

Dynamics-NAV & Reporting Services

'Technical Preview Session'

Introductions

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Overview

- Introduction
 - Introducing Reporting Services
 - Reporting Services Scenarios
 - Creating, Managing, and Delivering Reports Overview
 - Reporting Services components and tools
- Reporting Services Concepts
- Demo: Creating a Basic Report
- Q & A

Sql Server 2005 Reporting Services



Introducing Reporting Services

- ❑ SQL Server 2005 Reporting Services is a server-based reporting platform that you can use to create and manage tabular, matrix, graphical, and free-form reports that contain data from relational and multidimensional data sources.
- ❑ The reports that you create can be viewed and managed over a World Wide Web-based connection.

Introducing Reporting Services

- Reporting Services includes the following core components:
 - A complete set of tools that you can use to create, manage, and view reports.
 - A Report Server component that hosts and processes reports in a variety of formats.
 - Output formats include HTML, PDF, TIFF, Excel, CSV, and more.
 - An API that allows developers to integrate or extend data and report processing in custom applications, or create custom tools to build and manage reports.

Introducing Reporting Services

- The reports that you build can be based on relational or multidimensional data from
 - SQL Server (→ Dynamics-NAV)
 - Analysis Services (→ Dynamics-NAV)
 - Oracle
 - or any Microsoft .NET data provider such as ODBC or OLE DB.
- You can create tabular, matrix, and free-form reports.
- You can also create ad hoc reports that use predefined models and data sources.

Introducing Reporting Services

- Visually and functionally: reports surpass traditional reporting by including interactive and Web-based features.
 - **drill-down** reports that enable navigation through layers of data
 - **parameterized** reports that support content filtering at run time
 - **free-form** reports that support content in vertical, nested, and side-by-side layouts
 - **links** to Web-based content or resources,
 - **secure, centralized** access to reports over remote or local Web connections.

Introducing Reporting Services

- Although Reporting Services **integrates** with other Microsoft technologies out-of-the-box, developers and third-party vendors can build components to support **additional report output formats, delivery formats, authentication models, and data source types**.
- The development and run-time architecture was purposely created in a modular design to support **third-party extension** and **integration** opportunities.

Reporting Services Scenarios

- ❑ Business Reporting
- ❑ Ad hoc Reporting
- ❑ Embedded Reporting
- ❑ Portal Integration
- ❑ Internet Reporting
- ❑ Building Custom Report Design and Report Management Tools
- ❑ Extending Reporting Services Functionality

Business Reporting

- ❑ Distribute information to users who use reports to make decisions, identify opportunities, or analyze threats.
- ❑ Reporting Services includes a full range of ready-to-use tools and services so that you can create, deploy, and manage reports for your organization.
- ❑ Although you can manipulate report programmatically, no programming is required if you want to use Reporting Services "off the shelf".

Business Reporting

- Authoring and administration tools include:
 - Report Designer
 - SQL Server Management Studio
 - Report Manager
 - Reporting Services Configuration tool
- Business users can use:
 - Report Manager
 - SharePoint Web parts
 - Web browser to view reports on demand
 - Subscribe to reports that are delivered through e-mail.

Ad hoc Reporting

- Users who work with business data often require the ability to create and refine reports on an ad-hoc basis.
- Reporting Services includes Report Builder, a tool that allows you to
 - select a report template and report model from the report server
 - drag data fields and graphical elements onto a design surface to create basic reports
 - save the report definition files to the server
 - and modify the reports.
- Ad hoc reports require predefined report models that are created by a model designer and then published to the report server for use throughout the organization.

Embedded Reporting

- If you are a developer, you can use Reporting Services to provide reporting features in your application:
 - For some applications, the addition of reports completes a feature set by providing a way to present data that the application tracks, creates, or monitors.
- Use Report Designer to create the reports either based on a data source that you provide in your application or that is publicly available.
- Use the API to define access and add support for any built-in report server features you want to include in your application.

