

Rational Reporting

Module 4: IBM Rational Insight and IBM Cognos Framework Manager

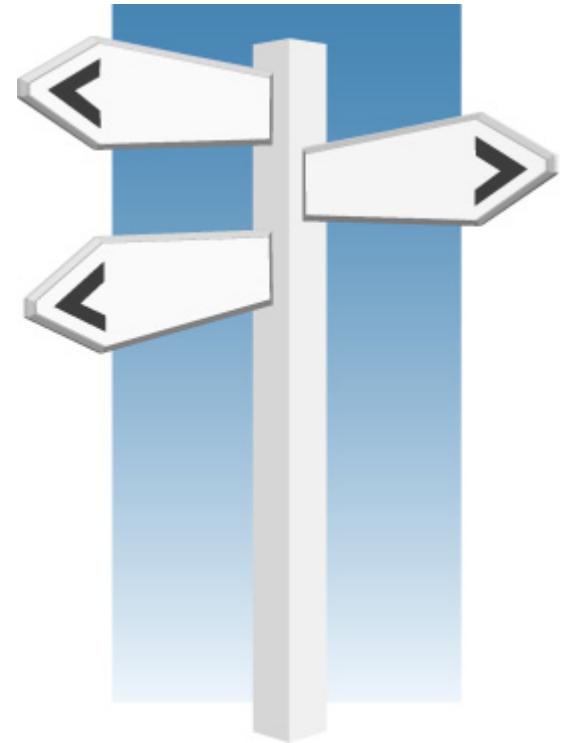


Rational. software



What's next?

- Module 1: RRD1 and IBM Rational Insight Introduction
- Module 2: IBM Rational Insight Data Warehouse
- Module 3: IBM Rational Insight and IBM Cognos Data Manager
- **Module 4: IBM Rational Insight and IBM Cognos Framework Manager**
- Module 5: Third-party Integrations



Target audience and objectives

Target audience:

- IBM® Rational® Insight users who want to learn more about the use of Framework Manager

Objectives: After reading this document, you will be able to:

- Understand Rational Insight Framework Manager implementation

Prerequisites:

- Read modules 1, 2 and 3

Introduction

This presentation provides an introduction to IBM Cognos® Framework Manager.

Note: This presentation *does not* provide you with technical knowledge on how to perform tasks. You should take formal Cognos Data Manager and Framework Manager courses before working with Cognos Data Manager and Framework Manager.

For recommended training courses, see the Rational Insight Data Modeler training path:

<https://www-304.ibm.com/jct03001c/services/learning/ites.wss/us/en?pageType=page&c=L806673M20298F27>



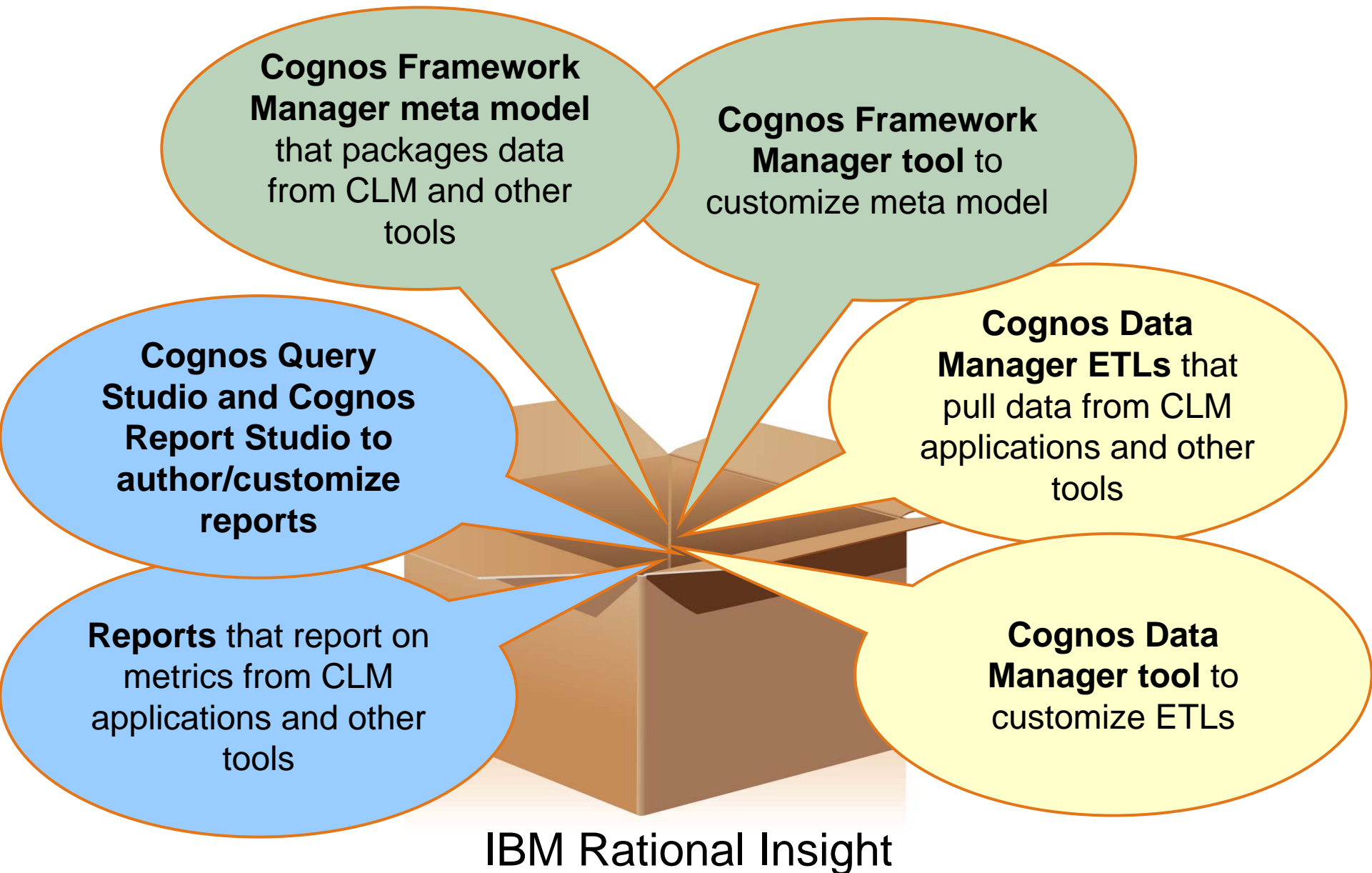
IBM Cognos Framework Manager overview

Metadata provides reporting tools with a single, integrated business view of multiple heterogeneous data sources.

IBM Cognos Framework Manager is a modeling tool that is used for creating and managing metadata for use in analysis and reporting.

It builds metadata models that are based on data from the data warehouse and from operational data sources.

