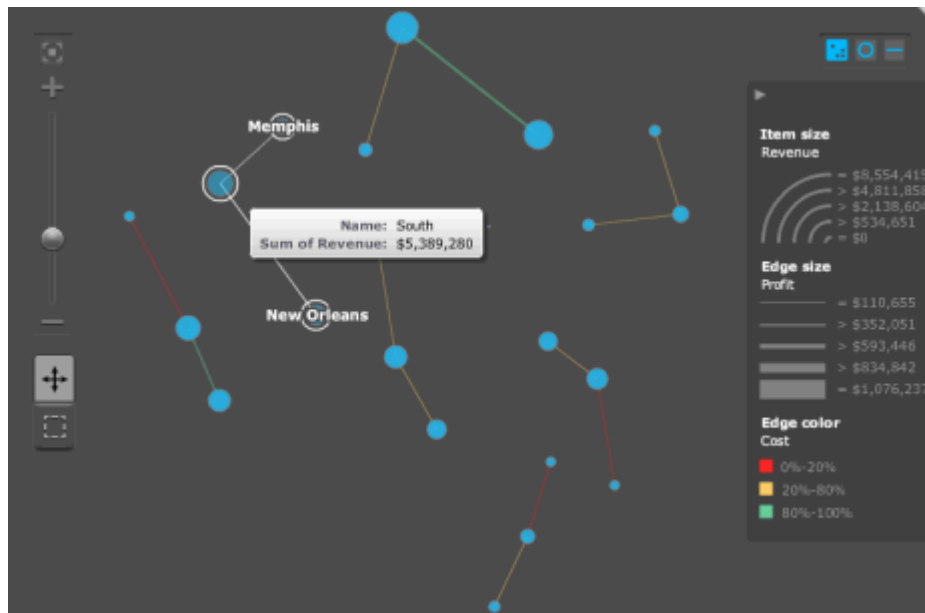
Goal	Steps
Display only the selected locations on the map, or display all locations except those currently selected	1 Select map markers in the visualization by doing one of the following: • To select locations in the map by clicking individual map markers, from the visualization's toolbar, click the Mouse Click Selection icon . Click a map marker to select it. You can select multiple map markers by pressing CTRL and clicking additional map markers. • To select locations in the map by enclosing them in a lasso shape, from the visualization's toolbar, click the Rectangular Area Selection icon . Click and drag on the map to enclose a set of markers within a rectangle. All the map markers within the rectangle are selected. 2 To filter the map markers displayed in the map, do one of the following: • To display only the selected map markers on the map, from the visualization's toolbar, click the Keep Only icon . Only the map markers you selected are displayed. • To display all map markers except those currently selected on the map, from the visualization's toolbar, click the Exclude icon . All the map markers except those you selected are displayed.
Clear all map selections	1 From the visualization's toolbar, click the Clear Selections icon . All map selections are cleared.
Examine the underlying attribute and metric data for a selected area	1 Select map markers in the visualization by doing one of the following: • To select locations in the map by clicking individual map markers, from the visualization's toolbar, click the Mouse Click Selection icon . Click a map marker to select it. You can select multiple map markers by pressing CTRL and clicking additional map markers. • To select locations in the map by enclosing them in a lasso shape, from the visualization's toolbar, click the Rectangular Area Selection icon . Click and drag on the map to enclose a set of markers within a rectangle. All the map markers within the rectangle are selected. 2 From the toolbar, click the Show Data icon . The Show Data dialog box opens, with attribute and metric data for the map markers you selected. For detailed steps to analyze the data, including steps to create a new visualization using the displayed data or copy the data to the clipboard, see the <i>MicroStrategy Web Help</i>.

Analyzing data in a Network visualization

The Network visualization allows analysts to quickly view data about individual items and the relationships between them in a visual format.

Business attributes are represented by circular nodes, while the lines between the nodes (called edges) represent relationships between the nodes.

You can view additional information about an item in the visualization by hovering the cursor over a node or edge. A tooltip is automatically displayed in the visualization, showing the attribute and metric values associated with the node or edge. To zoom in or out on the visualization, click and drag the thumb on the slider in the top left of the visualization. You can click the **Fit to Screen** icon  on the top of the slider to size the visualization so that all nodes and edges are displayed in the visualization area.



You can reposition a node, select multiple nodes, or click and drag on an empty area in the visualization to pan your display. Do one of the following:

- To reposition a node, click and drag the node to its new location.
- To select multiple nodes, click the **Select** icon , then click and drag over the nodes you want to select.
- To pan your display of the visualization, click the **Pan** icon , then click and drag in the direction of the area you want to view.

You can change the layout style used to display nodes in the visualization. Do one of the following:

- To display the nodes with edges of similar length, minimizing the number of times the edges cross each other, select the **Force-directed Layout** icon  in the top right.

- To display the nodes in a circular layout, select the **Circular Layout** icon  in the top right. A circular layout makes it easy to identify clusters and relationships in the visualization.
- To display the nodes in a straight line, select the **Linear Layout** icon  in the top right. The linear layout makes it easy to see where edges begin and end (if the edges are displayed as arrows), as well as groups of closely related nodes.

By default, a legend is displayed on the right side of the visualization, which contains information on node size, edge size, edge color, and so on. You can expand or collapse the legend by clicking the arrow icon at the top of the legend.

Prerequisites

- You must have the Web Edit Dashboard and Web Run Dashboard privileges.
- The procedures below assume that the visualization in which you want to analyze data has already been created.

To drill or filter data in a Network visualization

- 1 In the visualization, select one or more nodes to either include or exclude, by doing one of the following:
 - To select nodes one at a time, press **CTRL**, then click each node you want to select. Click the arrow icon displayed at the top of the selected nodes.
 - To select all the nodes in a rectangular lasso shape, click the **Select** icon , then click and drag over an area of the visualization to choose all the nodes in the area. Click the arrow icon displayed at the top of the selected nodes.
- 2 From the context menu, select one of the following:
 - To drill to an object, select the attribute you want to drill to. For example, to drill to the data at the Category level, select **Drill to Category**. Only the nodes you selected are displayed, and the attribute you selected is used to group nodes in the visualization.

- To display only the nodes you have selected and their neighboring nodes, and remove all other nodes from the visualization, select **Keep Only (Nodes + Neighbors)**.
- To display all nodes in the visualization except the nodes you have selected, select **Exclude**.

To undo filtering or drilling on data

- 1 Hover the cursor over the visualization in which you want to undo filtering or drilling, then click the arrow icon in the top right. Point to **Edit Filter**, then do one of the following:
 - To remove all filter conditions from the visualization at once, select **Clear All**. All filter and drilling changes in the visualization are removed.
 - To remove filter conditions one at a time, hover the cursor over each filtering or drilling condition to remove, then click **X** next to each condition. The conditions you delete are no longer applied to data in the visualization.