Embedded Reporting

- ❑ As part of your application deployment, include both a report server and the report server database that contains reports and other metadata.
- ❑ At run time, when the user requests a report, your application code invokes the Report Server Web service, which then retrieves the report definition from the report server database and processes the report with the latest data.
- ❑ Alternately, if your application does not require all of the features provided in a report server, you can use the ReportViewer controls included in Microsoft Visual Studio 2005.
 - In contrast with Reporting Services, the ReportViewer controls are freely distributable with your application.

Portal Integration

- ❑ Reports can accommodate and present data from a variety of sources → many organizations use the interactive reporting features of Reporting Services to distribute tabular or chart data in portal applications.
- ❑ You can host reports in a portal page or create a report that mimics a dashboard-style Web application by embedding multiple reports, charts, and data-driven images into a single free-form report layout.
- ❑ Whenever you need to incorporate tabular or chart data into a line-of-business application, consider adding a report instead.

Internet Reporting

- ❑ You can make reports available to staff who work off-site or in regional offices by deploying a report server on an Internet-facing Web server.
- ❑ Note that Internet report deployment usually requires that you create a custom security extension to support forms-based authentication.
- ❑ Expertise in Web security and Internet deployment, and programming skills to write the necessary extensions, are required.

Building Custom Report Design and Report Management Tools

- ❑ The tools and applications included with Reporting Services are based on programmatic interfaces that are available to all users.
- ❑ This means that you can replace the applications and tools included in Reporting Services with a custom tool set that you create.
- ❑ For example, if you want an alternative to the Visual Studio authoring environment used for Report Designer, you can develop a custom report authoring tool to replace it.

Building Custom Report Design and Report Management Tools

- ❑ To build a custom Web portal or report management tool, review the API to learn about the report server management functions that you must support.
- ❑ Reporting Services includes a Windows Management Instrumentation (WMI) provider that you can use to develop Windows-based tools used for server administration.

Extending Reporting Services

- ❑ Reporting Services is designed for extensibility.
- ❑ You can create custom extensions to support additional kinds of data sources, delivery approaches, security models, and report items.
- ❑ Data processing extensions are typically the most straightforward to create, while rendering extensions can be very difficult if you are supporting the entire report schema.
- ❑ See also Reporting Services Extensions and Report Definition Language.

- Creating Reports
- Managing Reports and Other Items
- Accessing and Delivering Reports

Creating Reports

- To create a report, you create a report definition using Report Designer or Report Builder, depending on the requirements of the report and your level of expertise in report authoring techniques.
- **Report Designer** is a full-featured report authoring tool that runs in **Business Intelligence Development Studio**.
 - To use it, you should know how to connect to a data source, build queries, and set properties.
 - You can use Report Designer to create simple reports, or complex reports that include expressions and custom assemblies to support custom functionality.
 - You can use the Report Wizard to create a report and then modify it, or build one from the ground up using a Report Server project template.
- **Report Builder** provides ad hoc reporting on relational and multidimensional data using model data sources.
 - It is intended for users who want to create basic reports easily without writing queries.
 - Report Builder uses predefined report models and templates that manage data connections, querying, and data relationships so users need only drag and drop data fields onto a template to create tabular or matrix reports.

Creating Reports

- You create reports on a client computer, separate from the report server → you can publish it to a report server, where it becomes available for general use.
 - Connect to a data source and retrieve data.
 - You can do this through connection strings and queries, or by creating a report model that specifies the data you want to work with.
 - Create a report layout.
 - Report Builder provides templates that do this step for you.
 - Report Designer provides a toolbox and a design surface so that you can combine tables, matrices, charts, graphical elements, and other items however you want.
 - Preview the report to see the data and layout come together, and then publish your report to a report server.

Managing Reports

- Reporting Services → ability to manage reports and related items such as folders, data source connections, and resources, from a central location.
 - define security
 - set properties
 - schedule operations
 - create shared schedules and shared data sources
- Use SQL Server Management Studio or Report Manager.

Managing Reports

- Report management includes the following tasks:
 - Organizing the reporting environment by adding new folders to store collections of reports.
 - Enabling features such as My Reports, report history, and e-mail report delivery.
 - Securing access to folders and reports by assigning users and groups to roles.
 - Building shared schedules and shared data sources that you want to make available for general use.