Value of IBM Rational Insight



Rational Insight provides a prebuilt meta model

	RRDI includes	Insight includes
IBM Cognos Connection	x	x
IBM Cognos Query Studio	x	x
IBM Cognos Report Studio	x	x
IBM Cognos Active Report*		x
IBM Cognos Business Insight*		x
IBM Cognos Framework Manager		x
IBM Cognos Data Manager		x

Rational Insight includes:

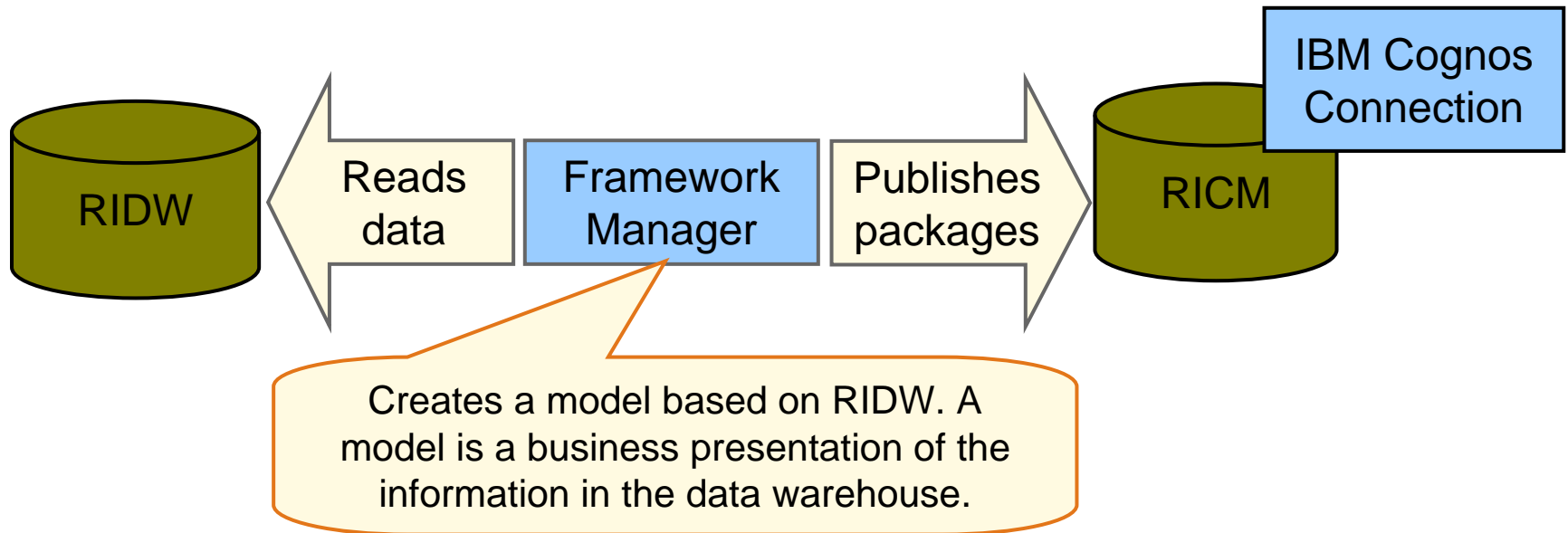
- A prebuilt Framework Manager meta model that allows Rational Insight to report on software development metrics from CLM applications and other tools.
- The Framework Manager tool. This tool allows you to customize the prebuilt meta model.

You can:

- Work with relationships already in the data warehouse (you can create, add, change)
- Aggregate data in different ways (for example, count, summary, max, min, and so on)
- Provide calculations
- Present the data in a way that makes it easier for business users to create reports.

You can export the metadata models or components of it in packages. These packages are published on the report server for use by the report authors.

- **Metadata model** – A set of related dimensions, query subjects, and other objects that represent data for reporting applications.
- **Metadata package** – A subset of a model that is created to make metadata available to users.

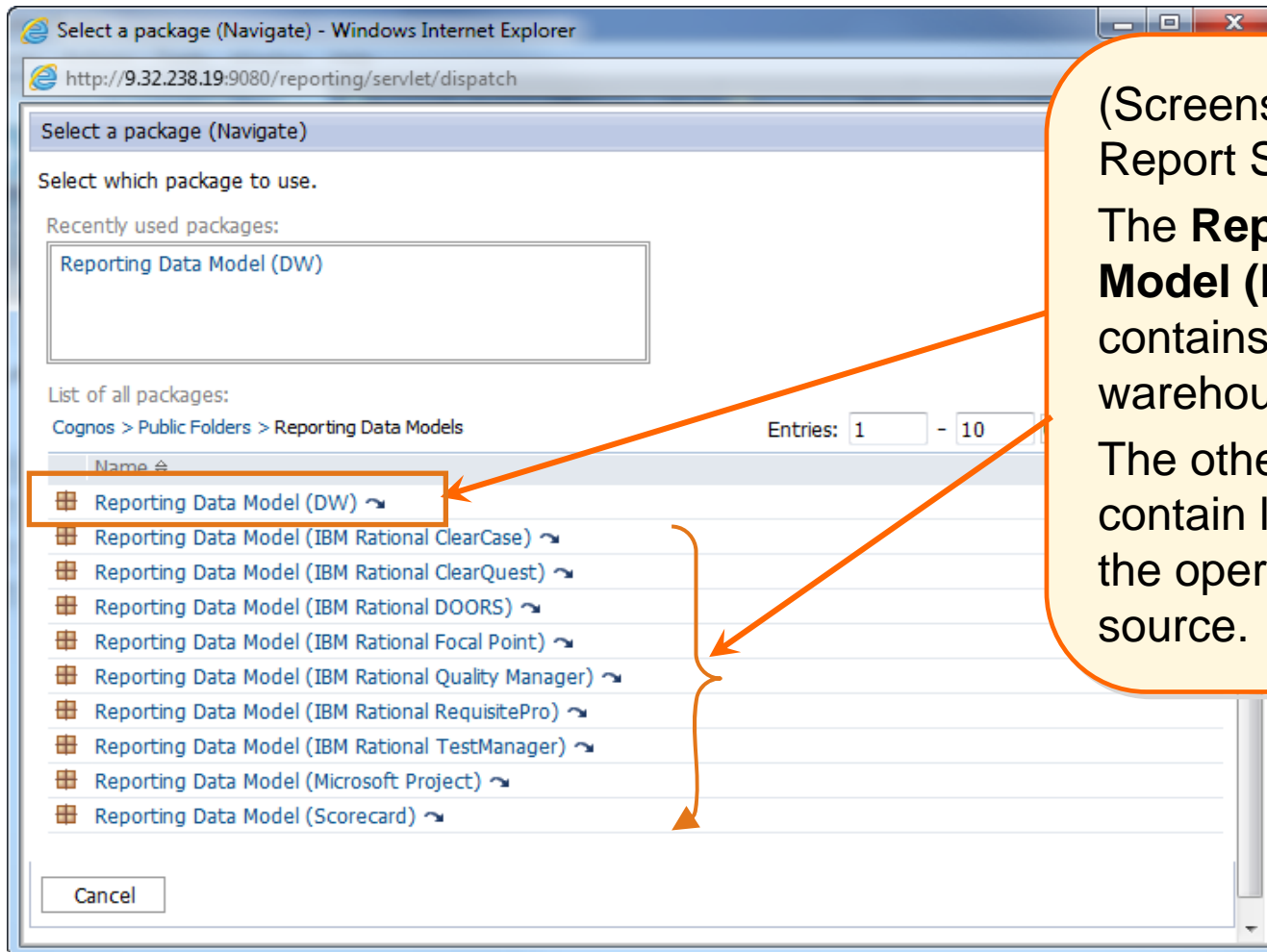


RIDW = Rational Insight Data Warehouse

RICHM = Rational Insight Content Store database

Publishing Reporting Data Model (DW)

- Data appears in Report Studio and Query Studio as *packages*. When a report developer launches Report Studio, they are prompted to select a package.