Running and viewing VI dashboards

VI dashboards are organized into folders in MicroStrategy projects. When you run a VI dashboard, it is automatically displayed with any Grid, Graph, or other types of visualizations that have been added to the VI dashboard. VI dashboards can be viewed in MicroStrategy Web or on an iPad with MicroStrategy Mobile.

By default, VI dashboards are displayed as fully interactive VI dashboards in Visual Insight Mode, allowing you to sort and rearrange data in an interactive grid, perform manipulations on the data to display only the information that you are interested in, display visual representations of the data in the VI dashboard to make the data easier to interpret, and so on.

You can view a VI dashboard without having to see all the navigation features, such as toolbars, menus, and panels, that are available in the Visual Insight interface. Displaying the dashboard in Presentation Mode allows you to maximize the amount of data that you can view at one time, while still allowing you to interact with your data. In Presentation Mode, you can:

- Resize visualizations
- Include, exclude, or drill on data in a visualization
- Resize the Filters panel, as well as individual filters
- Filter data or select page-by elements
- Switch between tabs in a VI dashboard

Prerequisites

To view VI dashboards, you must have:

- A MicroStrategy Report Services product license
- Web Analyst privileges
- To open a VI dashboard in Visual Insight Mode, the Web Edit Dashboard and Web Run Dashboard privileges

To run and view a VI dashboard

- 1 In MicroStrategy Web, navigate to the folder in which the VI dashboard is located.
- 2 Click the name of the VI dashboard to run it in Visual Insight Mode.
- 3 To view the VI dashboard in Presentation Mode, from the VI dashboard toolbar, click the **Presentation View** icon. To return to Visual Insight Mode, press ESC.
- 4 Once the VI dashboard is displayed, you can specify which layout tab in the VI dashboard to display by clicking the tabs displayed at the top of the VI dashboard.
- 5 You can filter the data displayed in the VI dashboard, to display only the information that you require. You can filter data based on attribute elements or metric values. You can choose to include or exclude data for selected attribute elements. Filtering is applied to every visualization in the currently displayed layout tab. For detailed instructions, see [Filtering data in a VI dashboard, page 177](#).

To analyze the data in a visualization

- 6 You can rename attributes and metrics, format numeric data, display or hide subtotals, and so on. To do so, in Visual Insight Mode, perform the appropriate steps below for each visualization that you want to analyze.
- 7 Click the visualization that you want to analyze.
- 8 If the visualization's Drop Zones panel is not displayed, from the **Show** menu, select **Edit Visualization**. The name of the Drop Zones panel for a visualization can vary depending on the type of visualization you are modifying. For example, the Drop Zones panel appears as the Grid panel when modifying a Grid visualization, and appears as the Network panel when modifying a Network visualization.
- 9 To rename an attribute or metric in a visualization:
 - a In the visualization's Drop Zones panel, hover the cursor over the name of the attribute or metric to rename, then click the arrow icon displayed in the top right. A list of options is displayed.
 - b Select **Rename**. A field displaying the name of the attribute or metric is displayed.
 - c Type a new name for the attribute or metric in the field, then press the **ENTER** key. The object is renamed.
- 10 To format numbers:
 - a In the visualization's Drop Zones panel, hover the cursor over the name of the metric whose values you want to format, then click the arrow icon to the right. A list of options is displayed.
 - b Select **Number Format**.
 - c From the first drop-down list, select the type of number formatting to apply to the metric, then specify additional options for the formatting type, such as how many decimal places to display.
- 11 To display or hide subtotals:
 - a Hover the cursor over the attribute to subtotal, click the arrow icon displayed in the top right, and point to **Show Totals**. A list of subtotals is displayed.
 - b Do one of the following:
 - To display a subtotal, select the check box next to the type of subtotal to display.

- To hide a subtotal, clear the check box next to the type of subtotal to remove.
 - c Repeat the step above for each subtotal to display or hide, then click **OK** to apply your changes to the visualization.
- 12** Depending on the types of visualizations that have been added to your dashboard, you can filter the data displayed in a visualization, drill on data, sort graph items, and so on. For examples of ways to analyze data in a specific type of visualization, see the appropriate link below:
- [Analyzing data in a Density Map visualization, page 149](#)
 - [Analyzing data in a Map visualization, page 168](#)
 - [Analyzing data in a Graph visualization, page 152](#)
 - [Analyzing data in a Grid visualization, page 160](#)
 - [Analyzing data in a Heat Map visualization, page 163](#)
 - [Analyzing data in an Image Layout visualization, page 165](#)
 - [Analyzing data in a Network visualization, page 170](#)

For detailed steps to analyze data in each type of visualization, see the *MicroStrategy Web Help*.

- 13** You can group the data into logical subsets, and then view only one of the subsets at a time. Grouping is applied to all visualizations on the currently displayed layout tab. For detailed instructions, see [Grouping data on a VI dashboard, page 180](#).

You can now:

- Save the VI dashboard (see [Saving a VI dashboard, page 182](#) for instructions)
- Export the VI dashboard (see [Exporting a VI dashboard, page 183](#) for instructions)
- Export a visualization in the VI dashboard (see [Exporting a visualization, page 184](#) for instructions)
- Send the VI dashboard in an email (see [Emailing the VI dashboard, page 186](#) for instructions)
- Schedule the VI dashboard to be sent to the History List (see [Scheduling a VI dashboard to be sent to the History List, page 188](#) for instructions)

Filtering data in a VI dashboard

You can filter the data displayed in a VI dashboard, to display only the information that you require. For example, a VI dashboard displays sales data for several different product categories, from 2007 to 2010. You can filter the data in the grid to only display sales data for books and movies in 2010.

You can filter data based on:

- **The elements of an attribute:** The elements of a business attribute are the unique values for that attribute. For example, 2006 and 2007 are elements of the Year attribute, while New York and London are elements of the City attribute. You can filter based on a list of attribute elements belonging to an attribute. For example, the attribute Customer has elements which are individual customer names. For a report containing the attributes Region, Customer, and Income Range, you can use an attribute element list qualification on the attribute Customer to obtain income data for only those customers that you specify in your filter's list.
- **The value of a metric:** You can filter data by restricting the attributes in the set based on the value, rank, or rank percentage of a metric associated with the attributes. For example, a store manager wants to see sales numbers for products whose current inventory count falls below a certain level. A metric set qualification lets the manager restrict data based on a set of attributes, in this case certain products, based on a metric value, rank, or rank percentage, in this case, inventory count below a certain level.

When you filter the data in a VI dashboard, your selections are applied to every visualization on the layout tab currently displayed in the VI dashboard. For example, a VI dashboard contains a Grid visualization and a Heat Map visualization, which both display sales data for a series of regions. Both are displayed on separate panels and are located on the Sales layout tab. If you select to only display data in the Grid visualization for the Northeast and Southeast regions, both the Grid visualization and the Heat Map visualization will be updated to only include data for Northeast and Southeast.

