INFORMATION FOR SUCCESS

Customers Achieve Extreme Performance at Lowest Cost with Oracle Exadata Database Machine
June 2012
Hardware and Software, Engineered to Work Together
Enterprise data is growing exponentially, and with this growth comes larger databases and more business users seeking faster response times to increasingly complex queries. Yet organizations are still being asked to lower their IT costs. So how do you prioritize IT investments to ensure support for growing volumes of data and still meet your business users’ evolving requirements—such as competing more effectively, reducing IT costs, meeting compliance requirements, or anticipating changing market conditions?

Oracle Exadata changes the game by offering extreme performance for all your data warehousing, online transaction processing (OLTP), and mixed workloads, making it the ideal platform for consolidation onto private clouds. Oracle Exadata is a preoptimized, preconfigured hardware and software solution that is massively scalable, secure, and fully redundant. Its unique architecture and innovative storage software lowers total cost of ownership, increases performance by 10x or more, and reduces the risk of downtime.

This reference booklet contains a sampling of real business results that organizations in a variety of industries worldwide have achieved by implementing Oracle Exadata. In these testimonials you’ll learn how customers have used Oracle Exadata to reduce IT costs through consolidation, manage more data on multiple compression tiers, improve the performance of all applications, and make better business decisions in real time.

Whether you are an existing or prospective Oracle Database customer, we hope you find these success stories helpful in learning how Oracle Exadata can help you achieve your business and IT objectives.

Sincerely,
Jeb Dasteel
Senior Vice President and Chief Customer Officer
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Exadata Replaces Teradata

36 Teradata Racks 3 Exadata Racks

10x Energy Consumed 8x Faster

At Teradata’s Largest Asian Customer

Save The Planet, Dump Your Teradata
For more information visit oracle.com/savetheplanet
Oracle Customer:
11st
Seoul, Republic of Korea
www.11st.co.kr

Industry:
Retail

Annual Revenue:
US$1 to US$5 Billion

Employees:
600

Oracle Products & Services:
• Oracle Exadata Database Machine

11st Cuts Task Deployment Time from Eight to Nine Hours to Two Hours, Reduces Storage Use by 500%

In 2008, Korea’s largest mobile communications service provider SK Telecom launched 11st, an online shopping site. 11st has grown significantly in the past three years, becoming the first company to earn revenue of US$2.6 billion in the shortest time in the history of the e-commerce industry in South Korea.

Challenges
• Implement a data processing platform that could support a rise in the number of online shoppers, by increasing data throughput and transaction processing speeds
• Complete sales reports on the previous day’s best-selling product categories and top customers in a short amount of time to ensure the data warehouse is fully operational before the start of business hours
• Enable easy analysis of large volumes of data, such as customers’ shopping habits and bestselling products, over a long-term period

Solutions
• Implemented Oracle Exadata Database Machine X2-2 HC Quarter Rack to take advantage of faster processing times and data compression features
• Shortened the time taken to complete tasks, such as the previous day’s sales reports, from eight to nine hours in the past, to two hours
• Processed 100 million shopping transactions in a day, as Oracle’s compression and partitioning features and data transfer specifications enhance data processing speeds
• Enabled fast reporting and analysis of six-month-old transactions, by partitioning data into daily, weekly, and monthly segments and applying different compression methods
• Improved performance at low cost and with minimal man hours as the existing database system did not need to be changed
• Reduced storage needs by 400% to 500% (from 20TB to 25TB to 5TB) by compressing customer and transaction data
• Optimized resource allocation among the many concurrent database sessions with Oracle Database Resource Manager

“The ability to react quickly to daily changes in the fast-moving e-commerce market is critical to success. Oracle Exadata Database Machine offers fast transaction processing times and data compression features that enable us to analyze customer transactions in a timely manner and take action if we spot any emerging sales trends.”

JangWon Park, Manager, 11st
Adriatic Slovenica Responds to Premium and Claim Requests 10 Times Faster, Halves Processors, Reduces License Costs, and Cuts Implementation Time by 75%

“Oracle Exadata Database Machine provides unparalleled access speed and transaction processing power to our Web-based insurance platform, transforming the performance of this critical business application that serves hundreds of customers and agents simultaneously.”