(Screenshot shows Report Studio)

The **Reporting Data Model (DW)** package contains the data warehouse data.

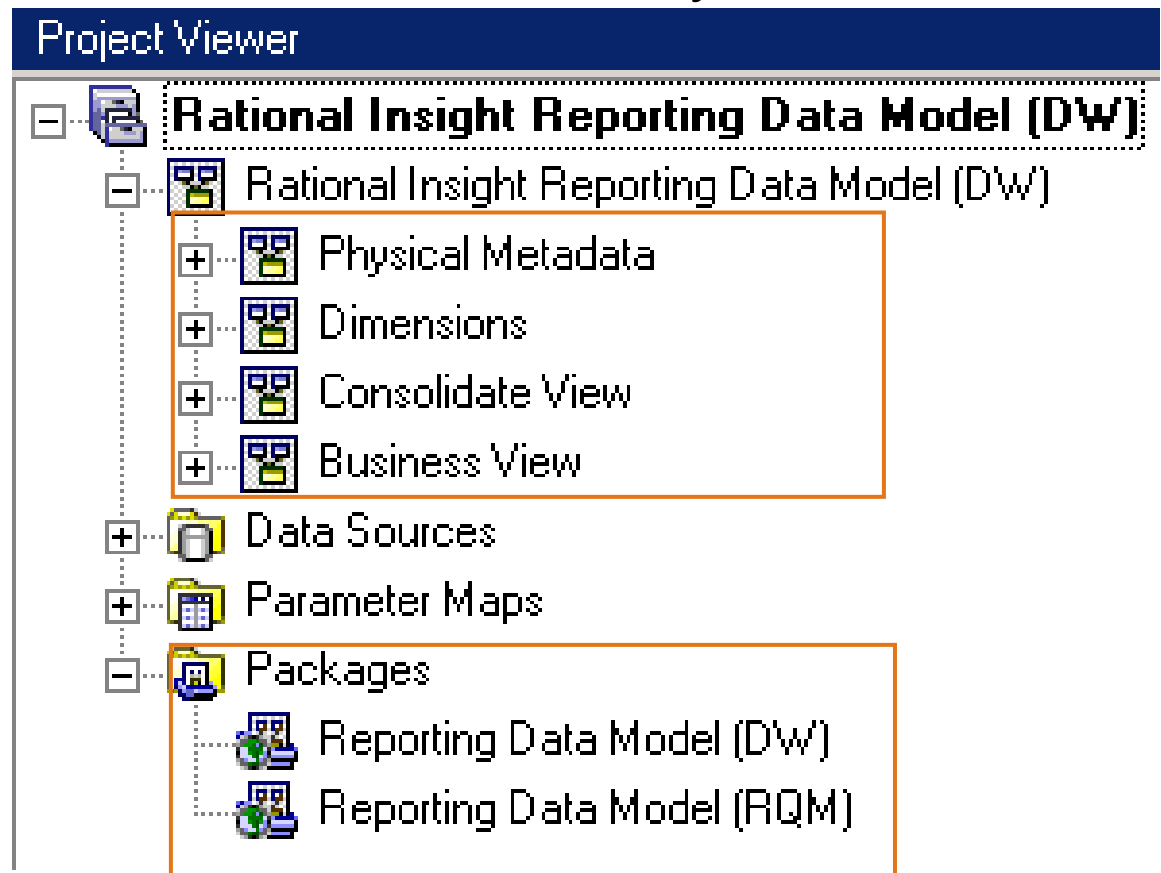
The other packages contain live data from the operational data source.

Reporting Data Model (DW) in Framework Manager

The screenshot shows the data model open in Framework Manager.

The data model contains the following namespaces, which are used to organize the model into different layers:

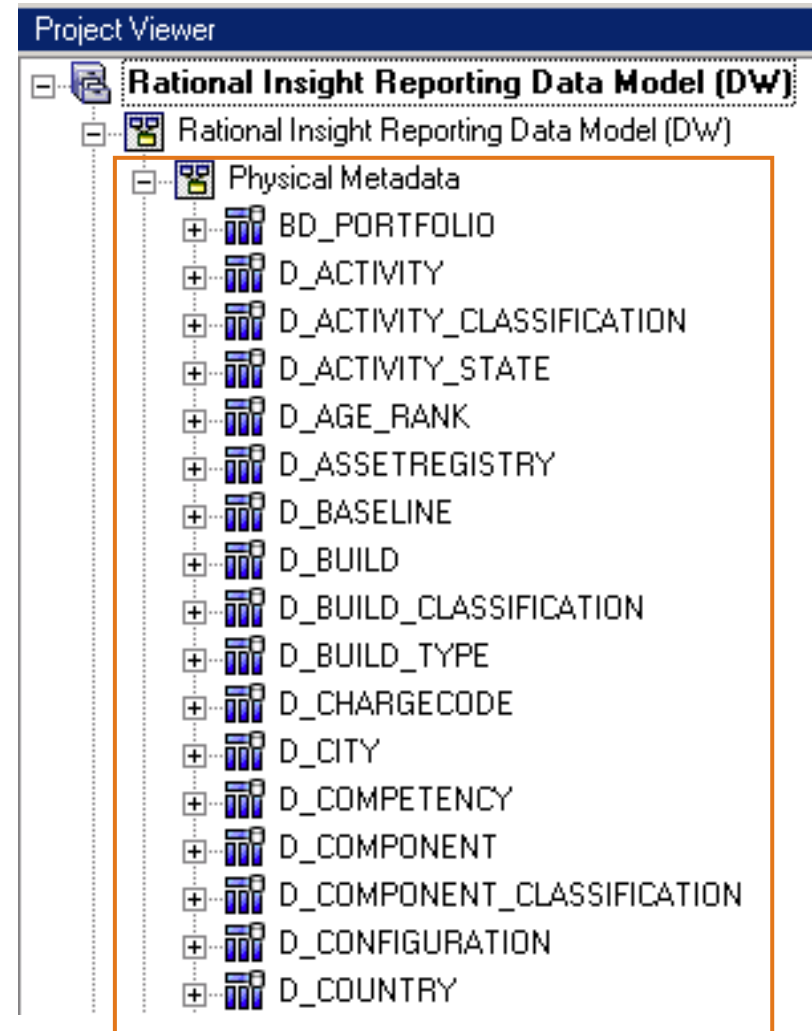
1. Physical metadata
2. Dimensions
3. Consolidated view
4. Business view



