

# Data Warehousing

The promise and challenges for better business intelligence

## Playbook

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## Data Warehouse Architectures Form the Framework for Business Intelligence

Storing and analyzing terabytes of data on a daily basis used to be the realm of a few organizations, but today's data warehouse landscape has changed significantly. Now, even organizations of modest size find the need for data warehousing that allows efficient access to ever-growing amounts of data and, even more important, the ability to retrieve and analyze key data for both time-sensitive and strategic purposes.

In this collection of articles, you'll find out how the connection between business intelligence and data warehousing is now closer than ever. In the Intelligent Enterprise article "Operational BI: The Evolution of Business Intelligence", for instance, writer Antone Gonsalves reports how at least one market watcher (The Data Warehousing Institute) believes that BI is now at the "turning point" of unifying analytics and operational processes. Leading the way in making that possible are improvements in the technology of data warehouse platforms, and specifically improvements in scalability and data delivery.

Another selection from Intelligent Enterprise reminds readers that the scope of data warehousing and its true usefulness comes from integrated management and feedback from those who use it (see "Kimball University: Educate Management to Sustain Data Warehouse/BI Success"). It's interesting to note that author Warren Thornthwaite uses the abbreviation "DW/BI system" (data warehouse/business intelligence) in his discussion of managing a successful organization that's making the best use of these technologies.

From the  
editors of:

**intelligent**  
enterprise  
**InformationWeek**

Also in these pages, you'll find recent articles that demonstrate how one of the leading vendors in the data warehouse market has been able to innovate and expand its platform to new levels that make it more useful to business intelligence purposes than ever before. In the InformationWeek article "A Closer Look at Oracle's 11g Database Release" and in "Oracles New Database Innovates and Imitates" you'll learn that there is much that is familiar, but also much that is truly improved, including accelerated change management, higher scalability, easier administration, and reduced cost.

What these and other articles here show is that never before has the promise of Business Intelligence been both achievable and more broadly available, due in no small part to advances and continued innovation in data warehouse architectures.

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The Intelligent Enterprise Weblog

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# Operational BI: The Evolution Of Business Intelligence

**A white paper released this week by The Data Warehousing Institute shows organizations slowly moving toward operational business intelligence. But the journey is sure to present a number business and technical challenges.**

**August 3, 2007**

*By Antone Gonsalves*

The concept of business intelligence is changing. Once the tools of only tech-savvy business analysts, BI is slowly evolving into a technology that merges analytics and operational processes into a unified whole.

But the road toward operational BI is sure to present a number of business and technical challenges, many of which are outlined in a white paper released this week by The Data Warehousing Institute.

TDWI believes operational BI is the “turning point” in the evolution of business intelligence, and defines it as the ability to deliver information and insights to a broad range of users within hours or minutes for the purpose of managing or optimizing operational or time-sensitive business processes.

That’s a long ways from most BI deployments today. The majority of users continue to be business analysts and executives using sophisticated tools to improve the effectiveness of strategic or tactical decisions by analyzing trends and patterns in large volumes of historical data.

While BI will certainly continue to be used in that way, the full value of the technology won’t be realized until it merges analytics and operational processes. But delivering BI to everyone from the shipping clerk to the chief executive has its challenges.

TDWI believes operational BI requires a rebuilding of current BI systems, so queries can be returned in seconds, not minutes or hours; reports can be updated dynamically, and the system can capture large amounts of data in near real-time without interfering with the operations of other software. In addition, as BI becomes more critical to operations, better backup and recovery systems need to be in place to prevent long periods of downtime during server outages.

Faced with such a large undertaking, it’s no surprise that a lot of organizations are moving slowly toward operational BI. A TDWI survey of 423 corporate IT professionals, the majority of whom were mid-level managers in the U.S., found only a small percentage that claimed to have systems that were “fully” or “fairly” mature.

“While a majority of organizations have implemented some form of operational BI, few have mature or sophisticated systems,” TDWI said.

