

## Oracle Designer/2000™

*Oracle's scalable application development solution includes two product suites, Oracle Designer/2000 and Oracle Developer/2000.™ Designer/2000 supports the modelling of complex systems with business process reengineering (BPR), analysis, and design diagrammers. Developer/2000 empowers organizations with the ability to rapidly and productively build sophisticated systems which scale from workgroup to enterprise. With a common repository, flexible modelling and methodology support, a unified client and server development environment, and a portable open architecture, Designer/2000 and Developer/2000 are the industry's only second generation client/server design and development tools.*



*Second Generation Client/Server Design Tools*

### **Enterprise Scale Development**

Designer/2000 empowers your organization to deliver enterprise solutions to your corporate business imperatives. All staff, business process reengineering (BPR) experts, business analysts, systems designer and application developers, derive team synergy from a shared repository complemented by an integrated suite of modelling tools and system generators. Design and deliver accurate and timely enterprise client/server systems adaptable to your changing business application and data warehouse needs.

### **Business Process Reengineering**

Utilize the Designer/2000 BPR tools to analyze and redesign fundamental business processes through management focused techniques. Build multi-media process flow models complete with icons, sound, images and full-motion video to capture business processes definitions and their business unit alignment.

Process animation brings your time-scaled process models to life illustrating issues and opportunities that challenge your organization. With BPR techniques, organizations gain a profound understanding of business opportunities and methods to pursue them.

### **Visual Systems and Design Modelling**

Leverage your BPR-based models or create new ones directly with the Designer/2000 systems and design modelling components. Use the information and function modelling diagrammers to construct models that capture business and users needs by recording the logical and physical structures required in your transactional and data warehouse systems.

**Model-Driven Systems Development**

Utilize your repository-driven requirements models to speed the construction and ongoing maintenance of your production systems. For Developer/2000 and Visual Basic applications, GUI layout, database access, server logic and application logic are automatically created, incorporating flexible application partitioning for optimal client/server processing. Employ well-defined templates to ensure enterprise-wide, consistent application user interfaces that adopt the GUI, native look-and-feel and application layout standards you've defined in the repository.

