

# CA ERwin® Modeling Family — At the Center of Your Data Management Initiatives

## **CA Database Management**

- CA Database Design & Modeling
- CA Database Administration
- CA Database Performance Management
- CA Database Backup & Recovery

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## CA ERwin Modeling Family of Products

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CA ERwin® Data Modeler (CA ERwin DM)

- CA ERwin® Data Modeler Community Edition (CA ERwin DM CE)

CA ERwin® Model Manager (CA ERwin MM)

CA ERwin® Data Profiler (CA ERwin DP)

CA ERwin® Data Model Validator (CA ERwin DMV)

CA ERwin® Process Modeler (CA ERwin PM)

CA ERwin® Saphir Option<sup>1</sup> (CA ERwin Saphir Option)

CA ERwin® Model Navigator (CA ERwin MN)

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<sup>1</sup> Saphir is used with the consent of Silwood Technology, Limited

The CA ERwin Modeling family leverages CA's core data modeling competencies and provides support for such key data-intensive initiatives as master data management (MDM), data warehousing (DW), business intelligence (BI) and data governance. CA ERwin Data Modeler (CA ERwin DM), the family's flagship product, helps organizations create data models that support both high-level business needs and implementation-level database design and deployment across a wide range of platforms. Supporting technologies include data profiling to compare live instance data with model design; process modeling that aligns business processes with data assets; model validation, reporting and metadata management; and versioning and collaboration capabilities.

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## Overview

Achieving the level of quality information management that drives business agility and enables the quick adaptation to market fluctuations requires that decision-making processes be bolstered by accurate and consistent data. To this end, organizations must refine their data management and maintenance tasks, while addressing such complex challenges as mergers and acquisitions, IT downsizing, a diverse technology stack and numerous regulatory compliance requirements.

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## Benefits

Whether you implement a DW, MDM project, data governance initiative or a BI application, the CA ERwin Modeling family delivers robust functionality that enables you to create a strong data foundation. As such, you can ensure that the information architecture driving key decisions and business processes is accurate, well structured and integrated with key standards. In this way, the CA ERwin Modeling family minimizes errors, redundancies and maintenance costs, while improving collaboration, data integrity, productivity and data structure design.

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## The CA Advantage

The CA ERwin Modeling family provides a wide range of tools and flexible integration points focused around data modeling and such related functions as data profiling, collaborative modeling, data model validation, process modeling and specialized metadata discovery for enterprise resource planning (ERP) systems. In addition, CA ERwin Modeling products allow you to share your data modeling metadata with other complementary products used within your organization — putting it at the center of your data management initiatives.

## Putting Data at the Center of Your Corporate Initiatives

In today's information-driven economy, data is a strategic asset that can help your enterprise gain an edge on its competition. Whether you leverage it for a BI application, MDM initiative or information governance project, data is the foundation that drives these functions. And because data does not live in a vacuum, it is important that your data modeling capabilities interact with the other technologies supporting your business. The quality of the data used to support strategic reporting or operational activities directly affects decision making and your ability to leverage information to improve operational efficiency.

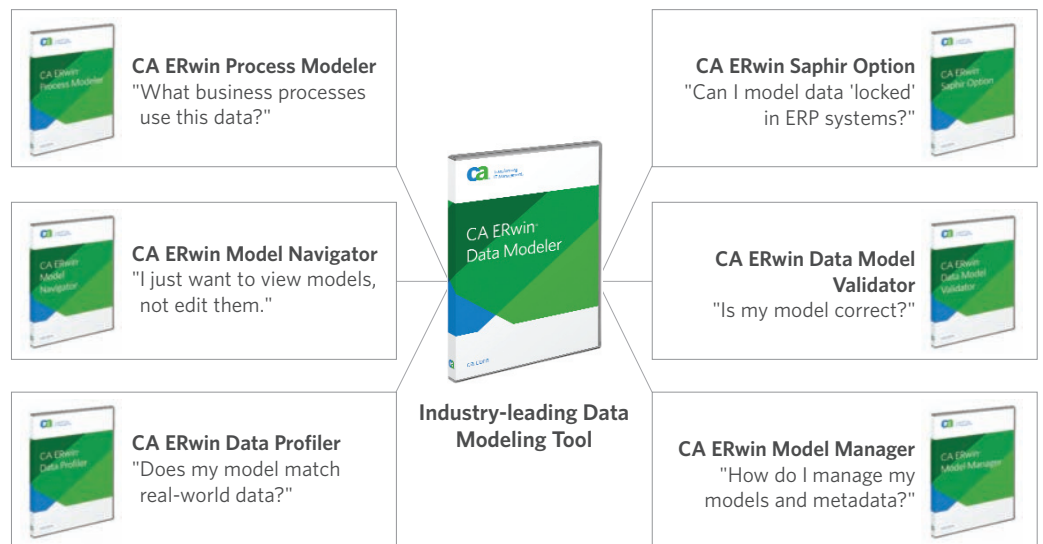
To this end, data profiling provides the ability to analyze data values and generate comprehensive statistics detailing the quality and consistency of the information within your organization. Understanding the quality of data and gaining insight into its design and structure provides a multi-faceted view of information quality and governance processes — and helps you validate that both data values and model design fit properly within your overarching information architecture. In addition, business process models help outline the key operations, initiatives and strategies that drive your organization. Gaining visibility into what information is used by, or contributes to, these processes is critical to understanding how it flows throughout your business.