1. Reporting Data Model (DW) physical metadata

Physical metadata

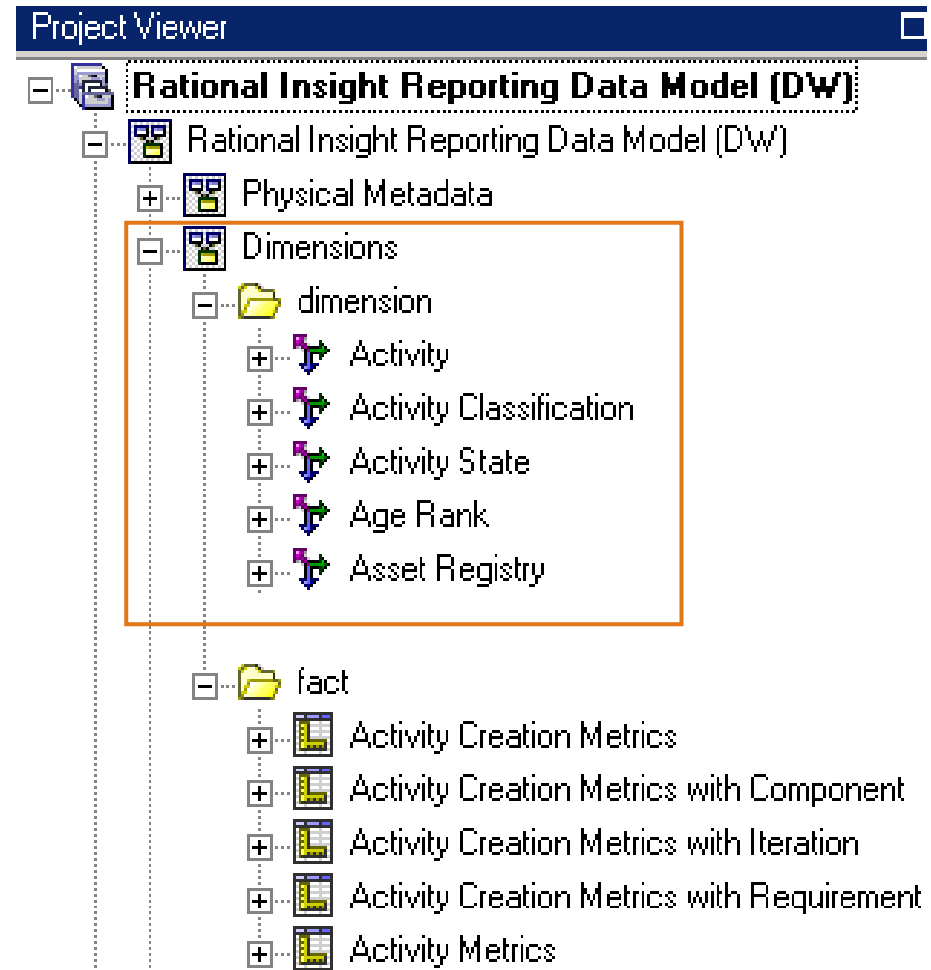
- This layer contains query subjects that represent the physical tables and the views in the data warehouse and the relationships between them.
- The relationships are inferred from the relationships that are defined in the data warehouse. The data warehouse includes fact tables, dimension tables, and view tables to enable drilling down to details.



2. Reporting Data Model (DW) dimensions

Dimensions

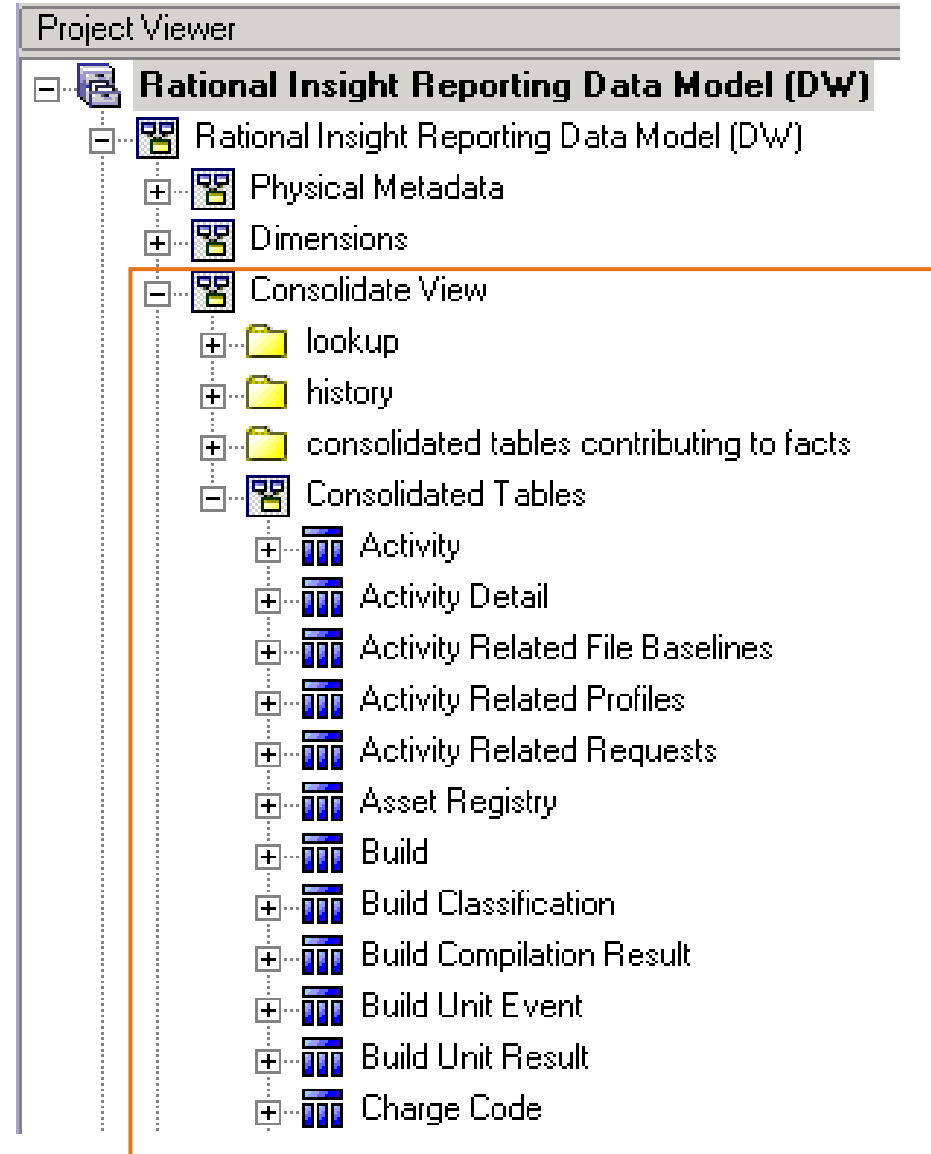
- This layer contains regular dimensions, measure dimensions, and scope relationships.
- The **regular dimension objects** are based on query subjects that represent dimension tables.
- The **measure** dimension objects are based on query subjects that represent fact tables.
- The **scope relationships** are built between the regular dimensions and the measure dimensions based on the foreign keys defined in the data warehouse.