Selecting attribute elements in a filter also restricts the choices available in the Page-by area. For example, a VI dashboard contains revenue data grouped by the Category attribute, allowing you to display the revenue for Books, Movies, Music, and so on. If you filter the data to only display revenue information for the Books and Movies categories, only Books and Movies are available as options in the Page-by area. For background information and

steps to group data in a VI dashboard, see [Grouping data on a VI dashboard, page 180](#).

The different ways to filter data on a VI dashboard are listed below:

- [To filter data by selecting elements in an attribute, page 178](#)
- [To filter data by selecting metric values from a slider, page 179](#)
- [To filter data by defining a qualification on a metric, page 179](#)
- [To filter data by searching for elements, page 179](#)
- [To clear all selections in the Filters panel, page 180](#)

Prerequisites

- All these filtering procedures assume that you are viewing a VI dashboard. For instructions, see [Running and viewing VI dashboards, page 173](#).
- If the Filters panel is not displayed in the VI dashboard, from the **Show** menu, select **Filters**.

To filter data by selecting elements in an attribute

- 1 In the Filters panel, locate the section that contains the attribute to filter on. If the section is collapsed, click the arrow icon next to the name of the attribute to expand it.
- 2 Select the attribute elements to filter on, or select **All** to choose all of the elements at once.



You can select only a single element if the elements are displayed using the Radio Button or Drop-down styles.

- 3 If the Apply button is displayed, click **Apply** to filter data using your selections. If the designer has created the document to automatically apply selections in the filter, the button is not displayed and your selections are automatically used to filter data.

To filter data by selecting metric values from a slider

- 1 In the Filters panel, locate the metric to filter on. If the section is collapsed, click the arrow icon next to the name of the metric to expand it.
- 2 Do one of the following:
 - To filter the metric values by selecting a general range, click and drag the endpoints of the slider to cover the range of values for which you want to filter data. The selected value range is automatically highlighted in blue.
 - To filter the metric values by typing a specific range of values, press **CTRL** and click on the endpoint of a slider. Type the value you want to use as the new endpoint of the value range, then press **ENTER**.
- 3 If the Apply button is displayed, click **Apply** to filter data using your selections. If the designer has created the document to automatically apply selections in the filter, the button is not displayed and your selections are automatically used to filter data.

To filter data by defining a qualification on a metric

- 1 In the Filters panel, locate the metric to filter on. If the section is collapsed, click the arrow icon next to the name of the metric to expand it.
- 2 Click **Greater than**. From the drop-down list, select the operator to use to compare data, such as Less Than or Equals.
- 3 In the field, type the value to use to filter data, then press the **ENTER** key.
- 4 If the Apply button is displayed, click **Apply** to filter data using your selections. If the designer has created the document to automatically apply selections in the filter, the button is not displayed and your selections are automatically used to filter data.

To filter data by searching for elements

- 1 In the Filters panel, locate the section that contains the Searchbox-style filter you want to use to search for elements. If the section is collapsed, click the arrow icon next to the name of the metric to expand it.

- 2 In the search field, type the name of the element you want to use to filter.
- 3 From the drop-down list, select the name of the element. The element is added to the list of elements included in the filter.
- 4 Repeat the steps above to add additional elements to the filter. You can remove an element from the filter by clicking **X** next to the element you want to remove.
- 5 If the Apply button is displayed, click **Apply** to filter data using your selections. If the designer has created the document to automatically apply selections in the filter, the button is not displayed and your selections are automatically used to filter data.

To clear all selections in the Filters panel

- 1 Hover the cursor over the Filters panel, then click the arrow icon displayed in the top right of the panel. A list of options is displayed.
- 2 Select **Clear All Filters**. All the selections in the Filters panel are cleared and all data is displayed.

Grouping data on a VI dashboard

When you have a very large set of data in a VI dashboard, it can be easier to work with that data by grouping it into logical subsets based on an attribute, and viewing only one of the subsets at a time. For example, a grid in a VI dashboard displays salary expenditures by Region, Manager, and Employee. You can group the data by Region and view the salary expenditures data by Manager and Employee, one region at a time. All the data from the VI dashboard is still present, but it is grouped into smaller, more manageable sections. Once you have grouped your data, you can quickly choose which attribute element to use to display data.

When you group data in a VI dashboard, the grouping is applied to all visualizations on the currently displayed layout tab.

Steps are below to group and ungroup data, as well as to create an animation of the grouped data. The animation cycles through a display of the data grouped by each attribute element in the Page-by area.

Prerequisites

- To group data in a VI dashboard, you must have the Web Edit Dashboard and Web Run Dashboard privileges.
- All these filtering procedures assume that you are viewing a VI dashboard in Visual Insight Mode. For instructions, see [Running and viewing VI dashboards, page 173](#).
- If the Page-by area is not displayed, from the **Show** menu, select **Page By**.

To group data in a VI dashboard

- 1 From the Dataset Objects panel, drag and drop the attribute to group with to the Page-by area. The elements of the attribute are automatically displayed in the Page-by area.
- 2 By default, attribute elements in the Page-by area are displayed as selectable buttons on a button bar. You can change the display style used to show elements in the Page-by area. For example, you can choose to display the attribute elements as options in a drop-down list. To change the display style, hover the cursor over the name of the attribute in the Page-by panel, then click the arrow icon to the right. Select a display style.

To play an animation of the grouped data

- 1 In the Page-by area, click the **Play** icon to show the animation and display the data grouped by each element in the attribute used to group data
- 2 To pause the animation, click the **Stop** icon.

To ungroup data

- 1 Hover the cursor over the name of the attribute in the Page-by area, then click the arrow icon to the right
- 2 Select **Remove**. The attribute is no longer used to group data.

To replace a grouping attribute with another attribute

- 1 In the Page-by area, hover the cursor over the attribute name to replace, and point to **Replace with**.
- 2 Select the attribute to use to group the data.

Saving a VI dashboard

You can make changes to a VI dashboard, then save it for easy access at a later date. Steps to save a VI dashboard are below.

Prerequisites

- You must have the necessary privileges to save a VI dashboard.
- You must have the Web Edit Dashboard, Web Save Dashboard, and Web Run Dashboard privileges.

To save a VI dashboard

- 1 Click the name of a VI dashboard to run it.
- 2 From the toolbar, select one of the following:
 - To save the VI dashboard, click the **Save** icon. If you are working on a VI dashboard that has already been saved, a confirmation message appears. If desired, select the **Do not ask me again** check box to avoid showing this message in the future. Click **OK** to save your changes and return to the VI dashboard. If you are saving a new VI dashboard, the Save As dialog box opens. Select the appropriate options to save your VI dashboard, as described in the steps below.
 - To save a copy of an existing VI dashboard using a different name, click the **Save As** icon. The Save As dialog box opens. Select the appropriate options to save your VI dashboard, as described in the steps below.
- 3 Do one of the following, depending on whether or not you want to create a new folder for the VI dashboard:

- To select an existing folder to save your VI dashboard in, from the **Save in** drop-down list, choose either **Shared Reports** or **My Reports**, and browse to the desired folder.
 - To create a new folder to save the VI dashboard in, click the **Create New Folder**. The Create Folder dialog box opens. In the **Folder** field, type a name for the folder. In the **Description** field, type a description for the new folder. Click **Create Folder**. The new folder is created and displayed.
- 4 Type a name and description for the VI dashboard in the **Name** and **Description** fields.
 - 5 Click **OK** to save the VI dashboard.