Indeed, the departments leading the way in some form of operational BI deployment are the same ones using more traditional BI tools. Those departments include finance, sales, service, and marketing.

For businesses taking BI to a new level, the biggest challenge, according to the TDWI survey, is architecting the system, followed by managing expectations of users, query performance, obtaining funding and working around technology limitations.

To reduce the number of problems, TDWI advises organizations to first define the requirements of the system to avoid building what’s not needed. If users only need information that’s

updated twice a day, then there’s no need to spend a lot more money for updates every minute.

In addition, if just-in-time data is needed, then organizations should rethink business processes to take full advantage of the capability. Other pieces of advice include setting reasonable expectations, so business users aren’t surprised by results; and training users so they can reap all the benefits of faster data access.

On the technical side, organizations must decide whether to use a data warehouse, and select the right technology from three categories: data acquisition, data storage and data delivery. In addition, systems should be scalable, so they can later handle more users, connect to more data sources, and handle higher volumes of data with increased rates of throughput.



# A Closer Look at Oracle's 11g Database Release

Last week's announcement of Oracle's soon-to-be released 11g database highlighted a bevy of new features and options promising improved performance, accelerated change management, higher scalability, easier administration and reduced cost. The market leader is pioneering on some fronts and following on others, but the one thing that's clear is that the still-fast-growing database market is far from commoditized. Here's a closer look at the stand-out enhancements.

July 16, 2007

By Doug Henschen

"It's a big deal for Oracle and for the IT industry." That's how Oracle President, Charles Phillips, described last week's launch of Oracle 11g, the firm's first major database release in four years. It was no overstatement, as Oracle's market-leading database serves at the heart of tens of thousands of data warehouses and the locus of information management for more than two hundred thousand customers.

dispel the idea that database management systems have been commoditized in a mature market, so he and fellow Oracle executives focused on a bevy of new features and functions, highlighting benefits including improved performance, accelerated change management, increased scalability, easier administration and reduced cost.

## Oracle 11g Launch Images

Underscoring his firm's database dominance, Phillips cited Gartner figures that put Oracle's market share at 47.1 percent, "more than IBM and Microsoft combined," he asserted. But Phillip's higher calling was to



The short list of upgrades includes:

- An enhanced data mirroring feature designed to boost performance and enable "rolling" upgrades without taking the database down,

- A Real Application Testing feature said to dramatically shorten test and deployment cycles,
- A Total Recall capability designed to meet compliance and audit demands,
- Partitioning and materialized view enhancements aimed at data warehouse deployments,
- A Fast Files capability said to efficiently manage documents, images, e-mail and other unstructured data within the database.

### For DBAs and CIOs

Oracle's Data Guard data mirroring feature, which exists in the current 10g database, maintains a hot standby server that takes over if the production server fails. It's an important reliability and availability feature available in most databases, yet some customers find it hard to justify the cost of licensing a separate server that's typically idle. Data Guard upgrades in 11g change these economics by letting you shift production reporting and I/O-intensive backup activities to the standby server.

"Now Data Guard is not just a protection against disaster, it's an assurance of performance because it offloads resource-intensive workloads from the production system," explained Andy Mendelsohn, senior vice president of the Oracle Database Group.

The Data Guard upgrade also supports online upgrades and patches without taking a database out of service, and that includes the upgrade to the latest release. "You can upgrade to 11g on the standby database while you're still running production on 10g R2," said Mendelsohn. "Once you're sure the upgrade has gone well, you can switch users over to 11g on the standby server and then upgrade the production server without experiencing downtime."

The Real Application Testing feature introduced in 11g lets you capture and replay a live copy of

your production database for testing purposes, yet it doesn't create new overhead on the database. By Oracle's estimates, this Tivo-like feature could reduce the time required to test new applications, changed applications or database upgrades by as much as 80 percent because it eliminates the need to recreate a production workload in a test suite.

