

## Knowledge is Power

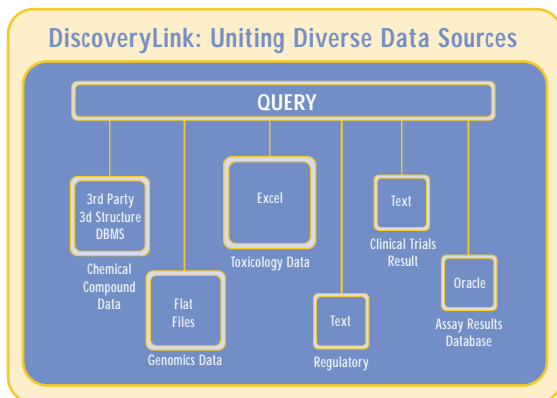
**Today's** pharmaceutical industry is facing an enormous challenge: How to turn the exploding amounts of data from genomics, combinatorial chemistry, high-throughput screening and other technologies into meaningful information in the service of finding and developing new drugs. Not only is this research information massive in volume and constantly growing and changing, but also it is often scattered across a variety of public and proprietary database sources.

IBM's Data Management group is offering an exciting solution: a powerful and flexible data integration engine that marries IBM's deep experience in database management (including DB2 Universal Database and DB2 DataJoiner) with innovative new technology from IBM's Almaden Research Center. The resulting middleware, called DiscoveryLink™, takes a federated database approach to the integration problem. It provides software applications with a single "virtual database" view of diverse data — as if all the data were accessible in one database, and in a single format — but requires no actual changes to the nature, placement, or access methods of the source databases.

DiscoveryLink is composed of the core federated database "engine" and a software "wrapper" for each distinct data source. End-user applications access the DiscoveryLink middleware at the "front-end" through an open interface.

DiscoveryLink, then, provides a robust infrastructure for extracting information from data without the pitfalls of current "point-to-point" application solutions. And since the underlying data sources remain unchanged, the existing suite of applications that access them can also remain unchanged, protecting existing investments in application software.

For more information on DiscoveryLink, go to: <http://ibm.com/software/webserver/lifesciences/discovery.html>



## Announced

For more information on IBM data management software announcements go to [ibm.com/software/data](http://ibm.com/software/data) and click on News in blue on the left.

### IBM delivers tools to support DB2 Universal Database for OS/390 and IMS

IBM is investing approximately \$200 million in the development of a comprehensive set of database tools to support DB2 Universal Database for OS/390 and IMS. More than 35 newly announced or enhanced database tools are designed to help administrators manage large amounts of data within their database environments.

- **Database Administration Tools** to service and support database operations;
- **Database Performance Management Tools** to maintain operations at peak performance;
- **Database Recovery and Replication Management Tools** including archival, image copy, and point-in-time recovery; and
- **Database Application Management Tools** for cost-effective data management.

For more information on the data management tools, go to [ibm.com/software/data/db2imstools](http://ibm.com/software/data/db2imstools)

### IBM delivers versions of DB2 Universal Database for Linux

In December 2000, IBM shipped its DB2 Universal Database Enterprise-Extended Edition Version 7.1 for Linux, which runs on Intel-based servers and server clusters. The beta version allows developers to write clustered database applications on Linux. At the same time, IBM delivered DB2 Universal Database and DB2 Connect for Linux on S/390 and eServer zSeries. Customers will benefit both from the increased application choices offered by Linux and from the strong reliability and scalability offered by S/390 (and eServer zSeries) systems. For more information, go to [ibm.com/software/data/db2/linux](http://ibm.com/software/data/db2/linux)

### IMS Version 7 rolled out with new features

DB2 Everyplace brings the power of DB2 to mobile devices and is the first enterprise mobile computing offering that provides development, deployment, and administration in one package. Backed by the synchronization capabilities of the new DB2 Everyplace Sync Server, it allows mobile and enterprise employees to view and synchronize data with the DB2 family. Additionally, the new Personal Application Builder enables users to create mobile applications for the Palm Computing Platform.

While the new DB2 Everyplace V 7.1 provides ongoing support for the Palm OS and Windows CE platforms, the system also supports such platforms as Windows CE Pocket PC, EPOC, Embedded Linux, and Neutrino. For more information on DB2 Everyplace, go to: [ibm.com/software/data/db2/everyplace](http://ibm.com/software/data/db2/everyplace)

**Jim Kelly, Vice President,  
IBM Data Management Marketing**

***A number of companies have recently chosen DB2 Universal Database over your competitors' databases. What is leading these customers to switch to IBM? Also, why should existing customers stay with DB2 Universal Database?***

Every customer is unique and has its own reasons for selecting DB2 Universal Database over competing products. However, there are still a number of factors that are important for companies looking to keep their e-businesses profitable and running every minute of every day. For example, with DB2 Universal Database, you get a rich portfolio of the best and fastest e-business solutions in the industry. DB2 is recognized for handling intricate functionality and terabytes of data easily and quickly, and better than any of its competitors.