If a VI dashboard with the same name already exists in the folder, a Confirm Overwrite message appears. Click **Yes** to overwrite the existing VI dashboard.

Exporting a VI dashboard

Exporting a VI dashboard allows you view and interact with the VI dashboard results outside of MicroStrategy Web. For example, you can view the VI dashboard results in a PDF file within Adobe Reader or create an interactive Flash dashboard for off-line use.

You can export a VI dashboard to the following formats:

- **Image:** Export the visible portion of the VI dashboard as an image, including panels, visualizations, and the contents of the Page-by area. The toolbar and menu are not saved along with the rest of the VI dashboard.
- **PDF file:** Export the VI dashboard to a PDF file in a reader, such as Adobe Reader. You can view the PDF on any device with a PDF reader, such as another computer, a Linux machine, a Nook, or a Kindle.
- **Flash file:** Export the VI dashboard to a stand-alone Flash file. This option is available if the administrator has chosen to have dashboards and documents in the project exported to Flash using the MHT format. Steps to define the Flash export settings are included in the *System Administrator Help* for Developer.

Prerequisites

- You must have the Web Edit Dashboard and Web Run Dashboard privileges.
- You must have the necessary privileges to export to the file format you choose.

To export a VI dashboard

- 1 Click the name of the VI dashboard to run it.
- 2 From the **Tools** menu, point to **Export**, then select one of the following:
 - To save the VI dashboard as an image, select **Image**. The Select Location for Download dialog box opens. Navigate to the location in which you want to save the image, then specify a name for the image in the **File Name** field. Click **OK**. The image is saved.
 - To save the VI dashboard as a Flash file, select **MHT**, then do one of the following:
 - To open the Flash file, click **Open**. Your file is exported and displayed.
 - To save a copy of the Flash file, click **Save**. The Save As dialog box opens. Type a name for the Flash file in the **File Name** field, then click **OK**. Your file is exported and saved.
 - To save the VI dashboard as a PDF file, select **PDF**. The VI dashboard is exported and displayed in a browser window.

Exporting a visualization

You can export a single visualization from within a Visual Insight (VI) dashboard.

The following export formats are available:

- **Image**: Export the visualization as an image, similar to taking a screenshot.
- **Data**: Save the data in a visualization as a tabular Comma-Separated Values (CSV) file. For example, a Graph visualization contains a

combination graph that displays revenue data across several different product categories. You can save the data in the visualization as a CSV file, with revenue data for each product category displayed in a tabular format. Values in the file are separated by commas.

- **PDF file:** Export the visualization to a PDF file in a reader, such as Adobe Reader. You can view the PDF on any device with a PDF reader, such as another computer, a Linux machine, a Nook, or a Kindle. This option is available for Grid visualizations and Graph visualizations with dual-axis or combination graphs.
- **Excel file:** Export the visualization to a stand-alone Excel file, to view and interact with the data outside of MicroStrategy Web. This option is available for Grid visualizations and Graph visualizations with dual-axis or combination graphs.

Prerequisites

- This procedure assumes you have already created the visualization you want to export.
- You must have the Web Edit Dashboard and Web Run Dashboard privileges.

To export a visualization

- 1 Click the name of the VI dashboard to run it.
- 2 Hover the cursor over the title bar of the visualization you want to export, then click the arrow icon in the top right. Point to **Export**, then select one of the following:
 - To export the visualization as a CSV file, select **Data**. The Select Location for Download dialog box opens. Navigate to the location in which you want to save the CSV file and specify a name for the file in the **File Name** field. Click **OK**. The CSV file is **saved**.
 - To export the visualization as an image, select **Image**. Navigate to the location in which you want to save the image and specify a name for the image in the **File Name** field. Click **OK**. The image is saved.
 - To export a Grid visualization, or a Graph visualization with dual-axis or combination graphs, as an Excel file, select **Excel**. The File Download dialog box is displayed. Do one of the following:

- To open the Excel file, click **Open**. The visualization is exported and displayed in a browser window.
- To save a copy of the Excel file, click **Save**. The Save As dialog box opens. Navigate to the location in which you want to save the Excel file and specify a name for the file in the **File Name** field. Click **OK**. The Excel file is saved.
- To export a Grid visualization, or a Graph visualization with dual-axis or combination graphs, as a PDF file, select **PDF**. The visualization is exported and displayed in a browser window.

Emailing the VI dashboard

You can send a VI dashboard to any email address, to allow users to view it even when offline.

Prerequisite

- You must have the Web Edit Dashboard, Web Run Dashboard, and Use Send Now privileges.

To email a VI dashboard

- 1 Click the name of the VI dashboard to run it.
- 2 Click the **Send Now** icon on the VI dashboard toolbar. The Send Now dialog box opens.
- 3 Click **To** to locate the email address of the recipient. The Recipients Browser opens.
- 4 Choose an address from the **Available** list, then click **>** to add it to the **To** field. If you do not see the email address to send the VI dashboard to, you can specify a new email address, as described below:
 - a Type a name for the email address in the **Address Name** field.
 - b Type the email address in the **Physical Address** field.
 - c From the **Device** drop-down list, select the email client type of the email address.

- d Click **Add to Recipients**. The new email address is added to the **To** list.
 - 5 Click **OK** to return to the Send Now dialog box.
 - 6 From the **Send** drop-down list, specify where to deliver the VI dashboard by choosing one of the following options:
 - To display the VI dashboard in the email, select **Data in email**. The VI dashboard is displayed in the email, but is not delivered to the History List.
 - To display the VI dashboard in the email and deliver the VI dashboard to the History List, select **Data in email and to history list**. No link to the VI dashboard is provided in the email.
 - To display the VI dashboard in the email, deliver the VI dashboard to the History List, and provide a link to the History List location of the VI dashboard in the email, select **Data and link to history list in email**.
 - To deliver the VI dashboard to the History List and provide a link to the location of the VI dashboard in the History List in the email, select **Link to history list in email**. The VI dashboard is not displayed in the email.
 - 7 From the **Delivery Format** drop-down list, select the format to send the VI dashboard in. Select one of the following:
 - To deliver the VI dashboard as an HTML file, select **HTML**.
 - To deliver the VI dashboard as a PDF file, select **PDF**.
 - To deliver the VI dashboard as an interactive Flash file, select **Flash**.
-  When PDF or Flash is chosen, the VI dashboard is included as an attachment in the email.
- 8 If you select a format other than HTML, you can reduce the size of the attachment by selecting the **Compress contents** check box.
 - 9 Type a description for the emailed VI dashboard in the **Subject** field.
 - 10 Type a message to be displayed in the body of the email in the **Message** field.

