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Help rushes to the front; GUI tools rolling out as enabling machines, software proliferate - Data Resource Management: Moving to Server Databases - graphical user interface - Client/Server Computing supplement to Software Magazine

Barbara Bochenski

Industrial-strength front-end tools are beginning to become available for client/server architectures. These tools take advantage of PC graphics, connect to may server databases and offer powerful object-oriented capabilities to the professional application developer.

"You can consider these products as replacements of the 4GLs of the '80s," said George Schussel, president of Digital Consulting, Inc., in Andover, Mass.

"They're graphically oriented code generators. They run under the dominant graphic standards, which are Windows 3.0, Presentation Manager, Motif and Open Look," he added.

The fron-end tools are open, so they support multiple independent DBMSs, said Schussel. "They also support execution across the network in a client/server mode."

In addition to supporting shared repository and data dictionary environments across that network, Schussel said the front-end tools will be project-oriented for teams.

"They will also support the debugging process in a windows environment," said Schussel. Therefore, a developer could have one window running the program, other running the debugger, and another examining output from that program. He said they will also have an industrial-strength language with which a developer can write detailed procedures. "And of course they have to integrate with a manage the SQL environment," Schussel added.

An available product that meets most of these requirements, according to Schussel, is the PowerBuilder from Powersoft, Burlington, Mass.

"I think Gupta's SQLWindows will be a product of that ilk too," he added. "But I can assure you, based conversations with other companies we're talking to, that there will be 25 products like that, I'd say, a year from today."

PowerBuilder 1.0, introduced in March, runs under Windows 3.0, but future releases will support other windowing environments, according to the company. Geared primarily to be server-independent, it currently supports Microsoft's SQL Server, Gupta's SQLBase, and Oracle's Oracle Server. Future releases will support other relational databases.

"One of the things that attracted us to PowerBuilder is that it's designed to support multiperson development projects," said Larry Vaughn, assistant vice president of systems development with the Frank Russell Company, a financial service company in Tacoma, Wash.

"Probably the major innovation of PowerBuilder, besides the multidevelopment capability, is one of the objects they've created called a DataWindow," said Vaughn. "It's a window onto a database.

"Instead of writing SQL code to format and display fields," said Vaughn, "you paint it. You join two tables by clicking on a picture of the tables." He said PowerBuilder provides pictures for what you need to do.

"Data Window is an object that is smart about databases," explained David Litwack, senior vice president and general manager of the Powersoft systems division. "It's SQL smart. We used the object metaphor and created an object that understands databases. You tell it to update and it knows what to do under a variety of circumstances."

Vaughn said, "The real magic omes from the fact that if you stayed close to the Ansi standard portion of Powersoft's SQL, what you've painted will run Oracle, SQL Server, SQLBase or XDB [from XDB Sytems, College Park, Md]."

Dun & Bradstreet Software, Framingham, Mass., has licensed the PowerBuilder toolset from Powersoft, with plans to develop client modules for applications within client/server environment. Product shipment dates were not disclose.

OBJECT-ORIENTED APPROACH

A number of powerful front-end tools are using an object-oriented approach. Some of them are Object Store, from Object Design, Burlington, Mas.; Object View, from Matesys Corp., Larkspur, Calif.; Object/1, from MDBS, Lafayette, Ind.; Omnis 5, from Software, Inc.; and Toolbook, from Asymetrix, Bellevue, Wash.

Other development products will powerful functionality include: SQLWindows, from Gupta Technologies, Menlo Park, Calif.; Prism, from DataEase International, Trumbull, Conn.; Visual Basic, from Microsoft, Redmond, Wash.; JAM, from JYACC, New YOrk City; and InfoAlliance, from Software Publishing, Mountain View, Calif.

Products are also expected from Cooperative Solutions, San Jose, Calif., Revelation Technologies, New York City, Borland International, Scotts Valley, Cali., Information Builders, New York City, and others.

Object/1 from MDBS was the choice of Mike Pickett, manager of distributed processing for Duke University Medical Center in Durham, N.C. Object/1 provides an object-programming language which has its roots in the C language. An editor called Forms Painter provides for the specification of windows, dialog boxes and menus.

Object/1 includes classes that permit the access of multiple external databases just by pointing and clicking instead of writing code.

JAM/Presentation interface (JAM/Pi) for Windows from JYACC also supports the major server databases, including SQL Server, Oracle, SQLBase and XDB.

JAM/Pi, part of JAYCC's JAM family of 4GL application development toolsm gives developers the

ability to develop JAM applications for multiple presentation environments, including MS Windows, Motif and Open Look, as well as character and block mode environments, providing presentation independence as well as database independence.

Mitchell Kertzman, president and CEO of Powersoft, agrees with Schussel's prediction of more products to come, "because the required technologies are now available."

Kertzman said certain technologies--powerful PC hardware platforms, graphics capabilities, database servers, Windows 3.0 and network software--had to be in place before a product like PowerBuilder could appear.

"The underlying core technologies are now available, so we can integrate them," said Kertzman. "That is what PowerBuilder does, and that is why the promise of client/server is finally being realized."