Enable data modeling understanding and consistency across application environments

IBM Information Management software

IBM InfoSphere Data Architect

Highlights

- ***Explore complex models and promote understanding of diverse data assets***
- ***Simplify data modeling and integration across distributed data structures***
- ***Analyze and enforce compliance to enterprise standards***
- ***Promote collaboration among business analysts, designers, developers and DBAs***

How can you keep pace with application design and development challenges?

Effective data modeling and design strategies are essential for developing applications that promote optimal performance, increase business value and provide a return on investment. However, in today's complex IT environments, designers and developers face a constant stream of business changes. Mergers and acquisitions, new government regulations, Agile software development practices, "going green" initiatives and Service Oriented Architecture (SOA) strategies all pave the way for data design and integration challenges.

IT organizations must gain a thorough understanding of diverse, interrelated enterprise data assets – a huge undertaking. If business directives are not well communicated and coordinated, even simple changes may have a larger-than-anticipated impact, resulting in increased costs, data quality issues, missed service level agreements (SLAs) and audit failures.

As a top priority, organizations must quickly translate business requirements into technical solutions, leverage existing assets to make business decisions, and develop best practices to deliver trusted information. In many development projects, data is not given much importance compared with the application architecture. Surprisingly, industry-standard tools are often still not used for the data architecture portion of the project.

So, how can you govern data quality without enterprise data standards? How can you assure business and IT alignment across development initiatives?

Proven data modeling capabilities for heterogeneous data environments

IBM® InfoSphere™ Data Architect provides collaborative data modeling and integration design capabilities that enable data architects to discover, model, relate and standardize heterogeneous data assets. These capabilities help architects understand information assets and relationships, design databases and data integration to drive enterprise consistency and align business and IT initiatives. Built on the open source Eclipse® platform, InfoSphere Data Architect helps data architects close the gap between the application architecture and information architecture, and helps ensure seamless alignment of data in the overall solution architecture.

InfoSphere Data Architect supports logical and physical modeling and provides automated capabilities for diverse databases. Data architects can simplify tasks by automatically reverse engineering models from existing databases, generating physical models from logical models, generating DDL from physical models and visualizing the impact of changes. InfoSphere Data Architect also combines traditional data modeling capabilities with unique mapping capabilities and model analysis.

Organizations have the technology needed to foster team collaboration and enterprise alignment. InfoSphere Data Architect also integrates with enterprise, process, service and application architecture and development tools. Data architects can analyze data across multiple information sources, enable faster information integration in complex environments. It takes less time to intelligently design a relational or federated database, perform impact analysis across models, and compare and synchronize models to deployed databases.

Unlock the mystery of your existing data sources

Let's take a closer look at the capabilities and benefits of InfoSphere Data Architect that help speed information architecture development:

Discover. Most of the time, the development environment is not completely new because there will be existing assets and databases that must be considered. Appropriate documentation may not exist, or if it does, it might not be current with the physical production database. Architects can use InfoSphere Data Architect to reverse engineer a physical data model from the DDL or from the existing database.

In most organizations, the same information is stored in different places using different structures and different levels of granularity. Gaining a complete understanding of an organization’s information and associated business objects requires an understanding of how disparate databases relate to each other — even if there is no physical implementation of these relationships.

The unique mapping editor within InfoSphere Data Architect automatically discovers relationships between any two data models to support data transformation and federated data requirements. These “mappings” define dependencies between models, such as join columns or transformation functions, like aggregation, type casting and formatting for each target column. Based on the mapping, users can generate necessary synchronization code, like SELECT and INSERT statements, or even go a step further and let InfoSphere Data Architect generate code for federation with IBM InfoSphere® Federation Server.

Model. The data model is emerging as the focal point for understanding information across diverse initiatives, such as information integration, service-oriented architectures and data interchange. InfoSphere Data Architect creates logical, physical, domain and glossary models for IBM DB2®, IBM Informix® Dynamic Server, Oracle®, Sybase®, Microsoft® SQL Server, MySQL® and Teradata® databases.