- 11 If you chose to send the VI dashboard in a zip file, you can specify options for the zip file, such as whether to password-protect its contents. Perform the following steps:
 - a Click the **Show** icon to expand the Advanced Options.
 - b To protect the zip file by providing a password, select the **Password Protect Zip File** check box, then type a password for the zip file in the field.
 - c Type the name for the zip file in the **Zip File Name** field.
- 12 Click **OK**. The VI dashboard is sent to the designated email addresses.

Scheduling a VI dashboard to be sent to the History List

The History List is a folder where you can store reports, documents, and VI dashboards. You can send a VI dashboard to the History List on a specific schedule. To do so, you must subscribe to the VI dashboard, as described in the steps below.

Prerequisites

- You must own the MicroStrategy Distribution Services product.
- You must have the Web Edit Dashboard and Web Run Dashboard privileges.

To send a VI dashboard to the History List on a schedule

- 1 Click the name of the VI dashboard to run it.
- 2 Click the **Schedule delivery to History List** icon on the VI dashboard toolbar. The History List Subscription dialog box opens.
- 3 Type a name for the subscription in the **Name** field.
- 4 From the **Schedule** drop-down list, select a schedule or event to use to send the VI dashboard to the History List.

- 5 To send the VI dashboard to the History List immediately after creating the subscription, select the **Run subscription immediately** check box.
- 6 Expand Advanced Options.
- 7 To ensure that newer versions of the VI dashboard overwrite previous versions of the VI dashboard in the History List, select the **The new scheduled report will overwrite versions of itself** check box.
- 8 You can select a date to stop delivering the VI dashboard to the History List. To do this, select the **Do not deliver after** check box, click the calendar and then select the expiration date of subscription.
- 9 To have a delivery notification email sent to you when the VI dashboard is sent, select the **Send notification to email address** check box.
- 10 Click **OK** to save your changes and close the History List Subscription dialog box. The file will be delivered to the specified History List on the specified schedule.

To verify that you are subscribed to the VI dashboard, at the top of the page, click **My Subscriptions**. The subscription appears in the History List Subscriptions section.

TROUBLESHOOTING DOCUMENTS

Introduction

This appendix provides explanations of some of the most common issues you may encounter with Report Services Documents, in a question and answer format. For more detailed discussions, refer to the relevant sections of this guide.

Troubleshooting documents

I cannot open a document.

If a document has embedded Transaction Services, the document does not open. Instead, a message is displayed, indicating that transaction-enabled documents are not supported in Developer. Open the document in MicroStrategy Web.

Can I cache a document? How does this work?

You can save documents (cache them) in your History List and then access them later.

Reports included in the document are cached, but the document itself is not cached. For example, if Document1 uses dataset reports Report1 and Report2, when you run Document1 for the first time, the system checks to see if Report1 and Report2 are already cached. If they are cached, it retrieves the data from the caches and skips the step of data warehouse execution. If they are not cached, the reports execute against the data warehouse and then cache the results. The next time you run Document1, it hits the cache for both of the reports.

In both cases, after the data has been retrieved either from the data warehouse or the report caches, Intelligence Server must create the output of the document in the form of a PDF file.

My History List count increases by two after I add a document to it.

Your document contains one dataset report. When the document dataset report is added to the History List, the system runs that dataset report, so those results are also placed in the History List.

If the document contains two dataset reports, the History List increases by three.

Can I display the document results in HTML?

Yes, you can display the document results in HTML and PDF from a Web browser. In Developer, use HTML View to preview the document as it will look in MicroStrategy Web modes other than Flash Mode. (To preview the document as it will look in Flash Mode, use Flash View. You can use selectors and perform some manipulations such as pivoting and sorting.)

I clicked a hyperlink on my document and the destination opened. Where is my document?

When you click on a hyperlink, the destination opens in the same window as the document, effectively replacing the document. To return to PDF View, press the ALT key and the left arrow key simultaneously.

My document contains 10 reports, and the **Jobs per user** parameter in the Project Configuration Editor is set to 5. The document does not finish executing.

The second five reports on the document do not wait until the first five reports execute, so the document cannot finish executing. To execute a document with ten reports, set the **Jobs per user** and **Jobs per user session** parameters to at least ten. For more information on these Project Configuration Editor parameters, see the *System Administration Guide*.



Be cautious increasing these parameters, as you do not want to have multiple users running many jobs simultaneously, which can overwhelm Intelligence Server or your database.

Links in a Report Services (RS) dashboard exported to Flash do not work.

By default, when you export a Flash RS dashboard, any links to web pages, reports, or other documents are disabled. You must enable links in the Project Configuration Editor, as described in [Exporting documents to Flash, page 35](#). Additionally, end users must activate the links in the RS dashboard, by adding the folder containing the stand-alone Flash document to the list of **Trusted locations** in the Adobe Flash Player Settings Manager.

In MicroStrategy Web, I cannot switch to View Mode.

View Mode has been replaced by Express Mode, which provides more functionality and interactivity. For details about Express Mode, see [Opening and interacting with a document in MicroStrategy Web, page 70](#).

My document is set to print on legal paper, but when I try to print it from the PDF file, it prints as letter size.

When you print the document from the PDF, select **Choose paper source by PDF page size** in the Print dialog box.

Troubleshooting common Flash Mode issues

This section describes some common issues you may encounter as you use Flash Mode in MicroStrategy Web while viewing a document. The issues described in this section are not necessarily issues related to defects in the software itself, but rather notes about how Flash Mode is designed to work.

I cannot switch to Flash Mode in MicroStrategy Web; it is not an option in the View menu.

To display a document in Flash Mode in MicroStrategy Web, Flash Mode must be enabled for the document, the user, and the project, as described below.

- A document designer with the appropriate privileges can enable Flash Mode for a document using either MicroStrategy Web or Developer.
- Enable Flash Mode in your User Preferences in MicroStrategy Web.
 - a Click the **MicroStrategy** link at the top of any MicroStrategy Web page, and select **Preferences**.
 - b On the left, click **Report Services**.
 - c Select the **Enable Flash Mode** check box.
- In MicroStrategy Web, a project administrator can enable Flash Mode for a project, using the project default preference. Contact your project administrator to enable it.

In MicroStrategy Web, a graph displays in Interactive Mode but does not display properly in Flash Mode.

Some graph styles are not supported in Flash Mode. You may also encounter issues with other aspects of graph formatting which are not supported in Flash Mode. If issues such as these occur, a document designer must change the graph style of the report to a supported style.