The CA ERwin Modeling family provides the capabilities you need to refine your data management processes and truly make data one of your organization's most strategic assets. CA ERwin Data Modeler is at the heart of the data modeling family that provides a roadmap for standardizing your design and implementation for data-related initiatives.

FIGURE A

The CA ERwin Modeling family provides a robust set of products that focus on helping you transform data into a strategic business asset.

### CA ERWIN DATA MODELER: AT THE CENTER OF YOUR DATA MANAGEMENT INITIATIVES



## Key Components of the CA ERwin Modeling Family

The CA ERwin Modeling family offers a host of products that streamline your data management procedures. Specifically, the CA ERwin Modeling family features products that address:

- Data modeling and database design
- Collaborative modeling
- Data profiling and multi-source data analysis
- Metadata integration for applications
- Data model validation
- Process and data integration

### DATA MODELING AND DATABASE DESIGN

CA ERwin Data Modeler (CA ERwin DM) is an industry-leading data modeling solution that enables you to create and maintain databases, data warehouses and enterprise data resource models — helping you visualize data structures and better organize and manage data complexities, database technologies and the deployment environment. Data modeling and database design features include:

**COMPLETE COMPARE** Identifies, assesses and manages architectural changes between the model and database via the bi-directional synchronization of objects and associated physical properties — without requiring extensive coding or knowledge of the database structure. And as the model changes, synchronization results in automated scripts that update the database.

**DATABASE FORWARD ENGINEERING AND DESIGN GENERATION** Allows robust database designs to be created directly from visual models. To enable customized generation, rich database-independent macro language and referential integrity templates automate database object generation and simplify the process of customizing complex procedures, scripts and triggers.

**DATABASE REVERSE ENGINEERING** Enables the undocumented information contained within databases and SQL scripts to be repurposed to the creation of new data models and/or objects.

**REUSABLE DESIGN STANDARDS** Help you create, implement and maintain naming transformation mappings, data-type mappings, schema-generation templates, domain definitions and a host of other modeling standards across your enterprise.

**REPORTING AND PUBLICATION** Provides flexible, customizable and reusable reporting and printing capabilities, including wizard-driven and flexible Open Database Connectivity (ODBC) reporting options. In addition, every copy of CA ERwin DM includes a copy of Business Objects' Crystal Reports, which improves reporting flexibility by allowing you to develop customized reports.

**METADATA EXCHANGE AND DATA MODEL REUSE** Supports such popular metadata standards as Common Warehouse Metamodel (CWM), XML Schema Definition (XSD) and XML Metadata Interchange (XMI) and allows you to import or export metadata from a wide variety of sources, including BI tools, MDM hubs, other data modeling tools, Extract, Transform, Load (ETL) tools and Unified Modeling Language (UML) tools.



## DATA PROFILING AND MULTI-SOURCE DATA ANALYSIS

The newest addition to the CA ERwin Modeling family, CA ERwin Data Profiler (CA ERwin DP) increases data quality through cross-system analysis and the profiling of both database and legacy systems. To this end, CA ERwin DP discovers hidden inconsistencies and provides robust statistics that help you correct errors within your database or modeling environment. In addition, integration with CA ERwin DM allows you to compare live instance data against the formal model design. Key data profiling and analysis features include:

**CROSS-SYSTEM DATA ANALYSIS** Performs a cross-system comparison of columns across a maximum of 20 data sources in order to establish a baseline of overlapping data and discover supersets, subsets and overlapping and unique attributes. This allows you to interactively preview and perform a side-by-side comparison of record values among and between different data sources.