The new Data Guard and Real Application Testing capabilities are unique to Oracle, according to Gartner analyst Donald Feinberg, but the breakthrough he describes as most significant is Total Recall, which "can eliminate the hassle of archiving." The feature is designed to let you go back in time and perform queries as of a certain date.

"Instead of saving the actual data, Total Recall keeps the logs of changes to the data back as far as you want to go," Feinberg said. "If your auditors come in and want to see data from January 1, 2007, you can do a query and specify that date in the SQL statement. It's also selectable by table, so you don't have to query the entire database."

Another feature that's unique in the database market is Oracle's Data Vault, which was previously a separate product but is now being rolled into 11g (though its not clear whether it will be an option or a standard feature). The Data Vault separates administrative control of the database from access to the data, an advance aimed at compliance and security concerns.

"Architects and administrators have all-access privileges, so they can copy and modify information and, if they're smart, they can cover their own tracks," said Ari Kaplan, president of the International Oracle User Group. "For the first time in any database, the Vaulting capability separates administrative control over the information, so I think a lot of companies will make it mandatory to upgrade to 11g."

## For the Data Warehousing Gurus

Upgrades aimed at the BI and data warehousing communities include advanced partitioning and accelerated query processing. Oracle Partitioning — an existing, optional scalability and manageability feature for high-volume environments — has been enhanced with rules-based automated partitioning, and it extends existing range, hash and list partitioning to include interval, reference and virtual column partitioning. Also added are composite partitioning options supporting rules-driven storage management.

To speed query performance and support large-scale, high-volume deployments, Oracle has embedded an OLAP engine in 11g to store and efficiently manage up to millions of materialized views. Used by some 60 percent of Oracle's data warehousing customers, materialized views are a sort of pre-fetching technique used to speed multidimensional queries.

"The big breakthrough here is that we're able to use the OLAP cubes as a transparent performance accelerator inside the [relational] database," said Mendelsohn. "The users are still happily using their SQL applications, and they won't even know they're using OLAP." The cubes are refreshed as the data changes in underlying SQL tables.

## Playing Catch Up

Not all the new features in 11g are breakthroughs. For example, the added support for binary XML follows in the footsteps of IBM, Microsoft and Sybase, and the new data compression features are also matched by competitors. Oracle itself has long supported storage of large unstructured data objects such as images and documents, but the Fast Files feature introduced in 11g is said to match or beat file system retrieval speeds. That may hasten changes in

content management architectures.

"Many large enterprises would not make expensive file servers and proprietary repositories (long the backbone of document management and enterprise content management systems) their first choice for managing ECM-related files, noted analyst Alan Pelz-Sharpe of CMS Watch. "Surely IBM and Microsoft will respond with their own capabilities."

The one thing Oracle failed to do last week was provide a lot of detail on release dates, pricing and standard-versus-optional features — other than to say that the first release would be a Linux version set for August. During a news conference, Phillips said pricing would follow the same model used on 10g, but he acknowledged some new features might be optional. If the company follows past practice, the Unix and Windows versions of the database will bow within 90 days of the Linux release.

Competitors Sybase, IBM and Microsoft will bring enhancements of their own to the market over the next six months. Sybase is expected to announce new capabilities at its August TechWave user conference in Las Vegas. IBM released a beta version of its DB2 Viper database earlier this month with enhancements including automated fail over, greater flexibility and granularity in security, auditing and access control (an answer to Data Vault?) and simplified memory management. Microsoft will announce SQL Server 2008 as early as February with release set for the second quarter. Enhancements will include better support for spatial data, something also introduced in 11g.

So it seems the database market is more like a competitive hot bed than a "mature and commoditized" realm, and with growth rates averaging 14.2 percent, it's actually outpacing the "hot" BI market.