The following graph styles are the only graph styles supported in Flash Mode:

Graph Style	Graph Sub-type
Vertical Bar	• Clustered • Absolute • Percent • Stacked • Clustered Dual-axis
Horizontal Bar	• Clustered • Absolute • Percent • Stacked • Clustered Dual-axis

Graph Style	Graph Sub-type
Vertical Line	- Absolute - Dual-axis Absolute
Horizontal Line	- Absolute - Dual-axis Absolute
Vertical Area	- Absolute - Percent - Stacked
Horizontal Area	Absolute
Pie	- Pie - Ring Pie Note: Pie graphs may appear slightly larger in Flash Mode than they do in other display modes.
Stock	Hi-Low-Open-Close
Scatter	- X-Y Scatter - X-Y Scatter Dual-axis
Bubble	Bubble Note: The minimum, maximum, and interval settings for the Bubble graph may not be displayed in Flash Mode exactly as it does in other display modes.
Combination graphs that use a combination of only two styles of graph, as long as the graph styles used in the combination are listed in this table. All other combination graphs are not supported. Note: The alignment of the Y-axis labels may appear differently in Flash Mode than they do in other display modes.	

Other display issues include the following:

- Nested labels in graphs are not displayed in Flash Mode.
- If a graph legend is positioned manually rather than automatically, the graph legend may not be displayed in exactly the same position in Flash Mode.
- Donut bevel effects for circular data markers in a graph may appear different in Flash Mode.

For more information on working with graphs, see the *Advanced Reporting Guide*.

In MicroStrategy Web, an image displays in Interactive Mode but does not display in Flash Mode.

The image file path may be incorrect or unsupported in Flash Mode. The file location of the image must use an HTTP-based path, not a network or local image path. Contact your document designer.

In MicroStrategy Web, a widget is not displayed in Flash Mode.

The widget may not have been designed correctly. Each widget must contain a specific number of attributes and metrics on its template. Contact your document designer.

GLOSSARY

cache A special data store holding recently accessed information for quick future access. Caching is normally done for frequently requested reports or documents so that they execute faster, because they need not run against the data warehouse. Results from the data warehouse are stored separately and can be used by new job requests that require the same data.

In the MicroStrategy environment, when a user runs a report for the first time, the job is submitted to the database for processing. If the results of that report are cached, the results can be returned immediately without having to wait for the database to process the job the next time the report is run.

Document caching generates the document only once—the first time that you execute a document in a specific mode (such as Express Mode or Interactive Mode) in MicroStrategy Web. Subsequent document executions in the same mode use the cache. If document caching is disabled, the document query is submitted to your data warehouse every time that you execute the document in a different mode.

conditional formatting Used to format specified controls in a document depending on predefined criteria. It allows certain settings of controls, including sections, to be controlled by data-driven conditions. Conditional formatting in documents is similar to thresholds in reports.

control Any item in the document's Layout area that you can select. This can be a text field, line, rectangle, image, panel stack,

selector, Grid/Graph, or HTML container. These different kinds of controls are referred to as control types.

See also:

- **Grid/Graph**
- **HTML container**
- **Panel stack**
- **Selector**
- **Text field**

dashboard 1. Report Services (RS) dashboard: A visually intuitive display of data that summarizes key business indicators for a quick status check. A special type of document, RS dashboards usually provide interactive features that let users change how they view the RS dashboard's data.

2. Visual Insight (VI) dashboard: A visually-striking, interactive display that takes a minimal amount of time to set up and use. You can add text, interactive data visualizations, data filtering, and multiple layers of organization to your VI dashboard, then take advantage of Visual Insight's formatting options to customize your display.

dataset A MicroStrategy report that retrieves data from the data warehouse or cache. It is used to define the data available on a document.

data warehouse 1. A database, typically very large, containing the historical data of an enterprise. Used for decision support or business intelligence, it organizes data and allows coordinated updates and loads.

2. A copy of transaction data specifically structured for query, reporting, and analysis.

drill A link from one document to another document, report, or HTML document. Prompt answers for the destination can be included in the drill.

document 1. A container for objects representing data coming from one or more reports, as well as positioning and formatting information. A document is used to format data from multiple reports in a single display of presentation quality.

2. The MicroStrategy object that supports the functionality defined in (1).

Grid/Graph A control placed in a document that displays information in the same way a MicroStrategy report does.

grouping A way to create a hierarchical structure for a document.

History List A folder where users put report results for future reference.

HTML container A control that either displays real-time information from the web or displays formatted HTML.

link A connection from a document to another document or a report. A link lets an analyst execute another document or report (the target) from a document (the source), and to pass parameters to answer any prompts that are in the target.

page-by Interactively displaying groups on separate pages in PDF View. It allows the end user to dynamically select group elements as criteria for analysis. The PDF that results from this selection is called a page of the original document.

panel A way of grouping data in a document so that users can navigate subsets of data as if the subsets were pages in a smaller document. Each “page”, or layer of data, is a panel; a group of panels is called a panel stack.

panel stack The holder for a collection of panels, or layers of data, in a document. A user can navigate or flip through the panels in a panel stack; only one panel is displayed at a time.

- project**
1. The MicroStrategy object in which you define all of the schema and application objects, which together provide a flexible reporting environment. A project is the highest-level intersection of a data warehouse, metadata repository, and user community, containing reports, filters, metrics, and functions.
 2. An object containing the definition of a project, as defined in (1). The project object is specified when requesting the establishment of a session.
- report instance** A container for all objects and information needed and produced during report execution including templates, filters, prompt answers, generated SQL, report results, and so on. It is the only object that is referenced when executing a report, being passed from one special server to another as execution progresses.
- Report Services (RS) dashboard** A visually intuitive display of data that summarizes key business indicators for a quick status check. A special type of document, RS dashboards usually provide interactive features that let users change how they view the RS dashboard's data.
- scheduling** A MicroStrategy Intelligence Server feature that is used to automate specific tasks.
- selector** A type of control in a document that allows a user to:
- Flip through the panels in a panel stack, to see different predefined layers of data, or “pages”, in the same document
 - Display different attribute elements or metrics in a Grid/Graph
- Visual Insight (VI) dashboard** A visually-striking, interactive display that takes a minimal amount of time to set up and use. You can add text, interactive data visualizations, data filtering, and multiple layers of organization to your VI dashboard, then take advantage of Visual Insight's formatting options to customize your display.

widget A type of control that presents data in a visual and interactive way; an interactive Flash-only graph that dynamically updates when a new set of data is selected. Some types include Gauge, Heat Map, and Stacked Area widgets.

