

# Metadata and IBM Cognos 8 BI

For enterprise-scale business intelligence (BI) to function successfully, it requires common metadata to deliver the often promised but rarely delivered “single version of the truth”. With centralized metadata, IT saves time and resources by re-using existing models, without having to redevelop reports and analyses across an organization when simple changes are required. Cognos Framework Manager, the IBM Cognos 8 BI metadata administration component, adds value to existing applications with centralized, easy-to-develop, easy-to-maintain, cost effective metadata.

## Overview: Metadata and IBM Cognos 8 BI

### Centralized metadata management

Enterprise business intelligence makes a company’s valuable data available for informed business decisions. However, stored data is typically designed for storage—not for reporting, and not for making enterprise data readily accessible in business terms. For that reason, data requires information about itself, or metadata, that is, the ‘data about data’. IBM Cognos is specifically designed both to leverage and to deliver centralized enterprise metadata, with the resulting value to users across an organization.

### The pain of metadata administration

Metadata has traditionally been an afterthought in the BI domain. While business users should not have to care where data comes from, they want to be absolutely sure that numbers match from scorecard to detailed report, from one department to another, or from one system to another. As business intelligence has entered the mainstream, it has become crucially important to understand what makes up the information being exposed.

More and more BI systems, deployed ever more broadly both inside and outside organizations, make it more critical than ever to understand clearly what data terms such as “Revenue”, “Head Count”, or “Customer” really mean. This is especially true for systems that deliver broad BI capabilities: enterprise reporting, multidimensional analysis, dashboarding and scorecarding, alerting and event management. For systems built around such wide-ranging capabilities, it’s essential that all users—department heads, directors, analysts, knowledge workers, business leaders, and executives—can access the data via a common business view and understanding of the organization’s data assets.

Even with metadata definitions in place however, it is still necessary to know where they are being used. Then, developers can see which reports might be affected if the

definitions change and can understand the impact of the change. BI tools are only one piece of an organization’s metadata puzzle. Metadata is also generated in modeling tools, ETL tools, data base tools, and scheduling tools. Traditionally, this metadata has not been able to converse and interact. In order to make all their metadata work together, organizations often enter the same metadata into multiple systems, or have multiple metadata versions for various BI tools. This almost always results in manual, error-prone rework. Consistency is one of the greatest challenges in metadata administration. As companies grow, language and geographical issues also make global coverage problematic. Most reporting solutions support only a single language due to the limitations of the metadata capabilities. Companies supporting a multilingual environment must develop and deploy multiple metadata layers. This increases the cost of maintaining the environment. It also poses a significant challenge in maintaining multiple environments and ensuring that each is synchronized. Metadata administration is a typical limitation of many traditional reporting tools.

### *FOCUS ON: Heterogeneous data access*

Few organizations implement business intelligence from a single data source. The norm is a requirement for BI that spans multiple data sources that together comprise the organization’s core systems.

Cognos Framework Manager fully supports the creation of metadata that spans multiple, heterogeneous sources, while remaining completely invisible to the people who will ultimately use the system. A single metadata model can span heterogeneous sources such as Oracle, Microsoft SQL Server, IBM DB2, as well as other widely used sources such as SAP/BW, JDBC, or XML. Moreover, with integrated, out-of-the-box Enterprise Information Integration (EII) capabilities, as well as powerful ETL capabilities through IBM Cognos Data Manager, IBM Cognos 8 BI deployments can deliver every BI capability against any data source, with any data latency – including data warehouses and marts, operational systems, and federated views across these disparate systems.

## A powerful metadata tool

IBM Cognos 8 Business Intelligence is built with metadata administration as an integral part of its design. First introduced with IBM Cognos ReportNet™, Cognos, an IBM company, developed and has now enhanced a metadata modeling tool based on enterprise BI metadata requirements and Common Warehouse Model (CWM) standards. The metadata tool—Framework Manager—ensures that all forms of data models can be imported and supported. Regardless of the underlying data, and also regardless of the style of BI that is required in any given application, Framework Manager provide the elusive “common version of the truth” across a broad range of BI users.

### *FOCUS ON: Metadata import*

Adopting BI in an organization should not negate or obviate investments in metadata. Instead, it should extend and enhance the value of those investments. Cognos Framework Manager allows data modelers to import metadata from a wide range of sources, including ERWin, IBM DB2 Cube Views, Oracle Designer, and many others (for the complete list, see <http://support.cognos.com/en/support/products>). Additionally, importing definitions from any relational system, Framework Manager uses as much existing information as it can, such as keys and unique indexes, to define as complete and accurate an import as possible. The result? Metadata for BI that heavily leverages existing metadata assets, with shortened time to enterprise BI models.

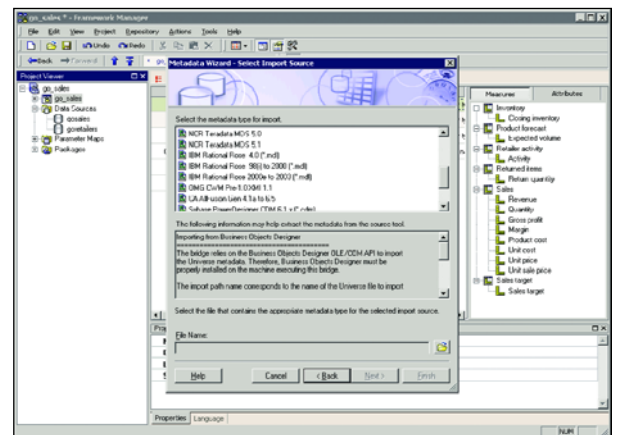
Framework Manager delivers an enterprise data model that encapsulates all business rules, data descriptions, data relationships, business dimensions and hierarchies, and other administration tasks. It insulates all BI users—from professional report authors, to ad hoc query users, to users of advanced analytics against multidimensional data—from the technical challenges of the underlying data.