**“SOURCE OF RECORD” IDENTIFICATION** Validates the uniqueness of a potential global identifier in each data source and ensures that the data spanning sources can be aligned to, and synchronized with, this identifier. Doing so allows you to test rules between sources before data is moved into a master source.

**COLUMN-LEVEL PROFILING AND STATISTICS** Automates the discovery of such column statistics as value frequency, cardinality, selectivity, null count, min/max and mode.

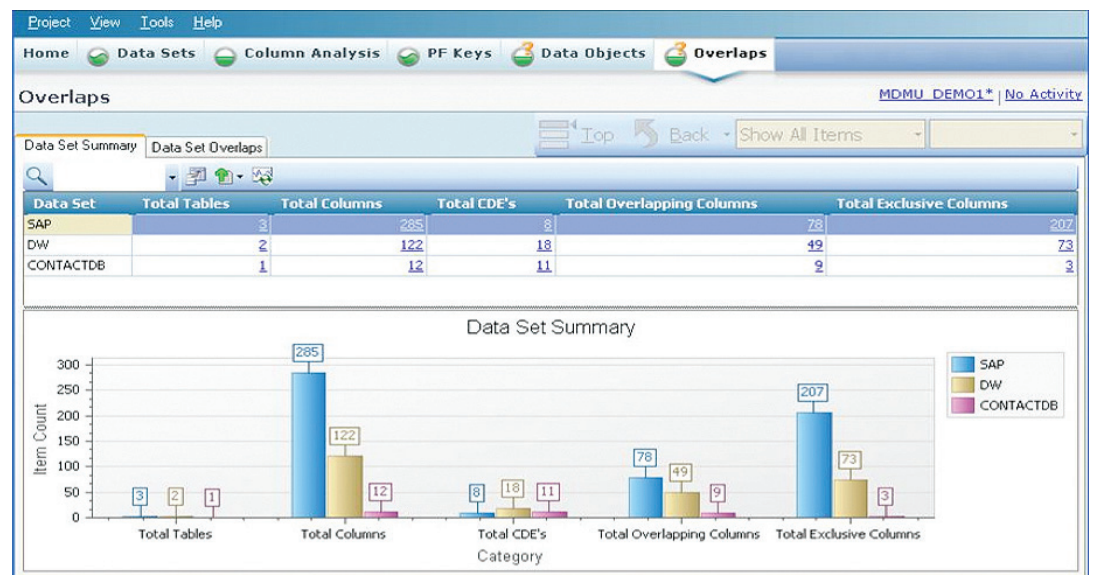
**PRIMARY AND FOREIGN-KEY DISCOVERY** Provides fully automated discovery, definition and visualization of relationships within a single data source, and discovers and validates primary- and foreign-key relationships based on data values in legacy systems.

**CA ERWIN DATA MODELER INTEGRATION** Utilizes the metadata inferred from instance data and profiling results to automate the creation of CA ERwin DM data models.

FIGURE C

CA ERwin Data Profiler automates the analysis of data across the enterprise, helping to ensure that it is used accurately and efficiently in applications, data marts, DWs and MDM hubs.

DATA PROFILING AND ANALYSIS



### METADATA INTEGRATION FOR PACKAGED APPLICATIONS

CA ERwin Saphir Option extracts and stores detailed metadata from a variety of vendors and ERP applications — including SAP R/3, SAP BW, Oracle PeopleSoft Enterprise, Oracle JD Edwards Enterprise One, Oracle Siebel and Oracle eBusiness Suite. CA ERwin Saphir Option enables you to translate the often-challenging naming conventions these system use into more user-friendly values, allowing modelers to search, browse and subset this metadata prior to creating CA ERwin DM models. These ERP-specific models can then be integrated in your overall data management environment. Metadata integration functionality includes:

**PACKAGE-SPECIFIC METADATA DISCOVERY** Provides a detailed view into the metadata in your packaged application — including vendor design artifacts containing any customizations specific to your ERP instance — providing insight into the essential elements of this complex business system.