Damijan Pregeljc, Director of IT Infrastructure, Adriatic Slovenica

Adriatic Slovenica is the second largest Slovenian insurance company. It offers a wide range of insurance products, including health, life, motor, third-party liability, fire and natural hazards, general liability, accident, credit, and surety ship insurance. The company, founded in 1990, has operations in Slovenia and Serbia. In the first quarter of 2011, Adriatic Slovenica exceeded 2010 sales, and surpassed the majority of its competitors. The company is committed to continuously improving customer service levels and to rapid and accurate premium processing and claims settlements.

Adriatic Slovenica wanted to improve response times for customers and agents accessing its online insurance platform. Using Oracle Exadata Database Machine, it cut transaction processing time from one minute to six seconds and increased user satisfaction. It has reduced by 50% the number of processors it requires, cutting licensing costs by US$58,000 each year. With Oracle Exadata’s ready-to-run configuration settings and pretested components, the company and Oracle Specialized Partner OSI Open System Integration d.o.o. (OSI d.o.o.) implemented the system in two days—three times faster than a non-engineered system.

Challenges

- Accelerate response time for customers and agents that access Adriatic Slovenica’s online, insurance management platform for product inquiries, price quotes, claims, and payment applications
- Manage three terabytes of data and up to 600 concurrent agents and end-customer users without impact on performance
- Scale system to manage increasing transaction volumes and user numbers while reducing storage, lowering power usage, driving down license costs, and cutting maintenance overhead
- Benefit from specialized technical expertise to align the company’s insurance platform with changing business and market needs and accelerate the time to realize value from new technology investments

Solutions

- Replaced Oracle Database and Oracle Application Server infrastructure supporting the company’s insurance platform with a single Oracle Exadata Database Machine X2-2 Quarter Rack, running on Oracle Linux, to create a resilient, high-volume online transaction processing environment
• Benefited from Oracle Exadata’s unified networking, based on InfiniBand, to cut the average time for processing typical transactions, such as product inquiries, premium quotations, claims, and settlements, from one minute to six seconds

• Improved agent and customer satisfaction by eliminating peak-time bottlenecks and service delays

• Leveraged the extreme performance of Oracle Exadata to consolidate the workload onto fewer servers and cut the number of processors required from 24 to 12, which saved US$58,000 each year in license fees

• Cut system back-up times and simplified and streamlined management and support to improve database administrator productivity

• Benefited from Oracle Exadata’s built-in storage consolidation to cut data storage costs

• Gained a pre-optimized, preconfigured, and a pre-integrated hardware and software solution with the scalability to manage future growth cost-effectively by adding storage servers, database servers, and network switches incrementally, in line with business expansion

• Recycled the existing Oracle Database, servers, and storage area network (SAN) previously used to support the insurance platform to the back office and other systems that are not time critical, such as planning and forecasting

Why Oracle

Adriatic Slovenica evaluated solutions from Oracle and several other leading technology providers. Oracle Exadata Database Machine offered the best cost-to-performance ratio and demonstrated the highest return on investment over a five-year period.

“Oracle Exadata Database Machine exceeded the power and performance of alternate IT solutions we considered, for the same total hardware and licensing costs. The solution also integrated easily with the existing Oracle IT environment,” said Damijan Pregeljc, director of IT infrastructure, Adriatic Slovenica.

Implementation Process

Adriatic Slovenica implemented Oracle Exadata Database Machine in two days and went live over a weekend, which minimized system downtime for customers, agents, and partners. A traditional system implementation of this scale would have taken approximately eight days and incurred the additional cost of a parallel production environment to ensure business continuity during the switchover.

Choosing an engineered system that was preconfigured, pre-optimized, and ready to run significantly reduced system testing time and ensured a smooth go-live for Adriatic Slovenica. Additionally, comprehensive Oracle support for the entire hardware and software stack ensures rapid, one-stop problem resolution on an ongoing basis.
“Oracle Exadata Database Machine was deployed rapidly and with far less risk than a traditional IT environment, and it generated immediate performance improvements for our end users,” Pregeljč said.