Managing Reports

- Both users and report server administrators can manage reports, but in different ways.
 - Users can publish and manage reports in a personal workspace named My Reports.
 - Report server administrators can manage the entire report server folder namespace.
 - The ability to perform management tasks depends on user permissions.

Accessing & Delivering Reports

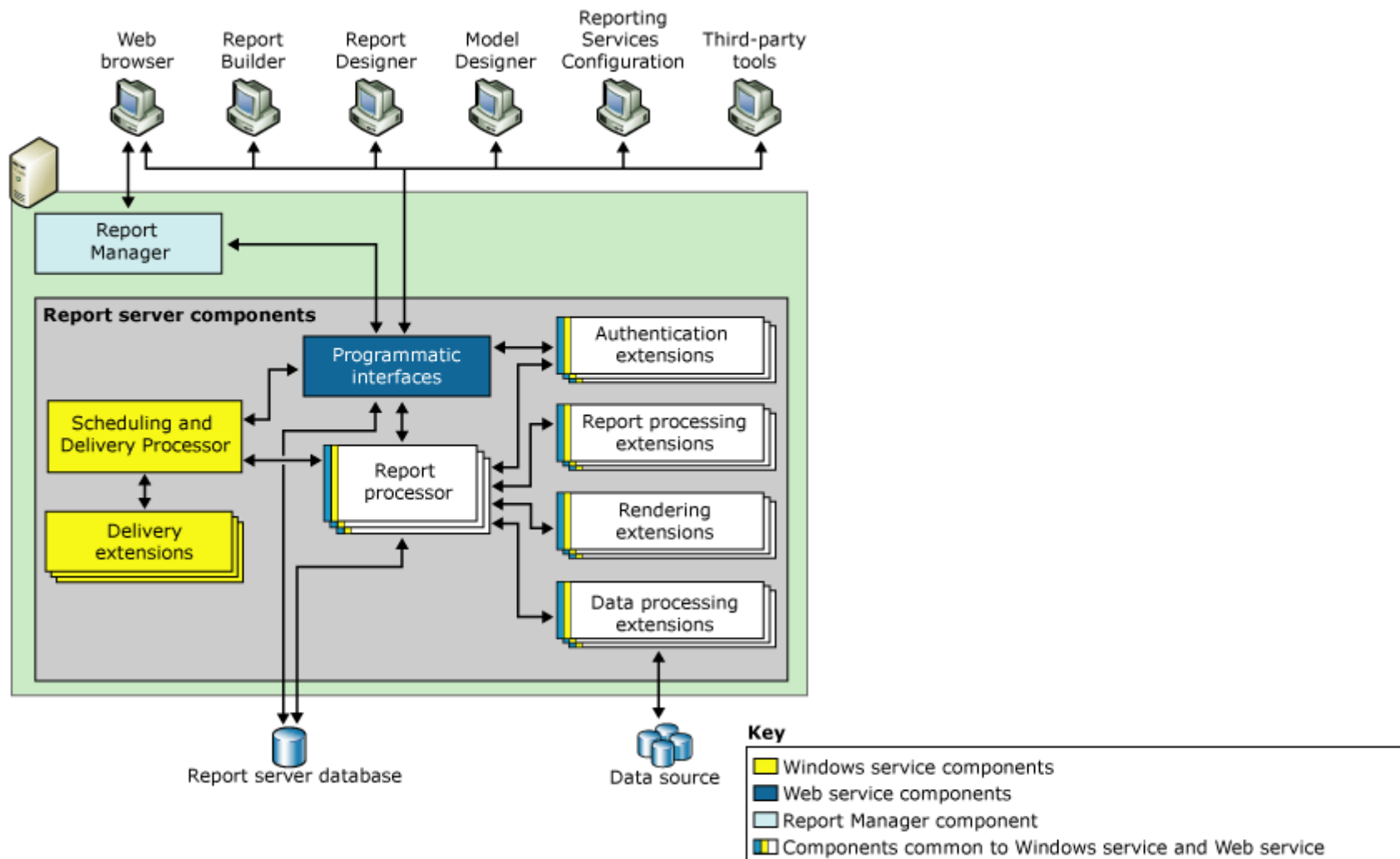
- Two methods are available:
- On-demand access allows users to select the reports from a report viewing tool.
 - You can use Report Manager, a Microsoft SharePoint Web part, or a browser.
 - To view a report on demand, you can search for or select a report from a folder hierarchy, referred to as the report server folder namespace.
- Subscription-based access automatically generates and delivers reports to a destination.
 - You can deliver reports to an e-mail inbox or a file share.
 - To receive reports automatically, you can subscribe to a specific report.