# Kimball University: Educate Management to Sustain Data Warehouse/BI Success

**Data warehousing and business intelligence success cannot be taken for granted. You must create an ongoing education and communication program to maintain your success and extend it across the organization.**

August 27, 2007

By Warren Thornthwaite

Most large organizations have fairly mature data warehouse/business intelligence (DW/BI) systems in place, and many of these have met with some measure of success. Unfortunately, in this "what have you done for me lately" world, success is not a single event you can gloat about as you kick back with your feet on the desk. Continued success is a constant process of building and maintaining a solid understanding of the value and purpose of the DW/BI system across the organization. We call this education, but many of the techniques involve marketing and organizational strategies. Call it what you will, you must actively and constantly promote the DW/BI system.

First, you need to know who your stakeholders are and make sure you have standard communications tools in place, like status notes, newsletters and quantitative usage reports. There are also a few qualitative and organizational tools you can use to educate management about the value and purpose of the DW/BI system.

## Gathering Evidence

While usage statistics are interesting, they show only activity, not business value. Simple query counts tell you nothing about the content or business impact of those queries. Unfortunately, there's no automated way of capturing the value of each analysis from the DW/BI system. You still have to get this information the old-fashioned way, by talking to people. Someone on the DW/BI system team has to go out into the user community on a regular basis and ask people to describe what they are doing, assess the business impact it has had and document it.

Most of the time, the impact of any given analysis isn't all that stunning. People do useful things that make a big difference in their work, but it's not a multi-million dollar hit. Every so often, you will find an analysis or operational-BI application that has had a significant impact. The analyst may have identified a pattern of calls in the customer care data that led to a simple change in the documen-

tation and reduced the call volume by 13 percent (at \$6 per call, that's over \$140,000 per year for a company that takes 500 calls per day). Or they may have analyzed the donor database in a small non-profit organization and identified donors who had dropped out. This led to a special program to reconnect with these people that yielded a 63-percent response rate and close to \$200,000. The operational-BI application may offer ring tone recommendations on a Website based on customer purchase history. Each ring tone may fetch only a \$1, but a 30-percent increase in ring tone downloads could add up to real money. You get the idea.

### **Educating the Business: The User Forum**

Finding high-impact examples requires a bit of work. One effective technique Kimball Group has used to identify and leverage qualitative examples of value is called a user forum. The user forum is a DW/BI event designed for the business community. Your main business sponsor should kick off this 90-minute meeting with a short speech about how important the DW/BI system is to the organization's success. The first agenda item is a brief presentation from the team about the recent accomplishments, current state and short-term plans of the DW/BI system. The bulk of the meeting is dedicated to two presentations from business analysts who used the BI system to generate significant value for the organization. They talk about what they did, how they did it, and what kind of impact it had.

Senior managers like these events because they see the impact. Often the head of one department will see what another department has done and realize his group is missing an opportunity. Middle management and analysts like the presentations because they include enough detail so people can see exactly how the analysis was accomplished. They learn new techniques and approaches to the analytical process. The three examples of business value described above would be great feature presentations at a user forum.

A good meeting doesn't happen by accident. Carefully plan the meeting over six months. Find

good presentation candidates with high business value by canvassing users on a regular basis. Once you find a good example, work with the user to create a clear, compelling presentation with lots of good screen captures and a summary page that shows the dollar impact of the analysis. Rehearse the presentation with them, especially if they are not experienced presenters. This helps you, and them, get the timing down so your audience doesn't miss the punch line because the meeting went too long. Email a reminder a day or two ahead of time, and call everyone you'd like to be there to make sure they are going to make it to the meeting. If key folks, like the CEO or VP of Marketing, can't make it, consider rescheduling rather than have them miss out. If they are already on your side, it's good to have the show of support (see related article, "Habits of Effective Sponsors"); if they are not converts yet, they could learn something by being at the meeting.

Schedule User Forum meetings on a regular basis: about every six months or so. Don't be too proud to employ blatant marketing techniques to promote the meeting. The basics almost go without saying: food and drink are a must. (We found trays of fresh donuts to be a big hit.) Consider offering marketing swag as prizes. Since most BI teams are friendly with the marketing group, see if they'll let you raid their goodies closet.