3. Reporting Data Model (DW) consolidate view

Consolidate view

- This layer contains query subjects that represent the data from the operational data store.
- Filters, calculations, and parameter maps are defined in this view.

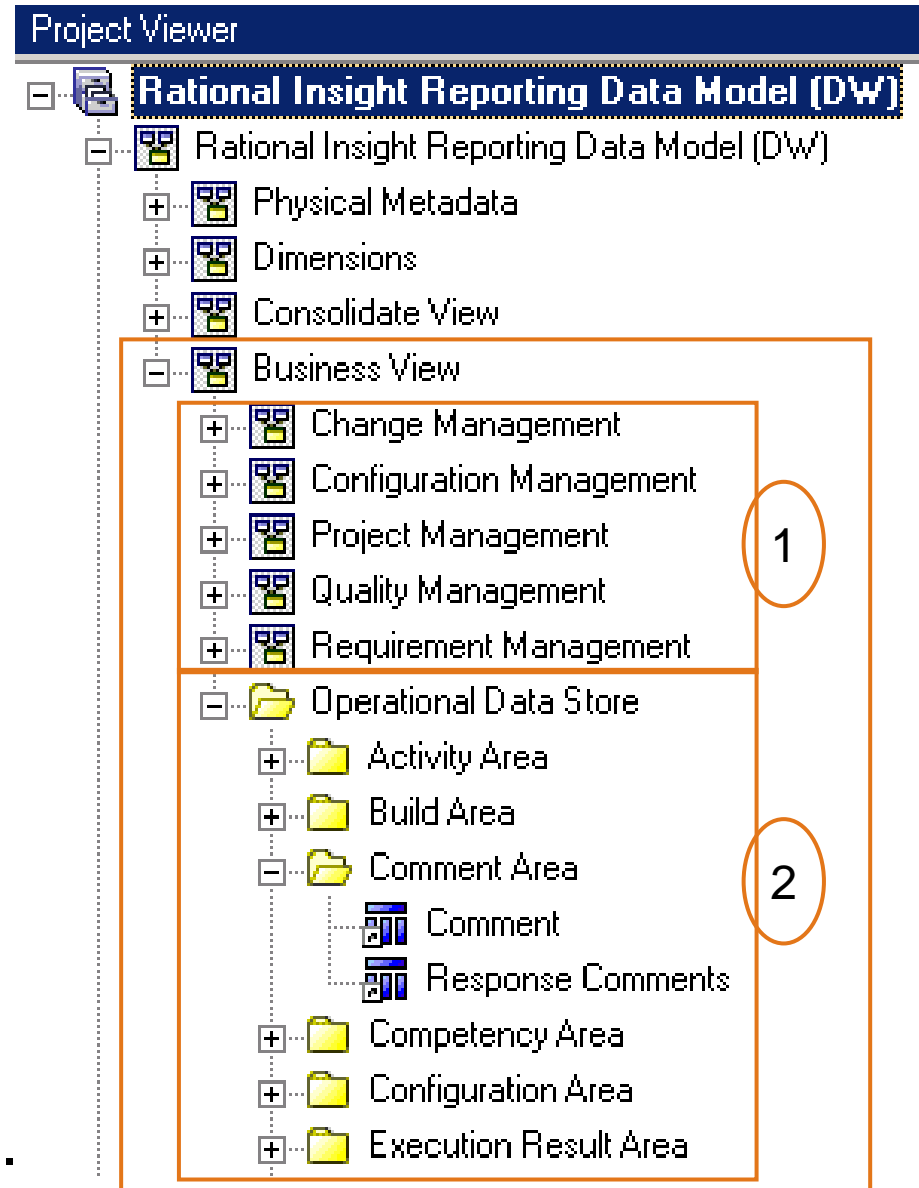


4. Reporting Data Model (DW) business view

Business View

This layer contains two parts:

- Dimension views that show business domains (for example, Change Management, and so on) and their namespaces and star schemas.
- Operational Data Store that points to the Consolidate View. It organizes items in folders that represent business areas for reporting.



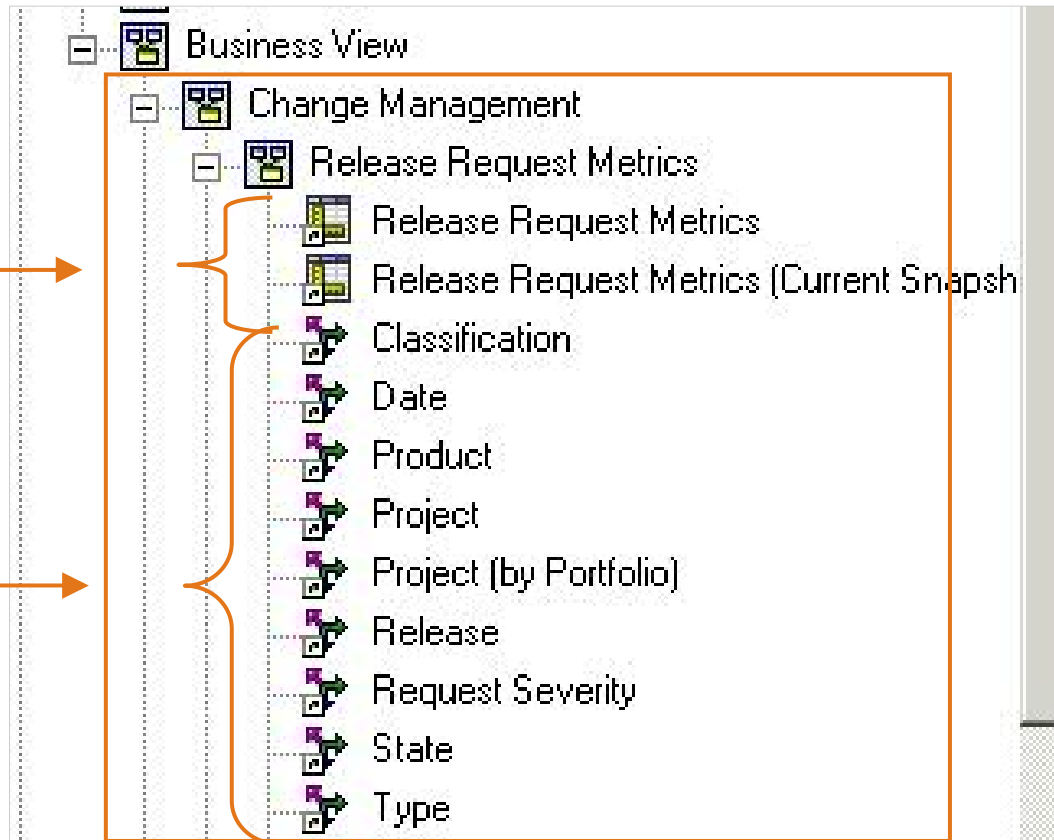
Example of a dimension view

The report author can query against the fact by any of the dimensions.