Partner
Oracle Partner OSI d.o.o. served as project manager for the Oracle Exadata Database Machine implementation, which included migrating three terabytes of data. OSI d.o.o. won two Oracle awards in 2010 for best IT infrastructure implementation. It is a long-standing strategic partner to Adriatic Slovenica, having managed previous Oracle upgrades for the company. OSI d.o.o. also trained the company’s database administrators in routine maintenance and platform support.

“OSI d.o.o. met all our expectations for technical expertise, and demonstrated in-depth knowledge of the Oracle infrastructure, while providing us with a high-level of professionalism, customer service, and value for money. It will continue to support us as we take advantage of new Oracle Exadata Database Machine capabilities to continuously improve the service levels we provide to customers, agents and partners, while driving down operating costs,” Pregeljč said.
Algar Telecom Gains 50% in Compression and 85% Faster Access to Data Warehouse Data with New Storage Solution

“By adding Oracle’s Exadata Database Machine X2-2 storage solution, we updated our data warehouse environment with the most appropriate solution available on the market. With Exadata, we were able to reduce access and processing time by 85% for the management and historical data used by our internal business team, enabling us to serve them with faster and more reliable information.”

Eduardo Rabboni, Chief Information Officer, Algar Telecom

Algar Telecom is a Brazilian telecommunications company that has been present in the market for 56 years and has been listed on the stock exchange since 2007. The company belongs to Grupo Algar (Algar Group) and offers landline phone, cell phone, broadband internet [3G and asymmetric digital subscriber line (ADSL)], data communication, television, and code 12 services for domestic and international long distance calls.

Algar divides its wide range of products and services into two segments: retail under the CTBC brand, and companies under the Algar Telecom brand. Algar has more than 1.6 million customers—including approximately 700,000 landline phone, 500,000 cell phone, and 235,000 broadband customers—and operates in major Brazilian states including Minas Gerais, São Paulo, the Federal District, Rio de Janeiro, Mato Grosso do Sul, Goiás, and Paraná.

Algar’s data warehouse revitalization project focused on upgrading a system that was more than 10 years old. To do so, Algar adopted Oracle’s Exadata Database Machine X2-2, along with software and support. The new solution accelerated access to historical and management data, which helped the company offer quick and complete information to its internal business team.

Challenges

- Restructure the operator and provider’s database infrastructure to ensure competitiveness and a high standard of service for its 1.6 million landline, cell phone, and internet customers
- Achieve quicker processing in order to deliver management information extracted from the data warehouse environment to the sales and retail departments
- Speed up access to the telephone company’s historical data in order to quickly respond to requests from the business support area

Solutions

- Worked with Oracle Consulting and the Oracle Advanced Customer Support Services team to develop Exadata Database Machine X2-2 HC Quarter Rack in less than two months and achieved up to 85% faster processing in the data warehouse environment
- Reduced from 12 hours to 3.5 hours the execution time of the 2,000 daily loads that provide strategic data to support the performance and decisions of the sales and retail team, such as client loss, default, and product performance data
• Compacted by 50%, 8 terabytes with more than 1,000 tables that company already had, freeing up space to expand historical data in the data warehouse for the next five years instead of just two years online, as it had been limited to previously

• Sped up the recovery of historical information from 10 days to as little as five hours to meet requests of the business support area, which generally cover more than two years

• Simplified the data warehouse environment’s management and freed the IT team to focus on other duties, since Oracle provides the entire solution—the server, database, operating system, and support

• Reduced backup time—including download of data to disc and transfer to tape—from 26 hours to 6 hours, thanks to Oracle Recovery Manager, ensuring data integrity and reducing the system’s unavailability window

• Began to extract reports, such as those regarding billing and new business generation, in just 18 seconds using the business intelligence tool, instead of two hours, as it had previously taken

Implementation Process

“We were surprised because the implementation, though complex, was faster and easier than expected. In addition, the IT team quickly adapted to the new system. The migration process involved eight people—a full-time Oracle consultant, another consultant for specific issues, and six Algar professionals,” said Eduardo Rabboni, chief information officer, Algar Telecom.
Allegro Group Ensures Enterprise Scalability with Flexible, Integrated Data Warehouse Solution

Allegro Group is the leading e-commerce company in Eastern Europe and the second-largest online auction business in the world. The company is a property of Naspers, an international media group. Operating e-commerce Web sites across 14 countries in Eastern Europe, Allegro Group enables its 20 million registered users to bid on items ranging from clothes to cars. The company hosts more than 18 million new auctions per day, and its business is growing by more than 20% annually.