**DATA BROWSER** Enables you to access tables, fields, relationships, data elements, views, domains and indexes without requiring extensive proprietary knowledge of the application. Users can traverse metadata via the packaged application hierarchy or by selecting individual tables and/or views and following the defined interrelationships.

**POWERFUL SEARCH AND QUERY CAPABILITIES** Feature advanced search functions that enable you to quickly locate all tables containing a specific field or string of text in their name.

**CA ERWIN DATA MODELER EXPORT** Allows users to leverage the visualization, analysis, design and generation capabilities of CA’s industry-leading data modeling solution into robust data models.

FIGURE D

CA ERwin Saphir Option helps you better understand the challenging structure and naming conventions of the tables within your ERP application.

### PACKAGE-SPECIFIC METADATA DISCOVERY

KNA1		GENERAL DATA IN CUSTOMER MASTER
MANDT (FK) KUNNR		Client (FK) Customer
LAND1 NAME1 NAME2 ORT01 PSTLZ REGIO SORTL STRAS TELF1 TELFX XCPDK ADRNR MCOD1 MCOD2 MCOD3 ANRED AUFSD BAHNE BAHNS BBBNR BBSNR BEGRU BRSCZ BUBKZ DATLT ERDAT ERNAM	<p><b>Translate Meaningful Names</b></p>	Country Name   Name1 Name2   Name2 City   ORT01 Postal Code Region Search term Street   STRAS Telephone 1 Fax Number One-time account Address Name   MCOD1 Name 2   MCOD2 City   MCOD3 Title   ANRED Central order block Express station Train station Int-location no-1 Int-location no-2 Authorization Group Industry Check digit Data line Created on Created by

## DATA MODEL VALIDATION

CA ERwin Data Model Validator (CA ERwin DMV) automates the task of comparing your database schema against relational rules. Because every change to the schema can negatively affect — or even corrupt — the database design, CA ERwin DMV enables you to validate the schema before changes are implemented, minimizing the adverse effects of unauthorized alterations. Model validation features include:

**COMPREHENSIVE DIAGNOSTICS AND REPORTING** Analyze the schema's data structure, keys, indexes, field columns and relationships for violations of relational theory, and generate a graphical representation of the entire database structure, including column cross-references and relationship listings. In addition, diagnostics can be customized to display the category or severity level of only those areas most important to your organization.

**DESIGN DISCREPANCY ISOLATION** Provides detailed reports that help increase productivity by accelerating the design review process via an innovative “show me” facility that isolates specific design issues in complex database models — eliminating the task of manually discovering problems or validating a database or a model subset.

**“TEACH ME” FACILITY** Explains the theory behind relational rules violations and reveals the impact of design choices or modifications before they occur. By instructing data modelers about the effects of their design decisions, CA ERwin DMV enables the construction of high-quality databases and simplifies the education of new personnel.

## PROCESS AND DATA INTEGRATION

CA ERwin Process Modeler (CA ERwin PM) supports process, data flow and workflow modeling in a single instrument that serves the needs of business and technology analysts alike. CA ERwin PM leverages key modeling information to identify points of conflict, gaps and disconnects — helping define a context for your database and application development. In addition, CA ERwin PM provides a mechanism for capturing core enterprise business knowledge while increasing collaboration, improving productivity and quality and guiding the application development process. Key process and data integration features include:

**SUPPORT FOR DIVERSE PROCESS MODELING TECHNIQUES** Provides integrated reuse and coordination for Integration Definition for Function Modeling (IDEF0), Integration Definition 3 (IDEF3) and Data Flow Diagram (DFD) modeling techniques.

**SWIM LANE DIAGRAMS** Offer an efficient mechanism for visualizing and optimizing complex processes across functional boundaries, enabling you to simultaneously view interdependencies and organizational interfaces.

**CA ERWIN DM INTEGRATION** Helps you understand how data is used by key business processes through built-in data usage functions and metadata support that provides detailed, “where used” mapping.

**CA ERWIN MM INTEGRATION** Delivers a multi-user model repository that provides centralized model storage, access control, version management and reporting services for CA ERwin PM and CA ERwin DM.

## Rigorous Design Improves Your Data Infrastructure

Whether you are implementing a DW, MDM project, data governance initiative or a BI application, you need a robust data model as your foundation. To this end, the CA ERwin Modeling family allows you to extend the value of data modeling across the enterprise via integrated, industry-proven data profiling, collaborative modeling, automated data model validation, integrated process modeling and specialized metadata discovery functionality. In addition, CA ERwin Modeling products allow you to share your data modeling metadata with the other applications used within your organization. And, a simple point-and-click graphical interface and robust feature list are the key ingredients that help your organization consistently deliver high-quality databases, on time and on budget.