- First level: Dimension view - business domain (for example, Change Management)
 - Second level: Namespace representing one metric or one star schema (for example, Release Request Metrics)
 - Third level: Shows fact and dimensions of the star schema. One namespace showing one fact table with associated dimension tables

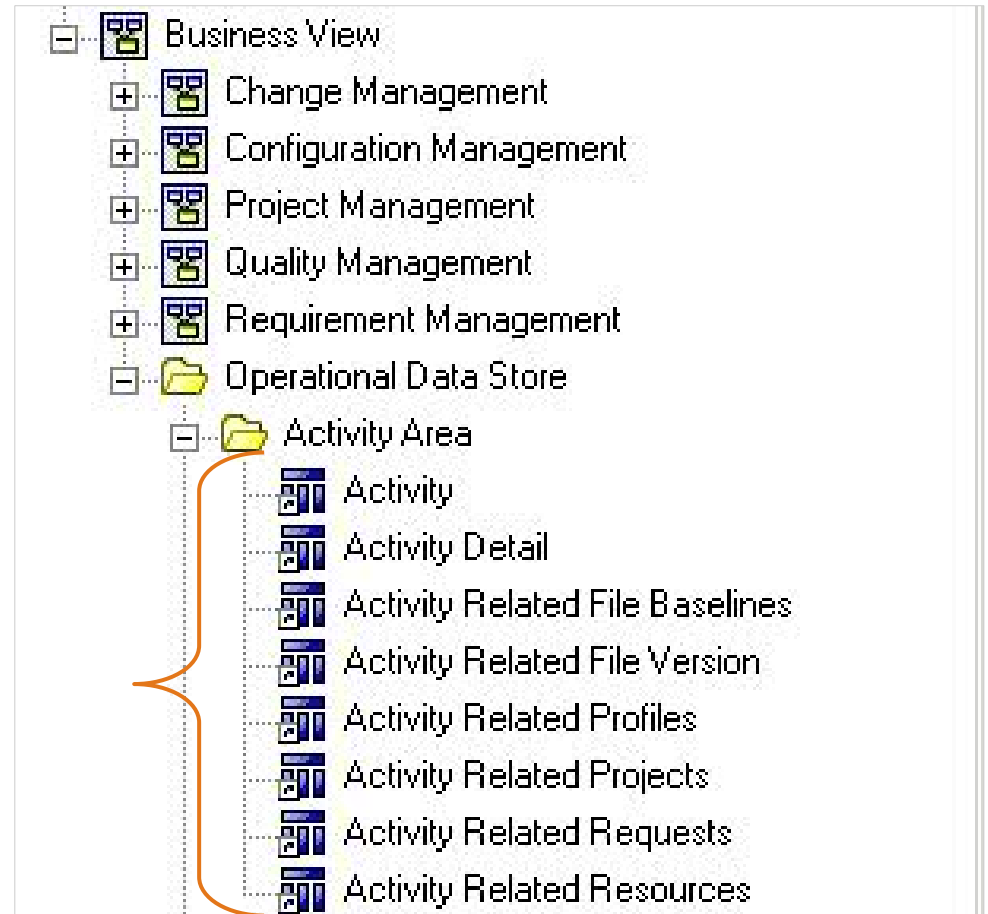
fact
Current snapshot shows one static data value, not trend over time.

dimensions



Example of an ODS area

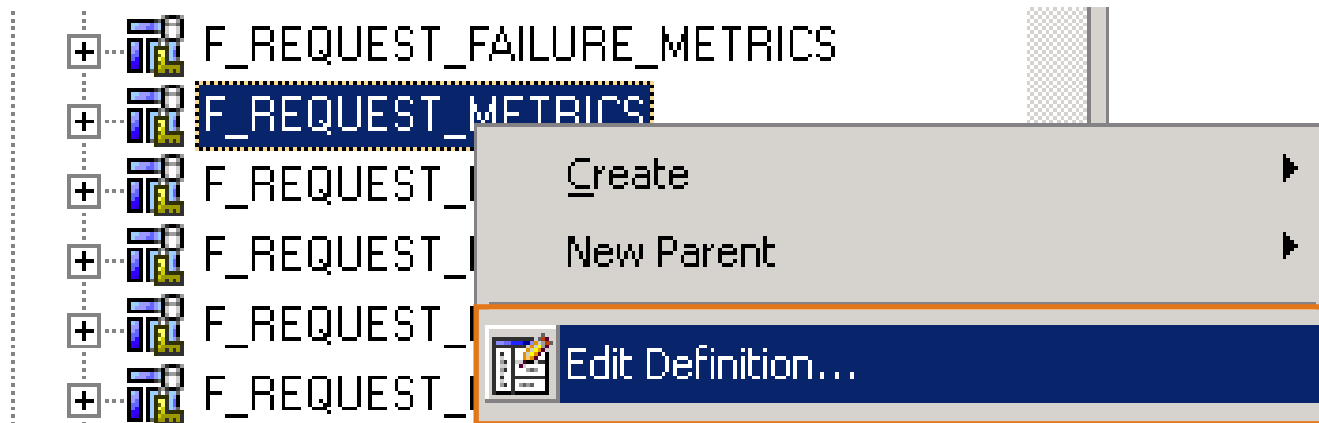
These items are used as detail-type information for drill through reporting



Reporting Data Model (DW) – Navigating Framework Manager

General steps to navigate to a metric:

1. Launch Framework Manager
2. Open Rational Insight Reporting Data Model (DW)
3. Expand namespace **Physical Metadata**
4. Click the data source query subject that you want to change
5. From the Actions menu, click **Edit Definitions**



Reporting Data Model (DW) – Navigating Framework Manager

Physical metadata tables use direct SQL query against the RIDW as a data source.

The screenshot displays the IBM Rational Framework Manager interface. On the left, the Project Viewer shows a tree structure under 'Rational Insight Reporting D...'. The 'Physical Metadata' folder is highlighted with a red box, and the 'D_ACTIVITY' table is selected. In the center, the 'Available database objects' pane lists various schemas, with 'RIDW' and its 'Tables' sub-folder highlighted by a red box. On the right, the 'Query Subject Definition - D_ACTIVITY' window shows the 'SQL' tab with the query: `Select * from [Rational Data Warehouse].D_ACTIVITY`. A red arrow points from the 'RIDW' box in the database objects list to the SQL editor.