Challenges

• Build a scalable enterprise data warehouse that meets business users’ expectations for performance and quality of service
• Optimize transactional data storing and processing, such as processes originating from the user activity tracking system that generate approximately 500 million operations per day
• Create a central location to store data from all Allegro Group sites—located throughout 14 countries—including advertisements, auction sites, the online payment system, and the price comparison engines
• Enable the company to efficiently manage more than 15 terabytes of data in a consolidated database that can scale to support a 50% annual increase in data volume

Solutions

• Deployed Oracle Exadata Database Machine, with implementation help from Oracle Consulting, to accelerate the time it takes to analyze data and load it into the data warehouse
• Installed Oracle Business Intelligence Enterprise Edition to effectively report and analyze data
• Enabled Allegro to complete the extract, transform, and load process for all data from Allegro Group sites overnight
• Ensured that 400 business reports can be accessed by 100 concurrent users in less than five seconds
• Reduced report generation time from an average of several hours to 45 minutes, and less than a minute in some cases
• Accelerated average data warehouse query processing by 50 times, with a 100 times increase in some cases
• Enabled Allegro to track user activity history and detect abnormal behavior to improve fraud detection related to its e-commerce and auction sites, saving the company thousands of dollars annually

“Oracle’s data warehouse solution has accelerated system performance by up to 100 times. In addition, this implementation has greatly improved the user experience with vast new analytical capabilities, such as generating dynamic reports on-the-fly and real-time data updates.”

Rafal Kudlinski, Data Warehouse Manager, Allegro Group
Asiana Airlines Improves Passenger Management with Near-Real-Time Reservation and Ticketing Information

“We use Oracle Exadata Database Machine to underpin the passenger management information system that holds our critical flight reservation data. The improved data processing speed ensures Asiana Airlines can provide accurate, responsive service to customers and travel partners around the world.”

Goh Seok Nam, Vice President, Airlines & Infra, Asiana IDT

Established in 1988, Asiana Airlines is one of South Korea’s two major airlines. Its 72 aircraft fly 14 routes to 12 cities in South Korea and 87 routes to 68 cities in 21 additional countries. The airline’s international cargo service comprises 20 routes to 23 cities in 13 countries. In 2011, Asiana Airlines was named the Airline of the Year by Global Traveler magazine.

More Accurate, Responsive Customer Service

As more passengers chose to fly with Asiana Airlines, the company had to ensure it could properly manage, store, and protect around 12.1 terabytes of passenger and business information. With the quantity of information increasing, it took longer to process passenger reservations and cancellations, integrate passenger and ticketing information, analyze ticket sales, and extract and load data to a data warehouse.

In the highly competitive airline industry, slow system performance can be detrimental to business, so in August 2010, Asiana Airlines implemented Oracle Exadata Database Machine to improve the performance of its passenger management information system. As a result, the airline cut approximately four to five hours off the time it took to turn its raw data into daily performance information.

In the past, the passenger management process started around midnight and was finished at 1 p.m. or 2 p.m. Now, with Oracle Exadata, it is completed by 9 a.m., before the start of the business day. By speeding up data processing, Asiana Airlines has shortened decision-making time and ensured reservations staff can draw on the latest passenger and ticketing information when organizing and confirming travel arrangements for its customers and travel partners.

The value of this ability to provide prompt, accurate customer service became clear in March 2011, when Japan was hit by an earthquake and tsunami. In the immediate aftermath of the disasters, Asiana Airlines received thousands of inquiries from anxious passengers wanting to cancel or reschedule their flights to Japan. The airline had to cancel and reschedule flights, reissue air tickets, organize refunds, and deal with hundreds of inquiries each day. Despite the increased number of queries and transactions, the passenger management information system did not falter once. This enabled customer service staff to provide accurate, up-to-date reservation and ticketing data to passengers.