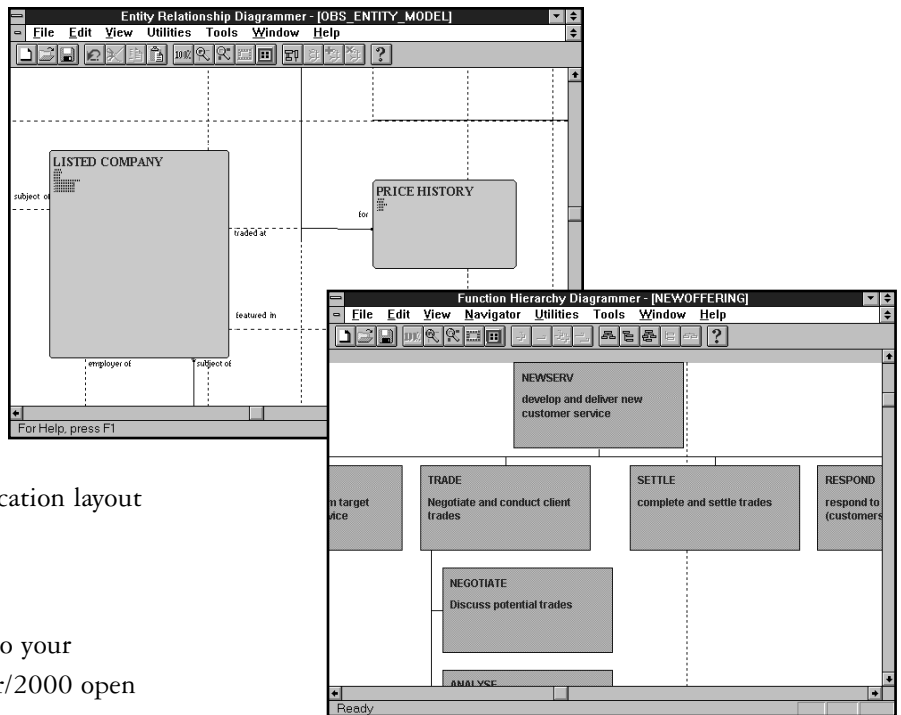
**Open Repository**

Integrate non-Oracle repositories and tools into your Designer/2000 environment. Use the Designer/2000 open Application Programmer Interface (API) to integrate third-party tools and applications. Alternatively, employ Oracle CASE Exchange™ to import or export entity, function and process model information to other popular repository frameworks and tools. Your investment in systems specification is protected regardless of the frameworks you have chosen.

**Designer/2000 Overview**

**Process Modelling**

Visualize and radically improve fundamental business processes with Designer/2000's process modelling capabilities. Gain significant competitive advantage, reduce costs and improve quality by understanding inter-organization dependencies



*Visual Modelling Tools*

and process-cycle durations. Identify proposed and existing multi-level organization units and view them in intuitive “swim lanes.” Apply icons to identify process steps and their interactions and enter cost and timing parameters for each process step.

Use process animation and multimedia to reveal issues and opportunities to management and users as they watch complete process steps execute from start-to-finish in a time-scaled environment.

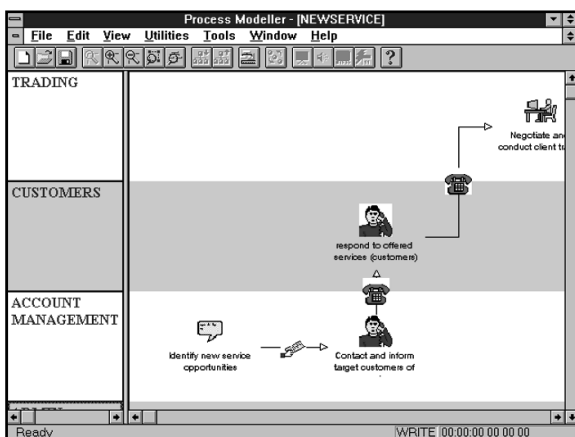
Collect further information and perform ad hoc analysis

through interfaces to popular desktop spreadsheets. Promote a shared vision of change through the real-time availability of BPR models in the Designer/2000 repository.

### Systems Modelling

Designer/2000 simplifies rapid model-driven development through powerful and intuitive industry-standard modelling methods. Use entity relationship, function hierarchy, dataflow and matrix modelling techniques, or reuse definitions from process models to capture the structure and inter-relationships of all systems objects. Through Designer/2000 repository, control the sharing and reuse of application objects across multiple projects. Use the intuitive windowing environment to integrate popular desktop applications into your diagrams and publish your diagrams through Object Linking and Embedding (OLE2).

Designer/2000 employs a repository object navigator for advanced navigation and display of an entire repository structure. Improve team and personal productivity through



*Process Modeller*

drag-and-drop object reuse, easy property and relationship modification and fully documented reports on the structure and content of your shared business repository.

The clarity and ease of use of the systems modelling tools combined with the sophisticated navigation facilities, ensures a solid foundation for the design and implementation of applications and data warehouse solutions.

