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Good Things in Small Packages: Microsoft Launches SQL Server 2000 for Windows CE

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When people think of SQL Server 2000—Microsoft's powerful database and data analysis program—they may imagine the product running on a large, static

piece of hardware permanently anchored in a climate-controlled room.

If you asked them how likely it would be that a portable, handheld device could incorporate SQL Server's robust computing capabilities, some might see it as the equivalent of jamming a 2-ton elephant into a phone booth.

But they'd be mistaken.

In fact, with the recent launch of SQL Server 2000 Windows CE Edition (SQL Server CE), Microsoft has extended enterprise applications to handheld PC Pro devices, Palm-size PCs, Pocket PCs or any other device running either the Windows CE 3.0 or 2.12 operating system.

Unveiled Oct. 26 in San Francisco, SQL Server CE rounds out Microsoft's SQL Server 2000 family as the complete database and analysis offering. The product gives users efficient access to enterprise data, and the agility to rapidly deliver the next generation of scalable e-commerce, line-of-business, and data warehousing solutions.

Big Step, Small Footprint

In SQL Server CE, Microsoft takes a big step forward in offering customers full relational database functionality along with access to data anytime, anywhere, on any device—one of the pillars of Microsoft's .NET initiative.

A challenge in providing this portability is the fact that even though today's compact devices are advancing rapidly, system resources—such as available memory—are often scarce.

So it's critical that a relational database system be as compact as possible while still providing essential functionality. SQL Server CE has a small memory footprint, delivering all of its capabilities in approximately 1 megabyte (MB).

Regarding those capabilities, performance is enhanced with an optimizing query processor; the product supports a range of data types to ensure flexibility; and all devices provide 128-bit encryption to ensure database file security.

Using a portable device running Windows CE 2.12 or 3.0

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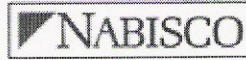
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and SQL Server CE, customers can access data from SQL Server versions 6.5, 7.0, and SQL Server 2000. They can also remotely execute SQL statements and pull record sets to the client device for updating.

SQL Server CE offers businesses a competitive advantage by enabling them to deploy sophisticated database applications to various devices, effectively extending enterprise applications. The product is ideal for users of mobile and embedded solutions, including sales force automation, service dispatch, point of sale, and shop floor management applications.

Cookie Crumbles on Old Handheld System

One company, Nabisco, is already baking SQL Server CE into its handheld device approach. The



producer of popular snacks such as Oreo and Chips Ahoy cookies, Nabisco uses handheld computers in its fleet of vehicles that distributes products directly to local supermarkets.

Nabisco recently decided to upgrade its old, DOS-based handheld system, converting to the Microsoft Pocket PC platform, which is based on Windows CE 3.0, running SQL Server CE.

Each day at the company's distribution center, the handheld devices communicate to back-end systems, sending information about completed orders and receiving new updates. Remote Data Access (RDA) and merge replication capabilities allow data to be downloaded, updated, and synchronized from back-end SQL Server databases.

Both approaches work over Hypertext Transfer Protocol (HTTP) and support encryption, to ensure that data from enterprise SQL Server databases is reliably delivered, and that the data can be manipulated offline and synchronized later to the server.

Nabisco expects that the combination of Pocket PC and SQL Server CE will make delivery drivers more productive, in part by helping them save time during the transmission process at the distribution center.

"We researched alternatives and selected Microsoft SQL Server 2000 Windows CE Edition because of the integration of mobile database technology with existing enterprise database investments," says Herb Brian Smith, Nabisco's Lead Technology Advisor.

Take Orders While Stuck in Traffic

Nabisco is one of more than 500 companies that beta tested the product, said Mitch Gatchalian, a SQL Server product manager at Microsoft. More than 1,000 developers downloaded the product in the first three weeks after the final version 1.0 product was made available.

Another early adopter, Rubicon Technologies, a mobile solutions consulting firm, uses a handheld device to log the time it charges to its clients and the services it performs, and then automatically synchronizes the data back at the corporate headquarters.

In addition, Rubicon managers use the SQL Server CE-based device for vacation requests, a company event calendar, internal forms, invoice creation and tracking, commission tracking, resource scheduling, and Online Analytical Processing (OLAP) of financial data.

Another SQL Server CE beta user, a small business owner, takes orders over the Internet and then

communicates them via a mobile device. "He can actually take and process orders in traffic in his car," Gatchalian said. "And using a Cellular Digital Packet Data-enabled modem, he can send the data over the Internet and replicate it to a main server. He's actually doing business while he's driving around. It may not be all that safe," Gatchalian jokes, "but it shows the power and flexibility of the product. He can log orders, authorize shipments, etc. all on his handheld device. It becomes an extension of his enterprise."

Familiar Tools Extend Enterprise, Raise Eyebrows

In addition to helping developers create business applications like those described above, SQL Server CE helps extend existing enterprise applications to devices. In fact this can be accomplished much easier using SQL Server CE than any of the other mobile database offerings.

That's largely because of the consistency of the database across the SQL Server family. Microsoft offers familiar application programming interfaces (APIs) like ADO and OLEDB on the device, as well as familiar tool sets, namely the embedded versions of Visual Basic and Visual C++, properly known as the eMbedded Visual Tools 3.0.

Because mobile solutions can be created using the same Visual Basic and Visual C++ programming skills that developers use every day, organizations can easily extend existing enterprise applications to devices.

"When customers start hearing about SQL Server capabilities which are offered in a 700k to 1.2 megabyte footprint, their eyes get wide and their eyebrows arch," Gatchalian said. "When they see how easy merge replication and RDA are to use, they realize: 'hey, this is something we can use.' They know that SQL Server has made its mark in the enterprise, but that it has also extended itself to the device space, giving the product a full array of solutions for their businesses."

Download SQL Server CE Today

SQL Server CE is licensed as part of SQL Server 2000 Developer Edition. Developer Edition licensees can [download SQL Server CE today](#). Devices can connect to back-end SQL server databases provided that the back-end server is licensed on a per-processor basis, or that the client device has a SQL Server client access license.

Unlike Sybase, Oracle, and IBM, Microsoft does not require customers to purchase a separate synchronization product to reconnect to a host database.

Learn More About SQL Server CE

- [Get overview and licensing information.](#)
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