Performance Analysis Cut from 10 Hours to 10 Minutes

Asiana Airlines receives flight bookings from a range of partners, including travel and financial agencies. The airline uses Oracle Exadata to analyze the bookings it receives from these partners and Oracle Business Intelligence Enterprise Edition to generate performance analysis reports. These reports contain information, including seat reservations and airline boardings.
In the past, such in-depth analyses took up to 10 hours to complete, while now, with Oracle Exadata, the process is completed in just 10 minutes. Staff uses the analysis reports to develop partner sales and marketing strategies. By knowing which partners’ services deliver the highest value in a particular market—for example, the Asia Pacific sector—the airline can create promotions that benefit all parties, and improve its overall competitiveness.

Oracle Business Intelligence Enterprise Edition also allows staff to generate and view data in visual formats, such as graphs and tables, without asking database administrators for assistance. This improves efficiency by releasing database administrators from nonessential duties, and it gives staff the freedom to create tables and graphs as needed.

Presenting data in a visual format helps to better understand complex data, so staff can see the need to modify business and sales strategies if necessary. For example, analyzing sales for certain flights or destinations and predicting future demands helps to prepare more accurate flight schedules, avoiding under- or overbooking flights and seats.

Asiana Airlines is now considering adding data to its integrated information infrastructure and extending Oracle Business Intelligence Enterprise Edition across the business.

Having information with greater depth would help reservations and customer service staff worldwide to improve the quality of assistance they provide and gain additional operational efficiencies.

**Error Analysis Time Dramatically Reduced**

Any disruptions to business operations due to system failure prevent staff from completing flight reservations, modifying or cancelling bookings, and answering queries. Oracle Exadata minimizes system downtime by reducing the time needed to detect and solve the root cause of errors. In the past, it could take up to eight hours to solve errors; however, error-resolution time has now been dramatically reduced. Faster problem detection and resolution reduces the impact of system downtime on normal business operations and prevents revenue loss.

Asiana Airlines also uses Oracle Enterprise Manager to monitor Oracle Exadata, further ensuring the stability and reliability of all hardware and software components.

**More Efficient Extract-Transform-Load Process**

Asiana Airlines is using Oracle Data Integrator to extract, transform, and load (ETL) data in real time from the passenger management information system into a data warehouse. This enables the airline to analyze passenger and ticketing information in a timely manner, reduce ETL costs, and ensure stable ETL processing to minimize risk.

The airline is planning to further improve data processing performance by implementing Oracle Partitioning and Oracle Advanced Compression.
Challenges

- Manage, store, and protect vast amounts of passenger and business information, with volume increasing in line with the company's growth
- Improve performance of a passenger management information system that holds customers' critical flight reservation information
- Shorten daily data processing time to ensure staff access the latest, most accurate passenger information
- Give staff the tools to analyze passenger, sales, and other business data to prepare more accurate flight schedules based on projected demand
- Ensure system issues are detected and resolved quickly to minimize business impact

Solutions

- Engaged Oracle Partner Asiana IDT to implement Oracle Exadata Database Machine and Oracle Business Intelligence Enterprise Edition, improving data processing speed and analytic capabilities
- Cut approximately four to five hours off the time to turn raw data into daily performance information, ensuring reservations staff draw on the latest passenger and ticketing information when organizing and confirming travel arrangements for customers
- Provided accurate, up-to-date reservation and ticketing data to passengers affected by the Japanese earthquake and tsunami in March 2011, despite a significant increase in transactions and queries
- Cut analysis time for travel partner bookings from 10 hours to 10 minutes, helping staff develop better informed partner sales and marketing strategies
- Enabled staff to generate and view data in visual formats, such as graphs and tables, without asking database administrators for assistance
- Prepared more accurate flight schedules, by using Oracle Business Intelligence Enterprise Edition to analyze data and predict demand for specific flights and destinations
- Shortened system-error detection and resolution significantly, minimizing the impact on normal business operations
- Ensured the stability and reliability of all hardware and software components, by using Oracle Enterprise Manager to monitor Oracle Exadata
- Achieved a more efficient ETL process with Oracle Data Integrator, enabling the airline to analyze passenger and ticketing information in a timely manner, reduce ETL costs, and ensure stable ETL processing to minimize risk
Why Oracle

Asiana Airlines and Oracle Partner Asiana IDT conducted benchmark tests of several solutions. Oracle Exadata performed 10 to 338 times better than the existing system for placement operation, including data loading and inquiries. This result was also 2 to 80 times faster than competing solutions. Oracle Business Intelligence Enterprise Edition also performed 11 to 190 times better than the airline’s existing business intelligence system.