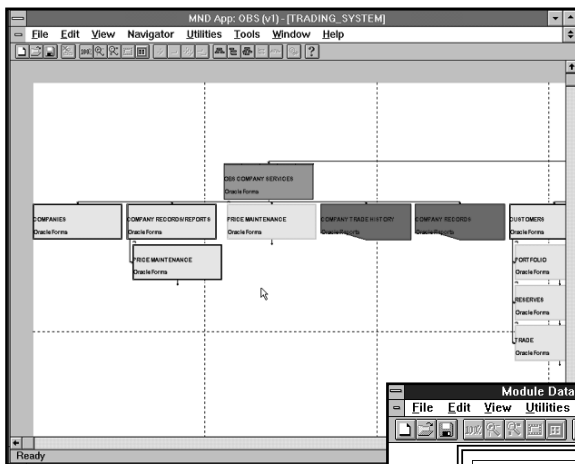
### Systems Design

Utilize Designer/2000 to implement your distributed client/server systems and warehouse applications. Take direct developer input or use the Design Wizards to rapidly derive systems designs from your requirements definitions. Your data structure, and Developer/2000 and Visual Basic program designs, materialize quickly and accurately.

Use a combination of diagrammers and navigators to create and manipulate table details, foreign keys and data validation rules; and define server-based triggers along with their triggering conditions, functions and procedures.

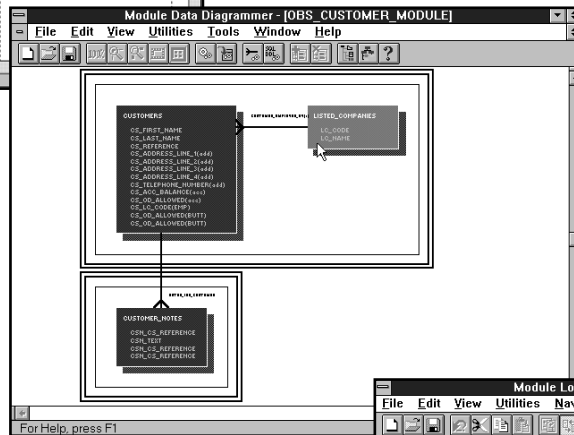
Designer/2000 makes client/server code partitioning easier than ever. You register your rules declaratively as client, client/server or server implementations in preparation for the generation of balanced client/server applications.

Harness the module structure diagrammer to define the structure of your applications, their component program modules and the interactions among them. Apply the module logic navigator for intelligent and graphical syntax-directed construction and modification of procedural definitions. The module data diagrammer easily defines the interactions between individual programs and the data they access along



Module Structure Diagrammer

with the usage of windows, pages and canvasses. Modify data access characteristics of modules by defining allowable select, insert, update and delete operations and by adding module specific specializations of general designs.



Module Data Diagrammer

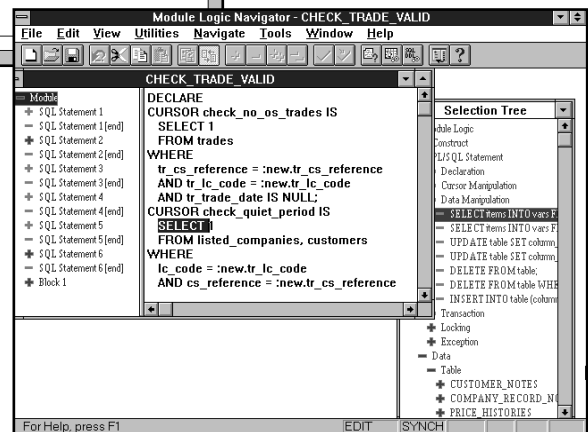
Use the preferences navigator and templates to define the overall visual and semantic characteristics of the generated systems which eliminates time spent on screen-painting and defines a standard look and feel for all applications.

Designer/2000 delivers the tools you need to rapidly design and implement client/server systems and warehouse applications and to respond to changing business needs.