INDEX

A

Acrobat Reader help [19](#)
analysis. See VI dashboard.
audience for manual [xiii](#)

B

Bubble Grid widget [87](#)
 analyzing [87](#)
 example [87](#)
business report sample [10](#)

C

cache [192](#)
 scheduling a document for delivery
 to [29](#)
Cylinder widget [88](#)
 analyzing [88](#)
 example [88](#)
 selector and [88](#)

D

dashboard
 Report Services (RS) dashboard [42](#)

Visual Insight (VI) dashboard [147](#)
Data Cloud widget [89](#)
 analyzing [89](#)
 example [89](#)
 link from [90](#)
dataset [defined on 21](#)
Date Selection widget [90](#)
 analyzing [90](#)
 example [91](#)
 Express Mode [91](#)
 Interactive Mode [91](#)
delivery, scheduling a document for [29](#)
Design Mode [19](#)
display modes for MicroStrategy Web [70](#)
Distribution Services
 adding a document to the History
 List [133](#)
 emailing a document [139](#)
 sending a document to a network
 folder [134](#)
 sending a document to a network
 printer [137](#)
 subscribing document to a mobile
 device [142](#)
document [defined on 1](#)
 analysis [xiii](#)

- dataset [21](#)
 - does not open [191](#)
 - execution does not finish [193](#)
 - introduction [1](#)
 - MicroStrategy Distribution Services and [132](#)
 - tasks. See document - tasks.
 - troubleshooting [191](#)
 - document - tasks
 - caching [192](#)
 - Developer
 - exporting [31](#)
 - opening [15](#)
 - previewing for Web [27](#)
 - printing [26](#)
 - subscribing [29](#)
 - viewing [27](#)
 - Web
 - adding to History List [131](#)
 - exporting [126](#)
 - linking [58](#)
 - opening [73](#)
 - printing [130](#)
 - subscribing [132](#)
 - viewing [70](#)
 - drilling [defined on 53](#)
 - Editable Mode (MicroStrategy Web) [54](#)
 - Flash Mode (MicroStrategy Web) [82](#)
 - link and [66](#)
 - selector and [66](#)
- ## E
- Editable Mode (MicroStrategy Web)
 - drilling on a document in [54](#)
 - link [59](#)
 - selector [47](#)
 - zoom [69](#)
 - emailing
 - document [139](#)
 - VI dashboard [186](#)
 - example
 - business report sample [10](#)
 - Fish Eye Selector [92](#)
 - with images [94](#)
 - invoice and statement sample [8](#)
 - link with Grid/Graph attribute as the source [61](#)
 - managed metrics report sample [4](#)
 - operational report sample [6](#)
 - production report sample [6](#)
 - RS dashboard [2](#)
 - scorecard [2](#)
 - selector. See example - selector.
 - widget. See example - widget.
 - example - selector
 - attribute [48](#)
 - dynamic text field [50](#)
 - filtering another selector [49](#)
 - panel stack [48](#)
 - qualification [49](#)
 - slider [48](#)
 - example - widget
 - Cylinder [88](#)
 - Data Cloud [89](#)
 - Date Selection [91](#)
 - Gauge [96](#)
 - Graph Matrix [96](#)
 - Heat Map [100](#)
 - Interactive Bubble Graph [107](#)
 - Interactive Stacked Graph [110](#)
 - RSS Reader [120](#)
 - Thermometer [122](#)
 - Excel, exporting to
 - in Developer [32](#)
 - multi-layout document [32](#)
 - in Web [126](#)

- exporting [31](#)
 - Grid/Graph using Web [128](#)
 - to a browser (HTML) using Developer [38](#)
 - to a PDF file (Flash) in Developer [34](#)
 - to an HTML file using Web [126](#)
 - to an MHT file (Flash) in Developer [34](#)
 - to Excel. See Excel, exporting to.
 - to Flash. See exporting to Flash.
 - to PDF. See exporting to PDF.
 - VI dashboard [183](#)
- exporting to Flash
 - enabling links [34](#)
 - Firefox [35](#)
 - Firefox prerequisite [35](#)
 - in Developer [35](#)
 - in Web [126](#)
 - MHT file [34](#)
 - PDF file [34](#)
 - selecting file format [34](#)
 - using Developer [34](#)
- exporting to PDF
 - Flash file [34](#)
 - using Developer [36](#)
 - multi-layout document [36](#)
 - using Web [126, 130](#)
 - VI dashboard [183](#)
- Express Mode (MicroStrategy Web) [71, 73](#)
 - context menu for sorting and pivoting [64](#)
 - drilling on a document in [54](#)
 - exporting a Grid/Graph [129](#)
 - opening a document in [74](#)
 - pivoting data in a document [75](#)
 - requirements [73](#)
 - sorting and pivoting a grid or graph [63](#)
 - sorting data in a document [75](#)
 - Transaction-enabled document [144](#)

- widget in [84](#)
- zoom [69](#)

F

- filtering a document in Flash Mode (MicroStrategy Web)
 - attribute element [81](#)
 - attribute element list [80](#)
 - metric value [79](#)
- filtering a VI dashboard [177](#)
 - attribute element [178](#)
 - clearing all filters [180](#)
 - metric qualification [179](#)
 - metric value on a slider [179](#)
- Firefox, opening an exported MHT file in [35](#)
- Fish Eye Selector [92](#)
 - example [92](#)
 - Express Mode [93](#)
 - Flash Mode [92](#)
 - images in [93](#)
 - Interactive Mode [93](#)
- Flash
 - exporting a VI dashboard to [183](#)
 - exporting to
 - in Developer [34](#)
 - using Web [126](#)
 - link does not work [193](#)
 - opening an exported file in Firefox [35](#)
- Flash Mode (MicroStrategy Web) [72, 77](#)
 - adding a report object to a grid [82](#)
 - clearing a filter [81](#)
 - context menu for data manipulation [66](#)
 - displaying all data [81](#)
 - drilling [55, 82](#)
 - enabling [194](#)

- filtering a document based on
 - attribute element [81](#)
 - attribute element list [80](#)
 - metric value [79](#)
- floating toolbar in [63](#)
- graph not displaying in [194](#)
- graph styles supported in [194](#)
- Grid/Graph manipulations [64](#)
- image not displaying in [196](#)
- opening a document in [78](#)
- opening a linked report or document [83](#)
- pivoting a document in [78](#)
- pivoting grids and graphs [63](#)
- prerequisites [77](#)
- removing a report object from a grid [82](#)
- selector [47](#)
- sorting a document in [78](#)
- sorting grids and graphs [63](#)
- switching to [194](#)
- troubleshooting [193](#)
- widget [83](#)
- widget not displaying in [196](#)
- Flash View (Developer) [27](#)
 - document displayed in [26](#)
 - opening a document in [29](#)
 - previewing a document for MicroStrategy Web [27](#)
- Flash widget [83](#)
- floating toolbar for a Grid/Graph [63](#)
- Full Screen mode [69](#)
- Funnel widget [94](#)
 - example [95](#)

G

- Gauge widget [95](#)
 - example [96](#)

- Graph Matrix widget [96](#)
 - example [96](#)
- graph not displaying in Flash Mode [194](#)
- Graph visualization [152](#)
- Grid mode for Microcharts widget [117](#)
- Grid visualization [160](#)
- Grid/Graph [defined on 24](#)
 - as a selector [52](#)
 - data manipulations in Flash Mode [64](#)
 - drilling [53](#)
 - pivoting
 - Express Mode [63](#)
 - Flash Mode [63](#)
 - selector and [48](#)
 - sorting
 - Express Mode [63](#)
 - Flash Mode [63](#)
- group [22, 68](#)
 - VI dashboard [180](#)