The powerful performance, stability, and security of both solutions assured Asiana Airlines that passenger and ticketing data could be reliably and safely transferred, processed, and analyzed.

Implementation Process

Asiana Airlines worked with Asiana IDT to implement Oracle Exadata and Oracle Business Intelligence Enterprise Edition. Asiana IDT is a subsidiary of Kumho Asiana Group and specializes in IT services for the airline, construction, distribution, financial, leisure, and manufacturing industries.

“Asiana IDT has helped Asiana Airlines optimize its IT infrastructure for many years, and was instrumental in integrating passenger and ticketing data,” said Goh Seok Nam, vice president, airlines & infra, Asiana IDT. “Our understanding of the unique requirements of the airline industry means we are well placed to help improve operations.”
Australian Finance Group Ltd. Reduces Time to Process Broker Commissions from 37 Hours to 9 Hours

Established in 1994, Australian Finance Group (AFG) is the largest provider of mortgage broking services in the country and one of the top three in the world. AFG offers more than 800 residential mortgage products from Australia’s leading financial institutions through a network of more than 2,200 brokers - the largest national distribution network of financial services in the country. AFG is also one of the fastest-growing providers of holistic financial services. The company has evolved beyond the provision of home loans to also offer commercial, equipment, and leasing finance, as well as personal loans, insurance, and property investment services.

Challenges

• Improve efficiency and provide a better user experience through faster application performance for brokers using the company’s FLEX platform to source loan products, file applications, manage customers, and generate leads
• Reduce total cost of ownership by rationalizing existing legacy hardware infrastructure

Solutions

• Engaged Oracle Advanced Customer Services to replace legacy servers with Oracle Exadata Database Machine in two months
• Improved Siebel CRM database performance by eight times
• Reduced the time it took to process monthly commission payments for brokers from 37 hours to 9 hours; significantly reducing the risk of missing a scheduled commission payment
• Reduced the time to update warehouse data at night from nine hours to less than two hours, ensuring that information was up to-date when sales staff started work each day
• Provided the performance to deliver new, on-demand management reports to brokers using Oracle Business Intelligence Enterprise Edition, which helped AFG recruit brokers from large national financial services firms and property groups

“Oracle Exadata Database Machine gives us the storage power we need as we introduce new mortgage products, which will support our business well into the future.”

Malcolm Watkins, Executive Director, Australian Finance Group Ltd.
**Autoglass** Expands Data Storage, Makes Query Responses up to 60-Times Faster

“Oracle Exadata Database Machine provides superior performance, reliability and scalability for Autoglass’ technological environment. Now we can execute procedures up to 60-times faster than before.”

**Fabricio Ferri**, IT and Telecommunications Executive Manager, Autoglass

Autoglass specializes in automotive glass products and services. It has more than 30 branches and many authorized service centers spanning Brazil to meet the automotive glass and accessory needs of retailers, mechanics, insurers, auto dealers, and end consumers. The company also replaces and repairs passenger and cargo vehicle lights, side windows, and automotive parts. Autoglass’ mission is to provide drivers and passengers with safety and peace of mind during their vehicular travels.

Autoglass’ revenue grew 30% to 40%, annually, in the past three years. At the same time, it introduced many IT systems into its environment—automating nearly 90% of its core processes. These factors—growth and automation—placed considerable strain on the company’s data infrastructure, so that its core IT systems did not perform at their peak.

To improve IT performance and enable the company to effectively manage and reap the benefits from all of its data, Autoglass implemented Oracle Exadata Database Machine. Since deploying the solution, Autoglass has gained the ability to complete core procedures up to 60-times faster, such as on boarding new policies generated by its insurance partners.