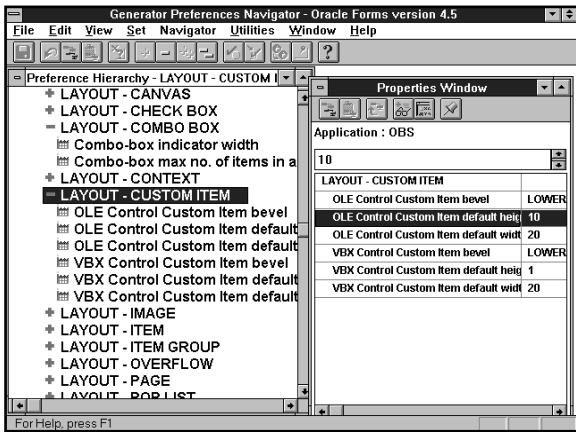
### Client Application Generation

Use Designer/2000 to automatically build Developer/2000 applications. Generated applications include multi-screen layouts, sophisticated reports, navigation through menus, buttons and pop-lists, client-side application logic and full database access functionality—all derived from the table, program module and preference designs stored in the Designer/2000 repository. Templates drive the appearance of a rich collection of GUI controls on generated screens, such

as images, dialogs, pop-lists, radio groups, check boxes, iconic buttons and more. Designer/2000 generates applications that not only run on multiple platforms with full native look-and-feel, but also exploit each platforms native features such as OLE2 and VBX controls.



Module Logic Navigator



*Preferences Navigator*

Leverage your investment by generating GUI layouts, database access logic and transaction management code for Visual Basic using the same repository-held design model. Productively deliver common user interfaces for multiple implementation environments using this open generation approach from an enterprise-wide design repository.

Further refine your generated applications from directly within Developer/2000 and Visual Basic. A regeneration process for Developer/2000 ensures that your custom modifications are synchronized and consistent with the Designer/2000 repository. Take advantage of Designer/2000 even if you have previously built Developer/2000 applications by reverse engineering your installed applications into Designer/2000 to drive future enhancements and maintenance.

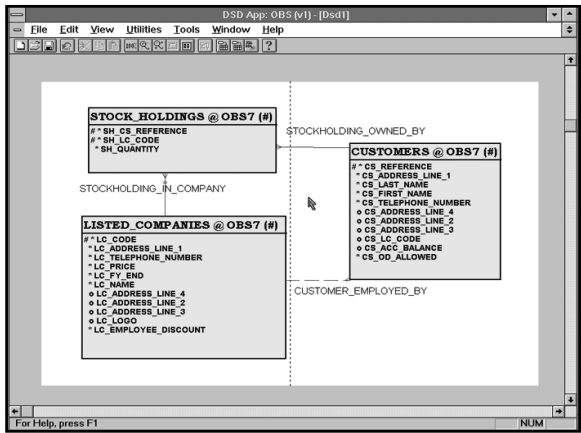
And for your warehouse applications, automate the setup of end-user access by exploiting the interface from Designer/2000 repository to the Discoverer/2000™'s End User Layer,™ gaining further value from your design investment.

Designer/2000 provides the productivity and in-house GUI standards compliance you need to implement focused tactical and strategic systems across the enterprise. This powerful generation capability is a critical component in the use of RAD techniques to deploy attractive client/server applications.

Benefit from the strength of the business and systems modelling process when forward engineering applications and end-user access facilities and leverage your existing investment in legacy systems when reverse engineering.

**Server Generation**

Designer/2000 generates not only client-side applications but completes the delivery of enterprise applications and warehouse solutions with the creation of all server-side



*Data Diagrammer*

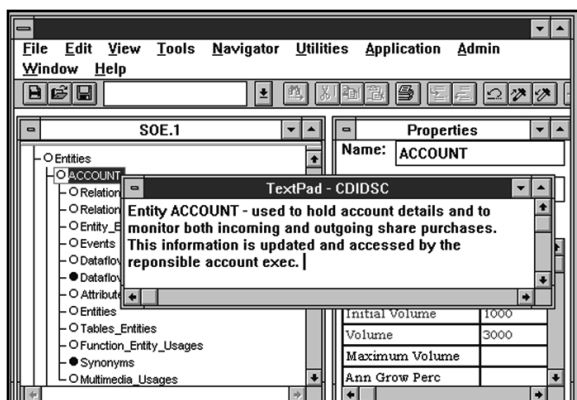
components as well. ANSI SQL DDL can be created from the repository-held server design, including table and column structures, server side validation of foreign key constraints, check conditions and primary keys.

