Introducing IBM Rational Insight V1.0

IBM Rational

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IBM® Rational® Insight provides consistent metrics from across the organization and deployed tools to measure status and progress against defined business and organizational objectives. Rational Insight implements standard measurements, reports, and dashboards to provide accurate insight into systems and software delivery organization.

Product and architecture overview

IBM® Rational® Insight (Rational Insight) helps you get consistent metrics from across the organization and toolsets to objectively measure status and progress. It implements standard measurements, reports, and dashboards to provide accurate insight into systems and software delivery. It helps follow a systematic approach to incrementally improve business, identify high priority business objectives and software delivery practices to address those objectives, and measure practice adoption and business results.

Rational Insight automatically and objectively measures and reports program, project, and team level progress and status against pre-defined business objectives. Measurement guidance is taken from deployed practices, regulatory requirements, and best practices. The Rational Insight Enterprise Reporting server provides an extensive library of report and dashboard elements for scheduling and forecasting.

Rational Insight enables an organization to:

- Gain insight into software project performance and health through objective and consistent reporting
- Manage and mitigate software development risks, reduce time-to-market, and improve product quality
- Control software project costs and improve global development efficiencies
- Enforce governance and achieve compliance in a changing global environment

Architecture

Rational Insight leverages web architecture to extract data from distributed systems and generate both live and historical cross-product reports. It supports data retrieval from sources using
either the REST architecture or direct database access. This data can be represented through customized dashboards and reports.

Rational Insight contains the following main components:

- IBM Cognos® Data Manager (Data Manager)
- IBM Rational Insight data warehouse (RIDW)
- IBM Cognos Framework Manager (Framework Manager)
- IBM Rational Insight report server (Rational Insight report server)
- IBM Cognos Business Intelligence Server (Cognos BI Server)
- IBM Rational Insight XML data configuration (XML data configuration)
- IBM Rational Insight Data Services (Data Services)

Data Manager performs the core extract, transform, and load (ETL) functions of Rational Insight. It interacts with various data sources and extracts data from them. XML data configuration converts data in XML form to tabular format. It defines the mapping between XML source files and the destination tables. Based on this mapping, the XML ODBC driver converts the XML data into relational form.

The RIDW component is a database that stores an organization’s information in normalized operational data stores and dimensional data marts. The RIDW can be hosted on IBM DB2®, Oracle or SQL Server. RIDW has an open schema. Any business intelligence tool can access RIDW to generate business reports. They can also use Data Services if the reporting server hosting the business tools supports a REST architecture.

Framework Manager is a metadata modeling tool with which you can handle the generation of queries. A metadata model is a collection of metadata that includes physical and business information for one or more data sources.

The Rational Insight report server is an instance of the Cognos BI Server. The Cognos BI Server is an integrated business intelligence suite that provides a wide range of functions to help you understand your organization’s data. The components of the Cognos BI Server are: Report Studio, Query Studio, Cognos Connection, and Cognos Administration.

Rational Insight provides sample ETL catalogs and metadata models for the following products:

- IBM Rational products such as Rational ClearQuest, Rational ClearCase, Rational RequisitePro, Rational Team Concert, Rational Quality Manager and Rational TestManager
- Microsoft® Project
- RIDW

Rational Insight can support any data source that provides REST services for accessing data.

The high-level architecture of the Rational Insight solution is shown graphically in Figure 1.
In a typical software development life cycle, data management is required in the following areas:

- Requirements
- Architecture
- Process and portfolio
- Quality
- Change and release

A different tool can be used for each area to store, manage, and analyze data. The data analysis tools can be deployed on distributed systems, and accessed and used by geographically distributed teams with differing levels of responsibility.

Rational Insight uses the open web architecture to extract data from these disparate sources. Each data source is identified as a resource through a unique URL. The REST GET method is used to extract the data and represent it in formats such as XML or Scalable Vector Graphics (SVG). The open web architecture makes it possible for Rational Insight to extract data from any data source and not just from IBM Rational products.

Rational Insight supports two kinds of reports.
• Live reports: Live reports use data from operational source systems and data stores.
• Historical reports: These reports use historical data pulled from the data marts to identify trends and aggregate information.

You can use the ETL capabilities of Rational Insight to extract data through the REST GET interface or direct database access, transform the data through the encoded business rules, and load the transformed data into a conformed data mart. During this process, operational data is retrieved from a product source as an XML resource, mapped to relational data tables, and normalized in the data warehouse.

Rational Insight Enterprise Reporting server provides a comprehensive array of business intelligence functions in one product, on a single, proven architecture, including seamless reporting and dashboard capabilities.

• **IBM Rational Insight Data Services**
  As an enterprise reporting system, IBM Rational Insight requires access to data from different product tools and sources. Making data readily accessible for reporting and analytics is a key objective of IBM Rational Insight data services.

• **IBM Rational Insight XML data configuration**
  XML data configuration maps XML data to relational database table columns. This mapping is used by the XML ODBC driver to provide data in relational form to the extract, transform, and load framework of IBM Rational Insight (Rational Insight).

• **IBM Rational Insight extract, transform, and load framework**
  Extract, transform, and load (ETL) is a process in data warehousing that involves extracting data from outside sources, transforming it to fit business needs, and ultimately loading it into the data warehouse.
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