**Challenges**

- Support rapidly growing operations with an IT infrastructure that improves core business process efficiency and supports delivering high-level service to customers and business partners, including retailers, auto dealers and repair shops, insurers, and consumers
- Gain the ability to effectively reap the business benefits of sales and inventory data for the company’s price-sensitive auto glass and auto accessory products
- Accelerate critical processes—such as on boarding new policies from insurance partners, performing system backups, and completing monthly financial closings

**Solutions**

- Implemented Oracle Exadata Database Machine X2-2 to achieve optimal performance for the transactional data environment used for administrative and operational applications, such as enterprise relationship management, customer relationship management, and specific business applications
- Gained the ability to support rapid business expansion and exponential data growth after automating 90% of its business processes
- Ensured sufficient processing and storage capacity to absorb anticipated robust business expansion over the next two years
- Solved application and database load and performance issues, significantly accelerating average response times for internal users, retailers, garages, insurers, and car dealers
• Reduced, to a matter of seconds, the minutes previously required to check auto parts stock and consult partner-generated insurance policies—improving customer service

• Gained the ability to execute procedures up to 60-times faster, such as for on-boarding insurance partners’ new policies, consulting existing insurance policies, and completing the month-end financial close

• Reduced transactional database backup time by roughly five-times, from 23 hours to 5 hours, ensuring data security and avoiding overlaps for this daily task

Implementation Process

"The organization and care that Oracle executed in delivering Oracle Exadata Database Machine was admirable—from the physical delivery, to verification of the computing environment, to putting the machine into operation. This avoided setbacks, and we have not had any problems or incompatibility issues to this day," said Fabrício Ferri, IT and telecommunications executive manager, Autoglass.
Avea iletisim Hizmetleri A.S. Optimizes Database Compression, Reporting, and Campaign Analysis

Avea iletisim Hizmetleri A.S., the sole GSM 1800 mobile operator of Turkey, provides services to 97% of Turkey’s population through its next generation network. With roaming agreements covering 199 countries, Avea is growing rapidly and currently serves 11.4 million subscribers.

Challenges

• Create an open telecommunications platform that can integrate new services such as mobile number portability and 3G network services
• Enable fast reporting and immediate access to business data across the company by establishing an efficient and flexible data warehouse
• Improve Avea’s management of telecommunications campaigns by creating more specific target audiences and running more detailed post-campaign analyses

Solutions

• Migrated data from disparate systems with Oracle GoldenGate and created a central repository on Exadata, raising data access performance by a factor of five
• Used the advanced data compression capabilities of Oracle Exadata Database Machine to decrease 40 terabytes of data to a mere 10 terabytes
• Leveraged Oracle Data Integrator to optimize Avea’s Extract Transform-Load (ETL) processes, decreasing the ETL batch window by more than 30%
• Accelerated the company’s reporting performance by three to ten times by integrating platforms, source systems, and operational data stores with Oracle GoldenGate
• Leveraged the advanced visualization and analysis features of Oracle Business Intelligence Enterprise Edition, enabling more efficient and in-depth analysis of data from across the company’s telecommunications operations
• Established a telecommunication-specific data model with party, location, tariff, invoice, subscriber, and customer entities, enabling the company to analyze its promotional campaigns much more precisely
• Automated most data warehouse maintenance processes and lowered the maintenance effort by nearly half

“Oracle offers the best tools for data integration and data access. We rely on Oracle’s software and expertise in each step of our process. Oracle enabled us to focus on what we really do—transform data, apply business rules, and ultimately help our customers.”

Mustafa Sabri Çikrikci, BI&DW Team, Avea iletisim Hizmetleri A.S.
Bangladesh Election Commission Improves System Performance by 300%, Reduces Administration Requirements by 20% to 30%

“Oracle Exadata has provided us with advanced data security, processing, and administration functions. By including the scalable database machine in our identification and voter registration system, I believe we now have the best data capturing and management solution available.”

Brigadier General Akhtaruzzaman Siddique, psc, te, National Project Director, PERP and FINIDC Project, Bangladesh Election Commission

The Bangladesh Election Commission (BEC) is an independent constitutional body responsible for conducting Bangladesh’s local and general elections. Headquartered in Dhaka, the BEC has more than 600 regional offices and locations, and more than 1,500 staff.