Additionally for Oracle™7, Designer/2000 creates definitions that drive snapshots, the role-based security model, server-side application logic in triggers, stored procedures and functions, and data storage parameters. Designer/2000 also supports the development of distributed implementation models through the partitioning of application components at specific servers and nodes. These definitions are then created in a convenient form for distribution to those locations along with all the network definitions required to access the distributed servers. Reverse engineering is available to give developers and administrators access to sophisticated diagramming tools for management and maintenance of distributed servers.

Use Designer/2000 to rapidly convert distributed systems design into working databases as well as to effectively manage your existing servers.

### Repository Administration

Designer/2000 provides a comprehensive set of facilities to manage the contents of and access to the Designer/2000



*Repository Object Navigator*

repository. Divide and sub-divide definitions across multiple projects and grant users privileges that profile exactly their access needs. Promote object reuse across the development environment by providing shared definitions across multiple projects.

Accurately track and manage multiple production and development systems through powerful version control facilities. In environments calling for multiple Designer/2000 repository implementations, exploit the extract, load and merge features to manage your distributed developments.

Designer/2000 provides the sophisticated, yet easy-to-use repository management facilities you need to ensure high-value, low-cost exploitation of your integrated repository environment.

### Managing the Complexity of Client/Server Design

In summary, the rapid advances in technology, dynamic changes in the marketplace and stringent, yet changing, users needs demand advanced innovation in systems development frameworks. With accurate modelling of business and systems opportunities, the refinement of these models into flexible designs and the power wielded by model-driven generation, Designer/2000 rises to the challenge of industry demands through the rapid creation of scalable client/server systems. And as your portfolio of Designer/2000-based applications grows, the value of reusable objects in your shared repository will add to the success of your systems development and warehouse efforts.

Designer/2000 delivers on the promise of second generation client/server design.

### Key Features

- Direct integration between diagrammers and repository ensures the integrity of models and immediate availability to other development team members
- Repository object navigator provides a highly intuitive way of viewing and manipulating objects in the repository
- Clear and easy-to-use dialogs and property sheets capture non-graphical and semantic information to complete definitions of business models
- Multiple document interface enables simultaneous work on more than one model
- OLE 2.0 integration enables users to combine familiar desktop tools with their modelling techniques
- Full, single, and multibyte national language support provided
- Full, context-sensitive help and documentation available
- Comprehensive range of printing and other output options available

### Process Modelling

- Flexible support for BPR techniques
- Integration with systems modelling tools
- High-impact graphical representation of organizations and their processes
- Capture of business process metrics such as time, cost, and yield to allow accurate modelling of current and target business processes
- Execution of business processes, including the multimedia components through animation
- Multimedia support
- Desktop integration including spreadsheet interfaces (Lotus 1-2-3 and Excel)

### Entity Relationship Diagrammer

- Supports the construction of entity relationship models using entities and attributes, relationships, UIDs
- Entity super- and sub-types
- Visible attributes, identifiers and synonyms on diagrams
- Sophisticated auto-layout facility
- Extensive quality-checking reports and utilities

### Function Hierarchy Modeller

- Supports the construction of functional hierarchies
- Drag and drop for re-sequencing and re-parenting of functions
- Collapse and expand of hierarchy branches for clarity
- Horizontal, vertical and hybrid layout options
- Extensive reporting module including function point analysis
- Quality checks

### Dataflow Modeller

- Supports the construction and checking of dataflow models including Functions, Datastores, Dataflows and External Entities
- Rapid selection and “treewalking” across the functional hierarchy
- Automatic leveling and balancing of flows across models
- Divided and resolved dataflows
- Display function, dataflow and datastore properties on model