H

- Heat Map visualization [163](#)
- Heat Map widget [99](#)
 - example [100](#)
 - executing a report or document from [101](#)
 - Flash Mode [102](#)
 - interacting with [102](#)
 - Interactive Mode [102](#)
- History List
 - adding a document to [131, 133](#)
 - adding a VI dashboard to [188](#)
 - caching [192](#)
 - count [192](#)
 - subscribing a document [29](#)
 - subscribing a document using MicroStrategy Distribution Services [132](#)

HTML 192

- exporting to
 - using Developer 38
 - using Web 126

HTML View (Developer) 27

- document displayed in 28
- opening a document in 29
- previewing a document for MicroStrategy Web 27
- switching to 19

hyperlink defined on 21

- destination 192

I**image not displayed in Flash Mode 196****Interactive Bubble Graph widget 107**

- example 107
- executing a report or document from 108

Interactive Mode (MicroStrategy Web) 71, 75

- drilling on a document in 53
- grouping 68
- link 61
- opening a document in 76
- page-by 68
- selector 47
- widget in 84
- zoom 69

Interactive Stacked Graph widget 109

- example 110

international support xxiii**invoice and statement sample 8****J****Jobs per user parameter 193****Jobs per user session parameter 193****K****Kindle, exporting PDF for 36****L****layout 23****link defined on 58**

- attribute in a Grid/Graph 61
- Data Cloud widget and 90
- documents and reports 58
- does not work 193
- enabling in a document exported to Flash 34
- example of linking from an attribute in a Grid/Graph 61
- prompt and 58
- source 58
- target 58
- text field 59
- web page as target 58
- widget 62

M**managed metrics report sample 4****Media widget 113**

- configuring IIS 6 in Microsoft Windows 2003 SP2 (R2) to display Flash video 114

- example 113

metric 21

- selector filtering a 48

MHT file, exporting to 34**Microcharts widget 115**

- bar chart 116
- bullet microchart 117
- example 116

- executing a report or document from 119

- Grid mode [117](#)
- operation modes [117](#)
- sparkline [116](#)
- Ticker operation mode [118](#)
- types [116](#)
- Vertical Scroll operation mode [118](#)
- MicroStrategy Mobile subscription [29](#)
 - MicroStrategy Distribution Services and [132](#)
- MicroStrategy Web
 - display mode [70](#)
 - drilling [53](#)
 - selector and [56](#)
 - Express Mode [71](#)
 - Flash Mode [72](#)
 - Interactive Mode [71](#)
 - opening a document in [70, 72](#)
 - printing a document in [130](#)
- mobile device, subscribing a document to [142](#)
- multi-layout document [defined on 23](#)

N

- network folder, sending a document to [134](#)
- network printer, sending a document to [137](#)
- Nook, exporting PDF for [36](#)

O

- opening a document
 - Developer [14](#)
 - Flash View [29](#)
 - HTML View [29](#)
 - PDF View [15](#)
- Web [70, 72](#)
 - Express Mode [74](#)
 - Flash Mode [78](#)

- linked report or document [83](#)
- Interactive Mode [76](#)
- operational report sample [6](#)

P

- page [defined on 22](#)
- page-by [68](#)
- panel stack and selector [47](#)
- PDF
 - exporting to. See exporting to PDF.
 - printing at letter size rather than legal size [193](#)
- PDF View (Developer)
 - document displayed in [20](#)
 - opening a document in [15](#)
 - printing a document from [26](#)
- pivoting a document
 - Express Mode (MicroStrategy Web) [75](#)
 - Flash Mode (MicroStrategy Web) [78](#)
- pivoting a Grid/Graph
 - Express Mode [63](#)
 - Flash Mode [63](#)
- previewing a document [27](#)
- printing
 - document in Developer [26](#)
 - document in MicroStrategy Web [130](#)
- production and operational report sample [6](#)
- prompt and link [58](#)

R

- Really Simple Syndication (RSS). See RSS Reader widget.
- report
 - See dataset.
 - See Grid/Graph.
- report execution in a document [193](#)

report object in Flash Mode (MicroStrategy Web) [82](#)

Report Services dashboard. See RS dashboard.

RS dashboard [defined on 42](#)

See also document.

Flash Mode (Web) [42](#)

Full Screen mode [69](#)

Grid/Graph used as a selector [52](#)

panel [46](#)

sample [2](#)

selector [46, 47](#)

slider [45](#)

widget [83](#)

widget example [44](#)

RSS Reader widget [120](#)

example [120](#)

S

saving a VI dashboard [182](#)

scheduling a document [29](#)

MicroStrategy Distribution
Services [132](#)

scorecard sample [2](#)

selector [defined on 47](#)

drilling and [56, 66](#)

dynamic text field [50](#)

Fish Eye [92](#)

Flash-only interactive [92](#)

Grid/Graph and [48](#)

Grid/Graph used as [52](#)

including or excluding data [50](#)

interactive Flash-only [92](#)

link and [66](#)

metric filtering [48](#)

panel stack and [47](#)

selector filtering a [49](#)

sorting a document

Express Mode (MicroStrategy
Web) [75](#)

Flash Mode (MicroStrategy Web) [78](#)

sorting a Grid/Graph

Express Mode [63](#)

Flash Mode [63](#)

source of link [58](#)

statement sample [8](#)

subscribing to a document [29](#)

MicroStrategy Distribution
Services [132](#)

support

international [xxiii](#)

support. See technical support.

T

target of link [58](#)

technical support [xxiv](#)

Thermometer widget [121](#)

example [122](#)

Ticker operation mode for a Microcharts
widget [118](#)

Time Series Slider widget [122](#)

Transaction Services [143, 191](#)

troubleshooting

document [191](#)

Flash Mode [193](#)

V

Vertical Scroll operation mode of a Micro-
charts widget [118](#)

VI dashboard [147](#)

emailing [186](#)

exporting [183](#)

filtering [177](#)

grouping [180](#)

animation of [181](#)

History List [188](#)

- opening [174](#)
- replacing a group [182](#)
- running [174](#)
- saving [182](#)
- ungrouping [181](#)
- visualization [148](#)

View Mode unavailable [193](#)

viewing a document [27](#)

- MicroStrategy Web [70](#)

Visual Insight dashboard. See VI dashboard.

visualization [148](#)

- Graph [152](#)
- Grid [160](#)
- Heat Map [163](#)
- types [148](#)

W

Waterfall widget [124](#)

Weighted List Viewer widget [125](#)

widget [defined on 83](#)

- Bubble Grid [87](#)
- Cylinder [88](#)
- Data Cloud [89](#)
- Funnel [94](#)
- Gauge [95](#)
- Graph Matrix [96](#)
- Heat Map [99](#)
- Interactive Bubble Graph [107](#)
- Interactive Stacked Graph [109](#)
- Media [113](#)
- Microcharts [115](#)
- mobile device [86](#)
- not displaying in Flash Mode [196](#)
- RSS Reader [120](#)
- Thermometer [121](#)
- Time Series Slider [122](#)
- type [84](#)

Waterfall [124](#)

Weighted List Viewer [125](#)

Z

zooming in and out of a document [69](#)