InfoSphere Data Architect also imports and exports models from CA®

AllFusion ERwin, Sybase® PowerDesigner, IBM® Rational Rose® and a wide range of additional metadata sources and targets. Both logical and physical data models are supported during this interchange. Elements from logical and physical data models can be visually represented in diagrams using Information Engineering (IE). Alternatively, physical data model diagrams can use the Unified Modeling Language (UML) notation. Data professionals also have options for creating physical data models from scratch, from logical models using transformation or from an existing database using reverse engineering. Users can automatically generate XML schemas that are central to SOA initiatives.

InfoSphere Data Architect facilitates model-driven development providing built-in integration with:

- IBM Rational RequisitePro® for traceability of model artifacts to business requirements
- IBM Telelogic System Architect® for linking enterprise and data architecture
- IBM Rational Software Architect® for synching up application and information design
- IBM WebSphere Business Modeler® for transforming data models to XSDs
- IBM InfoSphere Business Glossary for sharing enterprise glossaries

Standardize. InfoSphere Data Architect provides capabilities that promote data quality and consistency and enable architects to analyze, recommend and enforce enterprise standards:

- Naming – Use standard words, acronyms and naming patterns to define data objects and attributes
- Meaning – Associate words with shared meaning through business glossaries
- Values – Define appropriate values or ranges for attributes
- Relationships – Record implicit and explicit relationships for understanding business objects
- Privacy – Specify standards for data masking rules and associate them with specific attributes and columns
- Traceability – Link standards to business requirements

Once defined, standards can be associated with diverse models and databases. Built-in, extensible, rules-driven analysis verifies compliance with naming, syntax, normalization and best practice standards for both models and databases. InfoSphere Data Architect provides a rule-driven compliance checking capability that operates on models or directly on the database. These capabilities help users discover and resolve problems in models or databases by pinpointing the “problem” resource and providing a detailed description of issues.

Synchronize. As in any environment, it is wise to understand the impact of a change before it is implemented. Impact analysis features list or display all of the dependencies for the selected data elements. Advanced synchronization technology compares two models, model to database or two databases. These capabilities also support synchronizing logical and physical data models. Changes can then be promoted within and across data models and data sources.

For change management in a team environment, InfoSphere Data Architect integrates directly with IBM® Rational® ClearCase® and the Concurrent Versions System (CVS) to provide seamless versioning, branching and synchronization of changes. Every team function is fully executable directly from the user interface to provide a superior user experience.

Collaborate. InfoSphere Data Architect makes it easy to share information and collaborate with team members throughout the data model development process. Users can generate predefined or customized

reports on the whole or part of a data model for collaboration or compliance.

Promote full-lifecycle application data quality

Architects, developers and DBAs can co-install InfoSphere Data Architect with IBM Data Studio Developer and IBM Data Studio Administrator for a seamless design, development, and deployment experience. Integration with IBM® Rational® Software Delivery Platform facilitates business and IT alignment across the development cycle enabling productive and effective team collaboration.

Built-in integration with other IBM® Optim™ solutions enhances data governance and privacy protection. InfoSphere Data Architect publishes business objects, extract specifications and privacy attributes to the IBM Optim Test Data Management and IBM Optim Data Privacy solutions and accelerates enterprise consistency in governing data privacy across test environments.

IBM Optim Services – Speed time to value

To help you realize immediate benefits of Integrated Data Management, IBM's experienced Software Lab Services staff and certified delivery partners provide hands-on technical training, knowledge transfer and implementation assistance utilizing real-world best practices. You define your business objectives and processes related to enterprise application data, and then quickly apply proven Optim methodology and technology.

About IBM Optim Integrated Data Management Solutions

IBM Optim Integrated Data Management Solutions offer proven, integrated capabilities to manage enterprise application data from requirements to retirement. With Optim, teams can share data artifacts (like models, policies and metadata) to align data management with business goals and improve collaboration. Today, organizations of all types leverage Optim to improve performance, streamline database administration, speed application development, and enable effective governance. Optim delivers better business outcomes, at lower cost, with less risk, while providing capabilities that scale across enterprise applications, databases and platforms.

For more information

To learn more about IBM Optim Integrated Data Management Solutions, contact your IBM sales representative or visit: **www.ibm.com/software/data/optim-solutions/**

IBM Software Group
111 Campus Drive
Princeton, NJ 08540-6400
U.S.A.
www.optimsolution.com

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