Reporting Data Model (DW) – Navigating Framework Manager

The consolidated tables use physical metadata as the source.

The screenshot displays the IBM Rational Framework Manager interface. On the left, the Project Viewer shows the structure of the 'Rational Insight Reporting Data Model (DW)'. The 'Consolidated Tables' folder is expanded, showing 'Activity' selected. The main window shows the 'Query Subject Definition - Activity' dialog. The 'Available Model Objects' list includes 'Physical Metadata', 'BD_PORTFOLIO', and 'VW_ACTIVITY'. The 'Query Items and Calculations' table lists various fields and their sources.

Name	Source
Activity ID	VW_ACTIVITY.ACTIVITY_ID
Charge Code ID	VW_ACTIVITY.CHARGECODE_ID
Charge Code Name	VW_ACTIVITY.CHARGECODE_NAME
Classification ID	VW_ACTIVITY.ACTIVITY_CLASS_ID
Classification Name	VW_ACTIVITY.ACTIVITY_CLASS_NAME
Creation Date	VW_ACTIVITY.CREATION_DATE
External ID	VW_ACTIVITY.EXTERNAL_ID

Reporting Data Model (DW) – Navigating Framework Manager

Business view consists of shortcuts to Consolidated View

The screenshot displays the IBM Rational Insight Reporting Data Model (DW) Framework Manager interface. On the left, the Project Viewer shows a tree structure under 'Rational Insight Reporting Data Model (DW)'. The 'Business View' folder is expanded, showing sub-items: Change Management, Configuration Management, Project Management, Quality Management, Requirement Management, Operational Data Store, and Activity Area. The 'Activity Area' folder is further expanded to show 'Activity' and 'Activity Detail'. A red line connects the 'Activity' icon in the tree to the 'Target Object Reference' property in the Properties pane on the right.

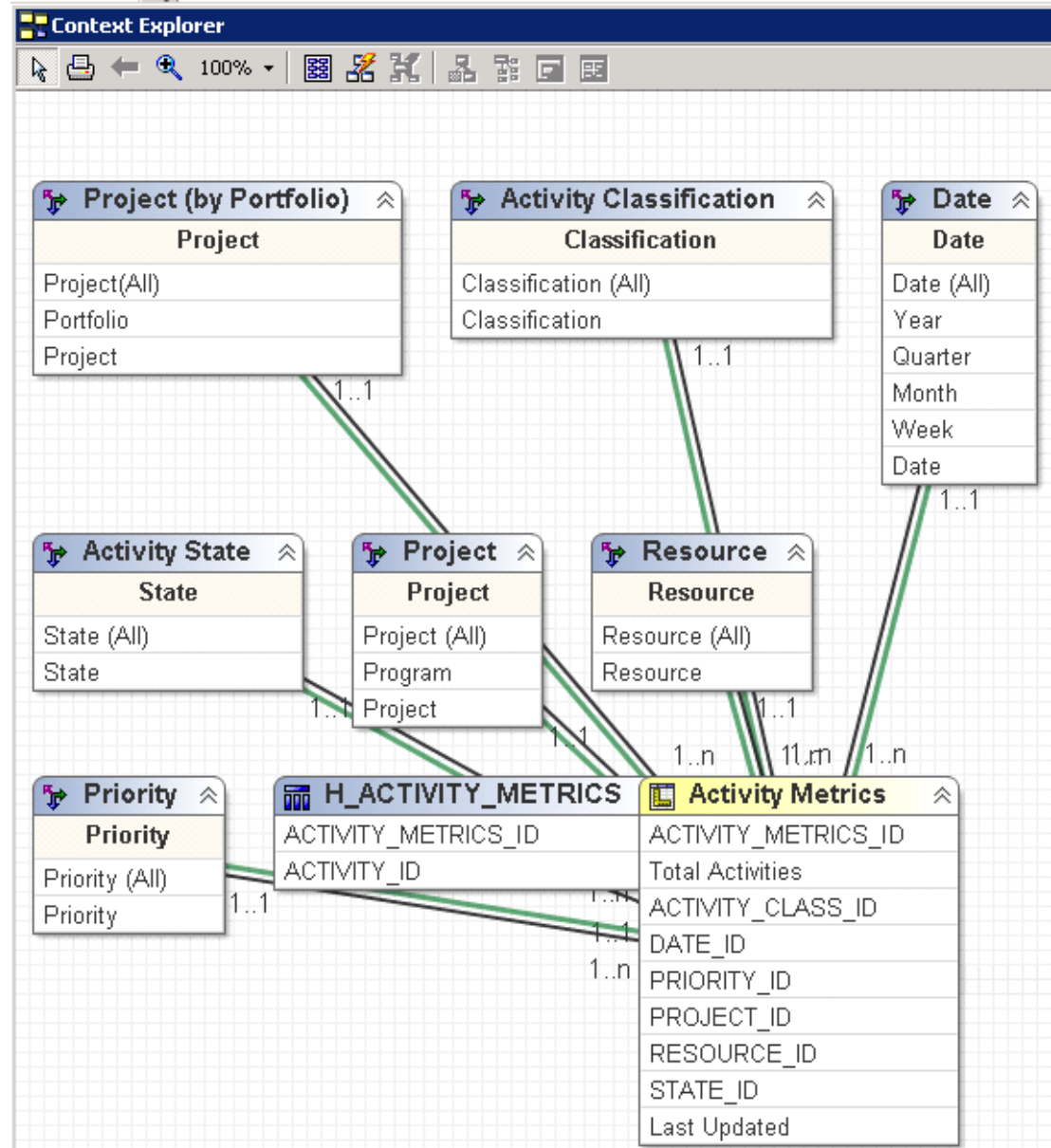
The Properties pane on the right shows the following table:

Rational Insight Reporting Data Model (DW)	
Properties	
Language	
Name	Activity
Description	
Last Changed	2008-10-09T18:06:45
Last Changed By	Anonymous
Model Comments	
Screen Tip	
Target Object Reference	[Consolidated Tables].[Activity]
Target Type	querySubject
Treat As	reference

Reporting Data Model (DW) – Navigating Framework Manager

Use Context Explorer to see relationships between tables

- Right click query subject and select 'Context Explorer'