FIGURE E

The CA ERwin Modeling family features a full suite of products that help you transform enterprise data into a strategic business asset.

### FEATURES AND BENEFITS OF THE CA ERWIN MODELING FAMILY

PRODUCT	FUNCTION	MODULES	BENEFITS
CA ERwin Data Modeler	Data modeling and database design	<ul style="list-style-type: none"> <li>Database creation</li> <li>Visualization of data structures</li> <li>Management and standardization of model objects</li> </ul>	<ul style="list-style-type: none"> <li>Reduces design defects</li> <li>Helps improve standardization</li> <li>Minimizes development and maintenance risks</li> </ul>
CA ERwin Model Manager	Collaborative modeling	<ul style="list-style-type: none"> <li>Multi-user communication</li> <li>Provides the communication hub for CA ERwin DM and CA ERwin PM</li> </ul>	<ul style="list-style-type: none"> <li>Enhances collaboration</li> <li>Increases productivity</li> <li>Helps improve model quality</li> <li>Enables standardized processes</li> </ul>
CA ERwin Data Profiler	Data profiling and multi-source data analysis	<ul style="list-style-type: none"> <li>Cross-data-source discovery analysis</li> <li>Documentation capabilities</li> </ul>	<ul style="list-style-type: none"> <li>Decreases cross-referencing and documentation time</li> <li>Helps improve data accuracy</li> </ul>
CA ERwin Saphir Option	Metadata integration for packaged applications	<ul style="list-style-type: none"> <li>Metadata extraction</li> <li>Metadata searching and analysis</li> </ul>	<ul style="list-style-type: none"> <li>Helps improve understanding of complex ERP metadata</li> <li>Increases control over data assets</li> </ul>
CA ERwin Data Model Validator	Data model validation	<ul style="list-style-type: none"> <li>Validation of database schema against relational theory</li> </ul>	<ul style="list-style-type: none"> <li>Eliminates manual validation processes</li> <li>Shortens time-to-market</li> <li>Helps train new modelers</li> </ul>
CA ERwin Process Modeler	Process and data integration	<ul style="list-style-type: none"> <li>Process, data flow and workflow modeling</li> <li>Mapping between data and process</li> </ul>	<ul style="list-style-type: none"> <li>Provides visibility into how data is used by specific business processes</li> <li>Helps to improve efficiency by documenting key business processes</li> <li>Aligns application development with business processes</li> </ul>

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## The CA Advantage

The CA ERwin Modeling family is a focused, best-of-breed modeling and database design solution. By providing the right tools that seamlessly integrate across the entire family, you receive exponential value that allows users to benefit from a simplified modular approach of an enterprise-focused toolset. To this end, your organization can leverage only those products that make sense today — and expand usage to address your evolving needs well into the future.

### Part of CA's Enterprise IT Management (EITM) Vision

As a key component of the CA Database Management (CA DBM) solution, the CA ERwin Modeling family delivers functionality that helps you maximize the performance, reliability and efficiency of your core data management processes. By tightly integrating the control and management of operations, storage, security, life cycle and services management, these products form an integral piece of CA's EITM philosophy, which helps the enterprise unify, simplify and secure IT to better manage risk, costs and service — and ensure that IT closely aligns with business goals.

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## Next Steps

CA ERwin Modeling family can help you implement a DW, MDM project, data governance initiative or a BI application — and delivers the robust functionality that enables you to create a strong data foundation. To learn how the CA Modeling family can help you transform data into one of your organization's most strategic assets, visit [ca.com/contact/rmdm](https://ca.com/contact/rmdm).

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To learn more, and see how CA ERwin Data Modeling products can help you unify and simplify data management for better business results, visit [ca.com/modeling](https://ca.com/modeling).

CA (NSD: CA), one of the world's leading independent, enterprise management software companies, unifies and simplifies complex information technology (IT) management across the enterprise for greater business results. With our Enterprise IT Management vision, solutions and expertise, we help customers effectively govern, manage and secure IT.

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Learn more about how CA can help you transform your business at [ca.com](https://www.ca.com)