It's a great idea to keep the presentations on file. After a year or two, you will have a library of powerful business-value examples. Put a link to them on your BI portal. Print them out and make a welcome packet you can present to every new executive.

### **Educating Senior Staff**

Your top educational priority in the long term should be to continuously and consistently inform senior management about what the DW/BI system is, why it's important, how it should be used and what it takes to make it happen (see related article on "Data Warehouse Check Ups"). The user forum helps achieve this objective, but the greater your access to senior management, the easier this education process will be.

Ideally, the head of the DW/BI system is part of senior staff and participates in their planning meetings. If not, try to get a regular slot on their meeting schedule to present success stories and plans and to hear about potential changes in business priorities.

Often, senior management will want to explore an idea to see if it's viable before launching any major new initiatives. Having a direct line to the DW/BI team can help senior management quickly triage ideas that should be abandoned and those that should be developed further. Once an idea begins to gain traction, the DW/BI team should make sure its development is accompanied by appropriate measurement and analytical systems. All too often, we've seen new initiatives taken on by senior management with no means to measure impact or value. If the data is not collected, you can't analyze it.

Bottom line: however you make it happen, you need to make sure someone on the BI team is involved with senior management and understands where the business is headed so you can be prepared to support it.

### **Working with Steering Committees**

If it's not politically possible for the BI team lead to be part of senior staff, another way to get the information you need is to establish an ongoing steering committee for the DW/BI system made up of senior-level business representatives (see. If you don't have a steering committee, try to recruit people who you know will be able to work together, give you the information you need and

wield some influence in the organization. You might call this group the Business Intelligence Directorate (BID), or some other important-sounding name with a nice acronym. It may seem trivial, but naming is a big part of the marketing process.

You may also have a different kind of business-user steering committee made up of analysts and power users who help prioritize lower-level tasks and identify technical opportunities for the BI system. You might call this the BI Technical Experts (BITE) group.

### **Conclusion**

You may feel like since you've done a good job, you shouldn't have to continually market the DW/BI system, or educate the business community. Unfortunately, that's not the case. You need to continually gather concrete evidence of your success and use that to educate senior management. You also need to be informed of and have some influence over the decision-making process at the senior staff level, either through direct participation or via a steering committee. This may sound like a burden, but one positive result is that as senior management understands the business value of the DW/BI system, they no longer question your budget.

Warren Thornthwaite is a member of the Kimball Group, a Kimball University instructor and is coauthor of *The Microsoft Data Warehouse Toolkit* (Wiley, 2006) and *The Data Warehouse Lifecycle Toolkit* (Wiley, 1998).

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The header features the InformationWeek logo with the tagline "DEFINING THE BUSINESS VALUE OF TECHNOLOGY". To the right is a search bar powered by TechWeb, with a "SEARCH" button and a "Go" button. Below the search bar is a navigation menu with links for NEWS, BLOGS, WINDOWS, SECURITY, MOBILITY, INTERNET, SOFTWARE, HARDWARE, CIO CENTRAL, RESEARCH & TOOLS, and CAREERS. On the far right, there are links for ISS FEEDS, SUBSCRIBE, EVENTS, and WHITE PAPERS. A small article preview box is also visible, titled "What Readers Are Talking About" with sub-headlines "Will Android Be Windows To Apple's iPhone?" and "Why is Google Still Number One?"

## Oracle, Dell, And EMC Unveil New Data Warehouse Initiative

**The Oracle Optimized Warehouse combines the Oracle Database with preconfigured hardware from Dell and EMC, with the goal of giving customers an out-of-the-box data warehouse.**

September 27, 2007

By W. David Gardner

Oracle (NSDQ: ORCL) announced its Oracle Optimized Warehouse initiative Thursday, a combination hardware and software products aimed at improving performance of data warehouse environments built on the Oracle Database with preconfigured hardware and storage products from Dell and EMC.