### Matrix Diagrammer

- Supports extensive cross-referencing of repository-held objects
- Filters for selection and refinement of repository objects
- Customizable matrix preferences

- Spreadsheet look-and-feel
- Automatic ordering of displayed data
- Support for extended repository definitions

### Design Wizards

- Automatic database design wizard produces a first-cut database schema, complete with tables, columns, indexes, and referential integrity constraints
- Automatic application module design wizard takes the information contained in the functional and dataflow models, and creates complete module definitions for screens, reports, and menus for review and additional design work prior to code generation

### Data Diagrammer

- Powerful database modelling techniques
- Point-and-click selection of client/server partitioning rules for code generation
- Sophisticated auto-layout facility
- Iconic representation of database design features

### Module Data Diagrammer

- High productivity definition of data access and usage requirements of program modules
- Intuitive and productive diagram layout
- Sophisticated auto-layout facility
- Direct integration with other Designer/2000 modelling and generation tools

### Module Structure Diagrammer

- Rapid and flexible definition of interdependencies between program modules
- Direct integration with other Designer/2000 modelling and generation tools

### Module Logic Navigator

- Supports the definition of procedural logic as part of the repository-held design
- Powerful syntax-directed editing facilities
- Full graphical editing environment
- Syntactic and semantic checking of logic

### Preferences Navigator

- Complete, online GUI style guide
- Powerful hierarchical representation of GUI and coding preferences
- Range of design object types for which preferences can be set
- Named preference sets for reuse of standards
- Module level freeze protects generated module from being re-built with different preferences
- Full default preference values are shipped for immediate usability

### Developer/2000 Application Generation Features

- Complete Developer/2000 forms and reports generation facility for intelligent, model-driven GUI code generation
- Generates portable, scalable, high-functionality applications
- Preferences automate the GUI style guide for consistency and productivity
- Close integration with systems designer tools for graphical programming
- Reverse engineering of existing forms and reports definitions into the repository
- Regeneration protects investments in customized code during design changes
- Sophisticated summary and grouping operations can be defined in the repository for incorporation into reports

- VBX and OLE 2.0 controls may be included in generated code

### Visual Basic Generation

- Common design model for both Visual Basic and Developer/2000 generation
- Full GUI layout and SQL DML creation
- Creates all transaction management, navigation and data validation code
- Optimized access for Oracle7 servers
- Integrated with Oracle7 server code

### Server Generation Features

- Completes the delivery of enterprise applications by creating all of the server-side components automatically from the repository-held definitions
- Full table and column information along with server-side validation of foreign key constraints, check conditions, primary keys, etc. ANSI standard SQL DDL is created
- Oracle7 definitions of server-side application logic (PL/SQL™), including triggers, stored procedures and functions, and the storage parameters are generated
- Full support for Oracle7 role-based security model
- Replication definitions are also created from information held within the Designer/2000 repository
- Database definitions are recorded for implementation at specific servers and nodes
- Provides definitions in a convenient form for distribution to those distributed locations and creates all network definitions required
- Reverse engineering of existing database definitions

### Data Warehouse Support

- Models business requirements for data warehousing at business, systems or design level
- Generates SQL DDL for warehouse implementation
- Generates structured applications for warehouse access using Developer/2000 or Visual Basic
- Populates Discoverer/2000 End User Layer from Designer/2000 repository

### Repository Administration Features

- Comprehensive repository administration facilities for development DBAs
- Multiple project data management and reuse
- Repository navigator provides a highly intuitive way of administering objects in the repository
- Version control of applications system objects
- Access control
- Power utilities support sophisticated distributed repository environments with Extract, Load and Merge
- Check in, check out functionality
- Full repository API using stored procedures in the Oracle7 server
- CASE Exchange supports the bi-directional movement of definitions between the Designer/2000 repository and many other CASE products
- User extensibility allows the contents of the repository to be customized to meet specific development needs

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9523.0895.30K

Part#: A31522