Accessing & Delivering Reports

- When the report runs, you are either notified that the report is available, or you receive a copy of the report in an e-mail message.
- Report server administrators can build data-driven subscriptions that push reports to a large group of users.
- Reporting Services supports a variety of viewing formats.
 - Reports initially display in HTML format, but after a report is rendered you can redisplay the report in a different format such as Excel or PDF.

Reporting Services components and tools

Reporting Services architecture diagram



Reporting Services components and tools

- ❑ SQL Server Reporting Services is a set of processing components, tools, and programmatic interfaces that support the development and use of rich reports in a managed environment.
- ❑ Toolset includes → development tools, configuration and administration tools, and report viewing tools.
- ❑ Programmatic interfaces includes → Simple Object Access Protocol (SOAP), URL endpoints, and Windows Management Instrumentation (WMI) for easy integration with new or existing applications and portals.
- ❑ Processing is distributed across multiple components.

Reporting Services components and tools

- ❑ Central and specialized processors are used to retrieve data, process report layout, render presentation formats, and deliver to target destinations.
- ❑ Presentation processing occurs after the data is retrieved and is decoupled from data processing → allowing multiple users to review the same report simultaneously in formats designed for different devices or quickly change the viewing format of the report, from HTML to PDF or Microsoft Excel or XML, with a single click.
- ❑ The modular architecture is designed for extensibility.
- ❑ Developers can include reporting functionality in custom applications or extend reporting functionality to support custom features.

Component Overview

Report Server	Provides data and report processing, and report delivery. It includes several subcomponents that perform specific functions.
Report Manager	Web application tool used to access and manage the contents of a report server database
Report Builder	report authoring tool used to create ad hoc reports
Report Designer	report creation tool included with Reporting Services
Model Designer	report model creation tool used to build models for ad hoc reporting
Configuration Tool	configuration tool used to deploy and maintain a report server
Command prompt utilities	command line utilities that you can use to administer a report server
Browser support	Web browsers that you can use to view reports and run Web-based tools

Reporting Services Concepts

- Report definition
 - The **blueprint** for a report before the report is processed or rendered.
 - A report definition contains information about the **query** and **layout** for the report.

- Report snapshot
 - A report that contains **data** captured at a specific **point in time**.
 - A report snapshot is actually a report definition that contains a **dataset** instead of query instructions.

- Rendered report
 - A fully processed report that contains **both data and layout** information, in a **format** suitable for viewing (such as HTML).

Reporting Services Concepts

- Parameterized report
 - A published report that **accepts input values** through parameters.

- Report model
 - A semantic **description of business data**, used for ad hoc reports created in **Report Builder**.

- Linked report
 - A report that derives its definition through a **link** to another report.

Reporting Services Concepts

- Report server administrator
 - This term is used in the documentation to describe a **user with elevated privileges** who can access all settings and content of a report server.
 - If you are using the default roles, a report server administrator is typically a user who is assigned to both the **Content Manager role** and the **System Administrator role**.
 - Local administrators can have elevated permission even if role assignments are not defined for them.

- Folder hierarchy
 - A **bounded namespace** that uniquely identifies all reports, folders, report models, shared data source items, and resources that are stored in and managed by a report server.

Demo

Want to know more ?

www.plataan.be (& knowledge blog)

www.microsoft.com/sql

<http://www.microsoft.com/sql/technologies/reporting>

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- Parking Lot Issues
- Any other questions
- Any other comments



The End...

- Thank you for attendance and participation.



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