Database Design Tool Magic Quadrant 2H02

Despite rapid growth in Unified Modeling Language, object-oriented and business process modeling tools, database design tools will remain the most popular and broadly deployed design aids. We evaluate vendors in this market.

Data modeling has become firmly established among both designers and production administrators. The database design tool modeling market will continue to sustain growth of 10 percent to 15 percent in annual revenue through 2005 (0.7 probability).

The current database design tool market is typical of a mature market, with three major leaders and only a few niche players and challengers (see Figure 1). Despite the ability for Unified Modeling Language (UML)-based, object-oriented (OO) analysis and design, and business process modeling tools to model data and generate database schemas, most large organizations continue to complement these with database design tool leaders because of their best-of-breed strengths. However, data modelers will be working with OO projects more often and will want to develop techniques for working with the UML tools, in some cases by transitioning to using "classes" and components as the primary drivers of database design, as opposed to traditional entity-relationship-diagramming and transactional requirements (see "Implementing Web Services Development Roles").
Source: Gartner Research

Computer Associate's AllFusion ERwin Data Modeler remains the most-popular database design tool, particularly when database management system (DBMS) independence is a key factor in the decision process.

Oracle and Sybase customers' first choice tends to be their database design tools, Oracle Designer and Sybase PowerDesigner, because of customers’ desire to stick with a single-vendor solution, as well as the tendency of vendors to discount their database design tools to cement the database sales and maintenance revenue. Sybase has been successful at maintaining PowerDesigner's support of the major DBMS, but Oracle remains primarily focused on its own install base.

**Leaders**

The central **Computer Associates'** offering is the AllFusion ERwin Data Modeler, originally developed by LogicWorks. CA continues to enhance the product, merging in the functions of other database design tools that it has acquired from Knowledgeware, Sterling, TI, Synon and Logic Works. AllFusion ERwin Data Modeler is the most-common data modeler, in part because of very good compare and submodel support in the base tool, supplemented by excellent team support in the add-on repository AllFusion Model Manager (formerly known as ModelMart). With Model Manager supplemented by the read-only
AllFusion Model Navigator, access and management control can be established for multiple models or for multiple developers accessing the same model. Data Modeler v.4 introduced the ability to have multiple physical models for a single physical model, and improved the mapping between views. Despite delays in Data Modeler v.4 and Model Manager, relatively few users defected to other tools. The AllFusion Modeling Suite offers complementary products, including AllFusion Data Model Validator, AllFusion Process Modeler and AllFusion Component modeler. Although Component Modeler is not directly integrated to Model Manager in the current release, there is a bidirectional interface between Data Modeler and Component Modeler. This enables the exchange of entities/classes between the two tools, thereby ensuring that applications are defined properly in terms of databases (entities) and the business requirements (process). V.4 is still evolving, but has reached the point where we believe it will serve to enable Data Modeler to remain the share leader, and to preserve most of its install base.

With the release of good team support functionality, **Embarcadero Technologies** ER Studio, now in release 5.1, has moved from a consultant’s favorite to a serious alternative for large IS organizations. The repository is well-integrated and shared with the Describe object modeler. Excellent user interface and SQL features moves this product into technical equivalence with the other major players. Embarcadero has built a loyal following among database administrators with its Artisan SQL tool and will need to exploit that foothold to make inroads in the modeling install base. Embarcadero is publicly traded and had $50 million in revenue for fiscal 2001. We expect Embarcadero’s focus on the database tools market, well-targeted sales campaigns and ability to leverage a family of point tools to result in continued share growth.

**Sybase** PowerDesigner has moved forward substantially in the past few releases. The product has been redesigned and extended to allow the use of the UML notation and to smooth the relationships between the modeling of conceptual, logical and physical models. Support for non-Sybase DMBSs is good. Team support, which had lagged behind that of CA, Oracle and Popkin Software, is addressed through a new repository facility. The redesign was aimed at moving PowerDesigner out of the smaller IS organizations, where it has long been popular, into enterprise accounts. Although the functionality is ready, the promotional campaign remains low-key, and PowerDesigner continues to trail ERwin in market share. The product’s relative obscurity in Sybase’s plans will likely restrict growth outside of IS organizations that have significant investments in other Sybase product lines.
Challengers, Visionaries and Niche Players

Oracle9i Designer is now available only as part of its broader tool suite, Oracle9i Developer Suite. This Oracle product supports some aspects of the Oracle9i database design better than its competitors, but limits support of other DBMSs to Open Database Connectivity (ODBC) or ANSI standard function. Repository function available in the suite has been enhanced with versioning, and other elements in the suite include process and class modelers. Owners of Oracle’s application packages will have the advantage that process descriptions and data models of the program modules come "described" in Designer. Oracle has provided effective service and support for the offering, even though it has not introduced significant new functionality. The Oracle 9i Designer is integrated into Oracle 9i Developer, should that be the fourth-generation language the enterprise is using. Although Designer supports some functionality in other ODBC-compliant DBMSs (such as DB2), the database administrators of large IS organizations with heterogeneous DBMSs tend to prefer ERwin or PowerDesigner.

In Microsoft offerings, the data-modeling function originally developed by InfoModeler and then shipped in Visio is Visual Database Tools for SQL Server. The offering includes a visual database designer, a table designer and a view designer. This suite of tools is appropriate for entry-level users and some individual developers.

Rational Software’s Rose Data Modeler is based on UML notation. This promises to allow all design modeling to be done in UML notation, and to tighten the integration between object and data modeling. The techniques will require modelers familiar with other notation to negotiate a learning curve, and are relatively unproven in production situations.

Both Popkin Software’s System Architect and Visible Systems’ Visible Analyst are viable offerings, combining process, data and object modeling in integrated releases. Mostly found at the departmental level or in smaller companies, they have limited user bases and will have difficulty matching the development and marketing resources of their larger competitors. Popkin’s package includes strong business and object-modeling function and good XML support. Popkin’s business process modeling function rates well, and we see the vendor appearing frequently where clients are seeking good data modeling and support of enterprise architecture projects. Both the Popkin and Visible offerings provide good support for information engineering (IE) methodologies. These are excellent supplements for IS organizations that have been working with IE, but are reluctant to continue investment in the Integrated CASE suites.
Aonix acquired Select/SE, an older data modeling technology, and now offers it as an element of Select Enterprise, an OO component modeling tool and element of Select Component Factory.

**Bottom Line:** Team support, compare facilities and breadth of database support are key differentiators among vendors in the database design tool market. A variety of offerings are available to suit particular needs.

<table>
<thead>
<tr>
<th>Acronym Key</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBMS</td>
<td>Database management system</td>
</tr>
<tr>
<td>IE</td>
<td>Information engineering</td>
</tr>
<tr>
<td>OO</td>
<td>Object oriented</td>
</tr>
<tr>
<td>UML</td>
<td>Unified Modeling Language</td>
</tr>
</tbody>
</table>