Second, DB2 Universal Database offers a wide variety of leading-edge technologies such as in-memory high-speed text search (DB2 Net Search Extender), built-in data mining services (DB2 Intelligent Miner Scoring Services), built-in data warehouse management (DB2 Warehouse Manager), and OLAP capabilities (DB2 OLAP Server).

***How are you measuring the scalability and performance of DB2 Universal Database?***

IBM's recent dramatic TPC-C and TPC-H benchmark results illustrate DB2 Universal Database's leading performance and price/performance levels. We continuously devote a significant amount of lab resources to improving upon the performance and the price/performance of DB2 Universal Database. Over the past four months we have established industry-leading benchmark results for such measures as TPC-C, TPC-H, SAP R/3 Three-Tier Assemble-to-Order (ATO), and the PeopleSoft Human Resources V7.5 online benchmark. We have established performance benchmarks across a range of platforms and types of workloads to provide our clients with data management capabilities on a number of devices.

***How does IBM's pricing on DB2 Universal Database compare with that of Oracle8i?***

Oracle8i is significantly more expensive than DB2 Universal Database. According to PC Week Labs (3/6/2000), "At \$600 per named user, or at per-server prices that start at \$100 per MHz of CPU speed, the (Oracle) Enterprise Edition database remains quite expensive, several times the price of competitors."

Additionally, a recent independent survey showed that the five-year total cost of ownership (TCO) for DB2 Universal Database is significantly lower than that of Oracle8i in four key scenarios:

- For small OLTP, the TCO for DB2 UDB was 81% of the TCO for Oracle8i;
- For large OLTP, the TCO for DB2 UDB was 52% of the TCO for Oracle8i;
- For data warehousing, the TCO for DB2 UDB was 75% of the TCO for Oracle8i; and
- For Internet, the TCO for DB2 UDB was 66% of the TCO for Oracle8i.

## Customer Scenarios

In recent months, an increasing number of e-business customers have made the decision to go with DB2 Universal Database rather than Oracle. For information on additional case studies profiling customer experiences with IBM DB2 Universal Database solutions, go to: [ibm.com/software/data/solutions](http://ibm.com/software/data/solutions)

### GetRelevant.com

Performance and scalability were two critical factors for GetRelevant.com when the company was selecting a database to run its sophisticated online promotions and reporting service. After rigorous testing of both Oracle and DB2 Universal Database, GetRelevant found the IBM solution to be far superior. Reports that took more than a minute to produce on Oracle were generated "subsecond" on DB2 Universal Database. In just three months of powering its service with IBM's DB2 Universal Database Enterprise Edition for AIX, GetRelevant interacted with 5 million customers, tripled the previous month's revenues, and was on track to serve up to 100 million promotional offers every four weeks.

### SpotOn.com

Just weeks before launching their new company, executives at SpotOn.com decided to switch from an Oracle database to IBM's DB2 Universal Database. Since the site was expected to attract millions of users, SpotOn needed a scalable database that would also deliver unmatched reliability. As one SpotOn executive noted, when it came to performance, the DB2 Universal Database was "rock-solid stable." Additionally, DB2 Universal Database was offered at the best price. In fact, DB2 Universal Database is one-fourth the price of the Oracle solution.

## Facts Versus Fiction

Between July and November 2000, IBM DB2 Universal Database set new benchmark performance records including the following. Platforms include Windows 2000, AIX, NUMA-Q, Sun Solaris and Red Hat Linux. For more information, see [ibm.com/software/data/db2/benchmarks](http://ibm.com/software/data/db2/benchmarks) and [www.tpc.org](http://www.tpc.org).

- On July 3, IBM, Intel and Microsoft announced the development of the world's fastest single-database server cluster for commercial use, achieving performance levels of 440,879 tpmC on the industry standard TPC-C transactional benchmark. This was achieved with price performance of \$32.28/tpmC in a clustered Windows 2000 environment using IBM Netfinity servers and DB2 Universal Database V7.1 Enterprise-Extended Edition.
- On September 5, IBM published two 300GB TPC-H benchmarks of 4,027 QphH (\$652/QphH) using a 32 processor (8 quad) configuration, and 5,923 QphH (\$653/QphH) using a 48 processor (12 quad) configuration of its next generation NUMA-Q 2000 system and DB2 Universal Database V7.1 for DYNIX/ptx. These, plus the 16 quad results (7,334 QphH, \$616/QphH) posted on May 3, 2000, demonstrate DB2 Universal Database's near-linear scalability.
- On September 15, Baan certified the record-setting BaanERP Hostmode benchmark result of 11,886 Baan reference users with IBM's pSeries 680 server and DB2 Universal Database V7.1 for AIX.
- On October 23, PeopleSoft certified the record-setting Payroll V8 online benchmark result of 162,000 employee views/hour with IBM's DB2 Universal Database V6.1 for Sun Solaris.
- On November 22, SAP certified a new SAP Sales and Distribution (SD) Standard 4.6 B benchmark result of 20,670 order line items processed/hour and 62,000 dialog steps/hour with IBM's Netfinity 7600 server and DB2 Universal Database V7.1 for Linux (Red Hat Linux 6.1).