### **Specific features of metadata management with IBM Cognos 8 BI**

IBM Cognos 8 BI eliminates the traditional barriers to broad BI deployments, largely because of its powerful metadata management capabilities. The metadata management of IBM Cognos 8 BI

### Framework Manager:

- Leverages existing metadata by importing and exporting metadata from modeling tools, ETL tools, BI tools, databases, and any tool that supports CWM-compliant XML.
- Delivers federated views of heterogeneous data sources, with integrated Enterprise Information Integration (EII).
- Separates the database representation of data from the business perspective, for an intuitive user experience across all BI capabilities.
- Supports the development of business models against any underlying data: relational 3NF, star schema, or dimensional data sources. In a single model, defines all of the logical query subjects, dimensions, and hierarchies that run an organization, and packages them for broad user consumption.
- Defines single conformed definitions of metrics and reuses the same definition in multiple business views.
- Offers a multilingual environment including data, formats, column titles, and descriptions in a single metadata layer.
- Generates impact analysis reports based on individual columns of data, to help users understand the effects and costs of changes.
- Enables a federated (multi-developer) modeling environment and source code control integration.



*Import metadata from a wide range of popular sources, including Common Warehouse Model (CWM) compliant sources.*

### FOCUS ON: A powerful dimensional modeling environment

Metadata modeling for different BI capabilities—such as managed reporting, analysis, scorecarding, and dashboarding—should not require different modeling environments. A single metadata model should be able to drive all BI capabilities. Additionally, access to more advanced features, such as runtime parameter substitution, should be built into the modeling environment, with no requirement to delve deeply into custom coding.

IBM Cognos 8 BI Framework Manager provides one environment for all metadata, for all BI capabilities. Create metadata models that span both relational and dimensional data, and then use those models to power any style of BI, from simple ad hoc reporting to deep multidimensional analysis or enterprise dashboards and scorecards. Use Framework Manager's built-in and customizable parameters to build flexibility into any model via sophisticated runtime substitutions, completely without custom coding. Use built-in impact analysis to understand the potential effect of metadata modifications on existing reports in deployed systems.

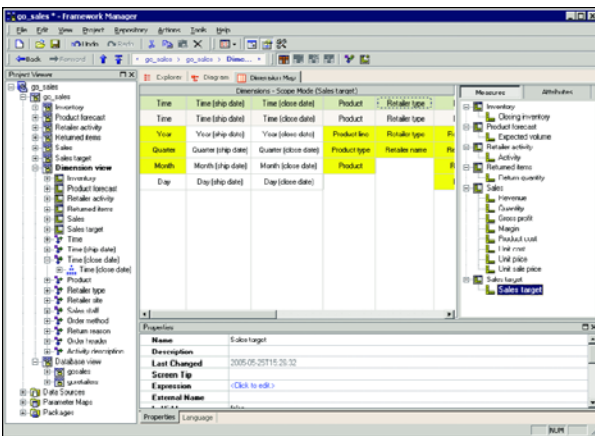
- Provides a place to define business rules to be applied to all or select business specific environments.
- Leverages existing security assets, with the ability to define authorization by row, column, dimension, and fact, as well as by entire query subjects or by published information packages.
- Offers an open environment, with modeling capabilities exposed via the modern IBM Cognos 8 BI Web services architecture and open Web Services API. IBM Cognos 8 BI Framework Manager can be installed and configured for a reporting environment in a matter of minutes. A powerful dimensional modeling environment allows modelers to define regular dimensions with multiple hierarchies, as well as measure dimensions with measure scope clearly defined for reporting.

### Summary

IBM Cognos 8 BI provides metadata administration through Framework Manager, reducing the burden on IT, saving time and resources, and lowering the total cost of ownership. It also reduces costs and reliance on outsourcing. The metadata administration integrates readily with your existing applications. Through Framework Manager, IBM Cognos 8 BI offers an approach to the administration of metadata that is simple, easy to use, and cost-effective.

### Better performance management

IBM Cognos 8 BI is the only solution that provides complete BI functionality in one product, on a single, proven architecture. It delivers seamless reporting, analysis, scorecarding, dashboards, and event management. This simplifies your IT environment and the way everyone works with information. The result is high user adoption, better decisions, and greater agility across the organization. IBM Cognos 8 BI is the clear choice for BI standardization and a cornerstone of better performance management.



*A powerful dimensional modeling environment allows modelers to define regular dimensions with multiple hierarchies, as well as measure dimensions with scope clearly defined for reporting.*

## About Cognos, an IBM company

Cognos, an IBM Company, is the world leader in business intelligence and performance management solutions. It provides world-class enterprise planning and BI software and services to help companies plan, understand and manage financial and operational performance. Cognos was acquired by IBM in February 2008. For more information, visit <http://www.cognos.com>.

### For more information

Visit the Cognos Web site at [www.cognos.com](http://www.cognos.com)

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