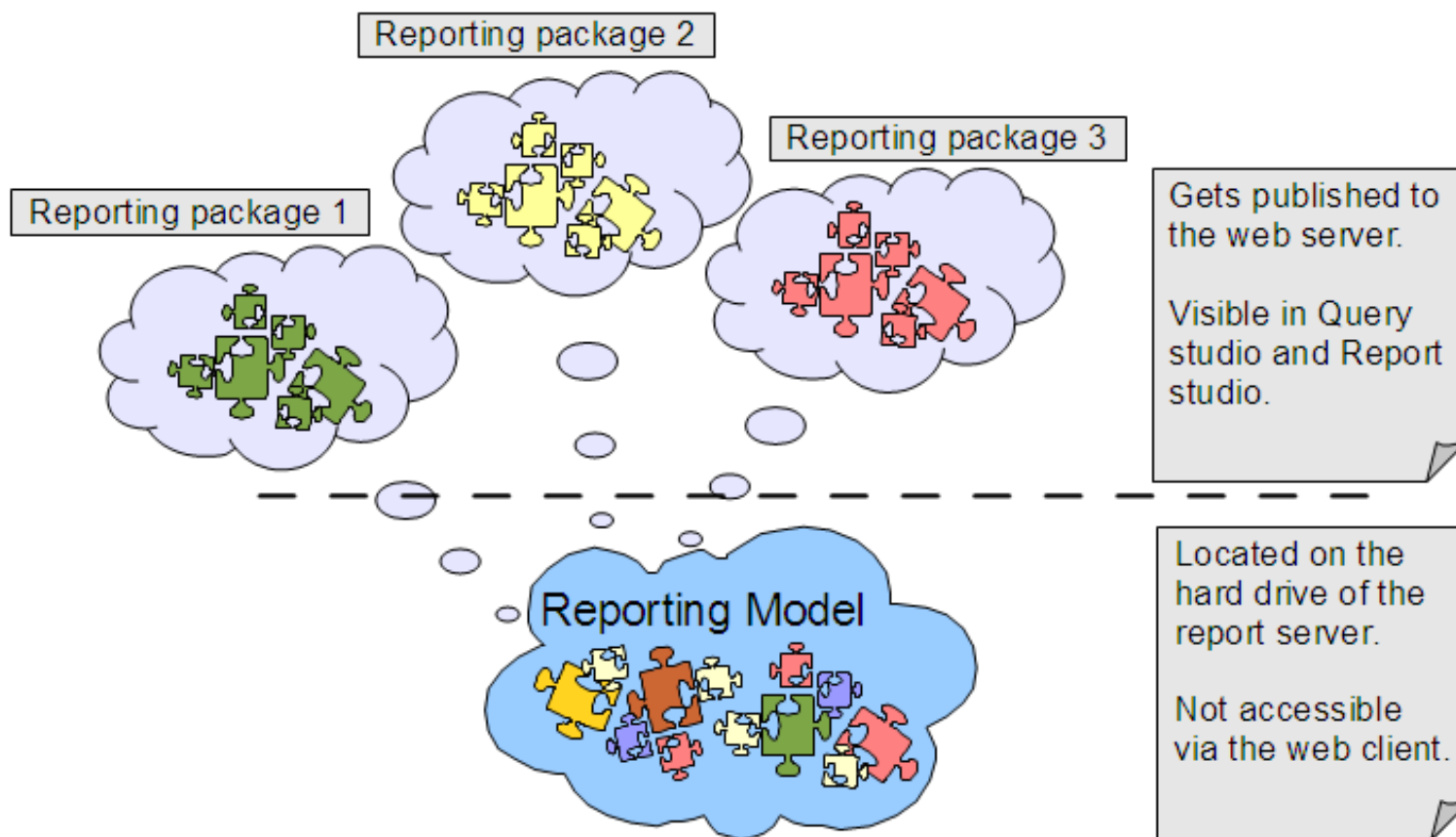
General Steps - Modifying the Reporting Data Model (DW)

You can customize the metadata models according to your business requirements, and then publish the changes to your reports.

- Make a copy of your project files
- Add/update query subject in the Physical metadata
- Build relationships, create new dimensions and fact tables
- Add/update query subject in Consolidated view
- Add shortcut to Business view
- Check that the package includes the new shortcut
- Publish the package

Changes to the Reporting Data Model (DW) need to be published

Changes that are made to the reporting model appear in reporting packages *only* after they have been published.



General Steps - Publishing Reporting Data Model (DW)*

1. Select the package that you want to publish.
2. Right click the package and select Publish Packages.
3. Choose where to publish the package.
4. To publish the package to the report server, click IBM Cognos 10.1 Content Store, click open, and select an existing folder or create a new folder in the Content Store.
5. Click Next twice.
6. By default, the package is verified before it is published. If you do not want to verify your model before publishing, clear the Verify the package before publishing check box. Click Publish.
7. Click OK on the dialog asking to overwrite the existing package.
8. Click Finish

* For detailed instructions for your version of Rational Insight, see your Rational Insight information center

Rational Insight information center:

- <https://jazz.net/help-dev/rational-insight/index.jsp>
 - See “Reference” section for data models and report details

Rational Insight Data Modeler training path:

- <https://www-304.ibm.com/jct03001c/services/learning/ites.wss/us/en?pageType=page&c=L806673M20298F27>
- (or do a web search for “Rational Insight Data Modeler training path”)

Cognos Framework Manager 10.1 User Guide (see under Model and Design section)

- <http://publib.boulder.ibm.com/infocenter/cbi/v10r1m0/index.jsp>

For more information: Rational Insight data models

See the Rational Insight data models at

https://jazz.net/help-dev/clm/topic/com.ibm.rational.reporting.overview.doc/topics/c_reference_datadictionary.html

The screenshot displays the Rational Insight Data Model interface. On the left, a navigation pane shows the 'Data Model Database RIDW' with a list of elements under 'Diagrams', including '1- Overview Data Mart'. The main area features a tabbed interface with 'Overview', 'Database', 'Schema', and 'Diagram' tabs, with 'Diagram' selected. The title bar reads 'RIDW Data Model'. The main content area is titled 'Diagram 1- Overview Data Mart' and contains ten data mart overview icons arranged in a grid:

- DM Overview - Asset Management
- DM Overview - Capacity Planning
- DM Overview - Software Configuration Management
- DM Overview - MCIF Self Check
- DM Overview - Project Management
- DM Overview - Quality Management
- DM Overview - Risk Management
- DM Overview - Time Sheet Management
- DM Overview - Requirement Management
- DM Overview - Change Management

Thank
YOU

The image features the words "Thank YOU" in a large, 3D, light blue font. Each letter of the word "Thank" contains a different portrait of a person. The "T" shows a man in a suit and tie. The "H" shows a woman in a green top. The "A" shows a man with a serious expression. The "N" shows a woman smiling. The "K" shows a man with glasses. The word "YOU" is positioned below "Thank". The "Y" shows a man looking down at a document. The "O" shows a man in profile. The "U" shows a woman's profile. The letters have a slight shadow, giving them a three-dimensional appearance.

Legal notices

- **The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:** INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions; therefore, this statement may not apply to you.
- This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.
- If you are viewing this information in softcopy, the photographs and color illustrations may not appear.
- Any references in this information to non-IBM websites are provided for convenience only and do not in any manner serve as an endorsement of those websites. The materials at those websites are not part of the materials for this IBM product and use of those websites is at your own risk.
- Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.
- Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

- This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

Trademarks and service marks

- IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the web at www.ibm.com/legal/copytrade.shtml.

- Other company, product, or service names may be trademarks or service marks of others.