In Oracle Optimized Warehouse, Dell PowerEdge servers and EMC (NYSE: EMC) Clariion networked storage systems have been validated and tested for optimal performance with Oracle Database, the companies said. Oracle noted that the product contains preinstalled data warehouse and business intelligence capabilities of Oracle Database.

"With the Oracle Optimized Warehouse Initiative, customers no longer need to choose between proprietary data warehouse solutions and Oracle-based solutions custom-built on leading hardware platforms," said Ray Roccaforte, Oracle's VP of data warehousing and business intelligence platform, in a statement. The new offerings enable customers to utilize the prebuilt database product out of the box.

Oracle said the Oracle Optimized Warehouse, which is now available from Dell, is supported as a single product, even though it consists of an integrated prebuilt database, storage, and server system.

Rick Becker, VP of solutions for Dell (Dell)'s product group, said Dell anticipates building on its relationship with Oracle and EMC to help customers scale Oracle Optimized Warehouse applications as needed. EMC has been supplying hardware to Dell for several months.

"The long-standing collaboration among EMC, Dell, and Oracle enables us to help customers simplify the implementation of a well-designed data warehouse and easily expand it to meet their business needs," said Mike O'Neill, EMC's VP of technology alliances, in a statement.

Oracle indicated its Oracle Optimized Warehouse is targeted at data marts, enterprise data warehouses, and BI applications. Oracle said it offers reference configurations for customers who prefer the flexibility of configuring their own data warehouse platforms rather than prebuilt configurations.

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## Oracle's New Database Innovates And Imitates

There are some neat new features in Oracle 11g — and some intended to stave off Microsoft.

July 14, 2007

By Charles Babcock

Oracle (NSDQ: ORCL) went to New York last week to introduce the first new version of its flagship database in four years: Oracle 11g. And to remind people of its database expertise. "Innovation is the theme of 11g," said Robert Shimp, VP of Oracle's global technology business unit.

Be that as it may, there were still plenty of questions. Some of the database's 500 new features will be offered as separately priced add-ons when 11g becomes available on Linux in August, but an Oracle spokesman couldn't say specifically which ones. He also couldn't say when versions of 11g will be available for Unix and Windows.

Oracle president Charles Phillips boasted that 35% of the 20,000 members of the International Oracle Users Group "say they're ready to go to 11g," though he declined to speculate on how long it might take before the entire customer base had migrated to the new system.

Aspects of the new database are intriguing. In 11g, for example, Oracle is pioneering a feature that lets the database take a snapshot of an 11g workload, then run it on a test version of a new database server, which might include a database upgrade, a new operating system, or a new middleware-hardware combination. "It's like record and replay," says Andy Mendelsohn, an Oracle senior VP. "You can replay the workload in a new environment and see if it will run or spot the bottlenecks."

This real application testing feature—or regression testing, as it's commonly called—aims to ensure that everything works as expected. Real application testing is expected to reduce one of the database administrator's biggest headaches: moving from an old system configuration to a new one.

Another key feature is more efficient XML handling. Verbose XML text, often used in messaging over the Internet, gets translated into binary format and



**Users say they're raring to go, Phillips asserts.**

stored in the database. Oracle 11g can compress binary XML to save storage space; it can also encrypt it to ensure privacy.

In another innovation, Oracle has built more usefulness into live standby systems earmarked for disaster recovery. Instead of keeping the hot standby on idle, Oracle 11g can offload reporting and other noncritical functions to the disaster recovery system, without impairing the database's ability to be up to date and available at an instant's notice.

Some of the additions to Oracle 11g are aimed at countering Microsoft, which has been adding business intelligence features into the core of its database system rather than selling them as add-on products. Oracle has favored the latter strategy, but it has reversed course with 11g by embedding online analytical processing cubes. Average users, as opposed to highly trained business analysts, can fire standard SQL queries at OLAP cubes and get the benefit of in-depth

views of data, such as a time-sensitive look at sales data across multiple regions.

#### **FOR MATURE AUDIENCES**

Contrary to some analyst predictions, the "mature" database market continues to grow at a rapid clip—14.3% in 2006, to \$16.5 billion, according to IDC's latest figures. IBM, Microsoft, and Oracle all share in that growth; Oracle is growing the fastest measured by dollar volume, while Microsoft is growing the fastest by units shipped. Together, they both appear to be contributing to IBM's slippage in overall market share.

One reason that Oracle is moving ahead as IBM is slipping, says IDC analyst Carl Olofson, is its reoriented appeal to small and midsize businesses through a smaller-footprint "express" version of the database and its gain in license revenue with customers' upgrades to multicore servers, which increase the price of database licenses.

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# Oracle Struts Its Stuff at OpenWorld

**Virtualization, better application integration and new core database features wow the faithful.**

November 17, 2007

By Charles Babcock

John Marks, IT supervisor at Chesapeake Energy, finds his data growing at a rate of 75% a year. Particularly troublesome are digital images of terrain and drilling locations that must be scanned into Chesapeake's system. The image index is on one server, the images on another. If the index is down, no images can be retrieved.

By upgrading to Oracle 11g next year, Marks will be able to layer the index file system on Oracle 11g's Automatic Storage Management enhanced file management system and put both in the same database. That's insurance they will be available when needed, he says.

At a time when Oracle appears to be obsessed with applications, Chesapeake Energy is an example of why Oracle keeps getting stronger in its core database and middleware businesses. Oracle isn't adding willy-nilly to its application portfolio, although 41 acquisitions in 45 months might leave that impression. It's striving to stay competitive with Microsoft and IBM on the database front,

surpass SAP in applications, and match BEA Systems and IBM in middleware.

Can any vendor sustain such a juggling act? CEO Larry Ellison claims Oracle will be the first, and he's tossing a few more balls into the air. During last week's Oracle OpenWorld conference in San Francisco, Oracle announced it was moving into virtualization with a virtual machine hypervisor based on Xen. Virtualize your database servers with Oracle VM, suggested president Charles Phillips.

"Oracle VM is an enabler of grid computing, and we'll never go back to big iron," Ellison said in his keynote address. Oracle's 11g database upgrade was released in July, but with 43,000 customers in town, company officials couldn't resist showing off some of its new features. One of them, Partition Advisor, lets database administrators partition an extra-large database into more manageable chunks. New compression features let administrators shrink data down.



**Ellison uses Jedi mind trick on 43,000 faithful**

Photo by Kim Kulish

"The database triples every two years, and IT must buy the storage, add the power, expand the server querying capability," said Oracle senior VP Andy Mendelsohn, describing the challenge faced by many customers. Using 11g's new compression capabilities and offloading less-frequently-used data to low-cost storage, a million-dollar storage expense can be shrunk to just over \$58,000, he claimed. Tiered storage is back in vogue.

Oracle's primary growth area remains enterprise applications. Oracle introduced three integration packs for the telecom industry to help automate customer order-to-billing and revenue accounting and to get customer information to service representatives. The packs consist mainly of software modules built on Oracle's Fusion middleware.

#### **KEEP THOSE CUSTOMERS**

Oracle knows it has to offer a compelling reason for customers coming from JD Edwards,

PeopleSoft, Siebel Systems, and other acquisitions to move to a new generation of Oracle applications. One way it's trying to do that is by embedding "SOA-enabled endpoints" in Fusion apps, giving customers different ways to build business processes and extract data.

Ellison boasted that 1,500 customers have signed up for Oracle's Unbreakable Linux technical support. Oracle is encouraging customers to deploy its database on Linux as an alternative to its main low-cost competitor, Microsoft's SQL Server.

To Michael Prince, CTO at Burlington Coat Factory, Oracle on Linux is a good idea. "We run all the Oracle we can under Linux," he says. When it comes to Linux technical support, however, he turns to IBM.