In 2007, the BEC engaged Oracle Partner TigerIT to develop a biometric identification and voter registration system for the 2008 Bangladesh general election. In 2010, TigerIT returned to the BEC to upgrade the registration system by including Oracle Exadata Database Machine X2-2 Full Rack, Oracle SOA Suite, Oracle Business Intelligence Enterprise Edition, and Oracle WebLogic Server to further consolidate citizen identification data and improve security and system management capabilities.

Challenges

- Upgrade a biometric identification and voter registration system to further consolidate citizens’ data, such as fingerprints and photos; improve data security; and reduce administration requirements
- Ensure the database can scale to accommodate around 3% to 5% more registrations per year, as more citizens reach legal voting age
- Improve processing speeds and system performance in preparation for future elections

Solutions

- Included Oracle Exadata Database Machine in its upgraded biometric identification and voter registration system to provide a consolidated, scalable, and more manageable database platform
- Stored biometric and alphanumeric data—such as four fingerprints per person, photos, signatures, and contact details—for up to 100 million Bangladeshi citizens in a single database machine
- Improved biometric identification and voter registration system performance by 300%, despite using a single database rather than the 535 databases necessary in the previous system
- Reduced database administration and management requirements by 20% to 30%, by making it faster and easier to index data and add data files
- Improved security and avoided the risk of data tampering and human error, by developing integrated reporting capabilities based on Oracle best practices to track and analyze how staff across 602 locations used the identification system
• Handled 6,000 concurrent verification queries—such as matching voters’ details—during tests

• Enabled the system to generate results from identification queries in less than 30 seconds based on just entering four fingerprints, which was not possible in the previous system

• Easily added new online biometric citizen identification services, such as ID card verification and fingerprint identification, and improved online data management using Oracle WebLogic Server and Oracle SOA Suite

• Potentially enabled the commission to provide online citizen identification services to various other government and non-government organizations

Why Oracle

The BEC engaged Oracle Partner TigerIT to upgrade its original biometric identification and voter registration system with Oracle Exadata and Oracle SOA Suite, as both companies believed these products provided the fastest, easiest to manage, and most secure and scalable system infrastructure available.

“Oracle Exadata’s 14 storage servers and eight database servers are more than able to underpin our biometric identification and voter registration system,” said Brigadier General Akhtaruzzaman Siddique, psc, te, national project director, PERP and FINIDC Project, Bangladesh Election Commission. “The database machine has provided us with advanced security, processing, and administration functions. By including the scalable database machine in our identification and voter registration system, I believe we now have the best data capturing and management solution.”

“In terms of speed, availability, backup, security, and business intelligence capabilities, Oracle is the world leader,” said A. H. M. Abdur Rahim Khan, IT system consultant for preparation of electoral roll with photographs, United Nations Development Programme, and Bangladesh Election Commission (PERP, UNDP and BEC). “It was a logical choice for us to select Oracle Exadata and Oracle SOA Suite to develop a database of this size and complexity.”

Implementation Process

The BEC engaged TigerIT in late 2010 to upgrade its biometric identification and voter registration system. TigerIT included Oracle Exadata, Oracle SOA Suite, Oracle Business Intelligence Enterprise Edition, and Oracle WebLogic Server in its upgraded TigerIT Identity Management Credentialing (TIdMC) solution and redeployed it in just three weeks, rather than requiring a few months as other systems have done.

BEC went live with the completed solution in April 2011.
Partner

After it initially developed the BEC’s biometric identification and voter registration system in 2008, the commission reengaged TigerIT to upgrade and redeploy the system in 2010.

TigerIT also provided a number of BEC employees with training, so they could in turn train their colleagues.

“TigerIT always provides prompt and easily accessible support,” said Siddique. “Its overall services and products have been superb.”
“I can get tables that were already compressed down to 1 terabyte in Oracle Database 10g down to 185 gigabytes using the hybrid columnar compression in Oracle Exadata Database Machine. That brings massive benefits in terms of manageability.”

Jim Duffy, Senior Data Warehouse Architect, BNP Paribas
Bokwang Family mart Co., Ltd Processes
900,000 Order Transactions in Less Than 10 Minutes

“I believe Oracle Exadata is the best choice for high volume data processing. We can now process up to 900,000 order transactions in less than 10 minutes. Faster data processing has brought great efficiencies to our business.”

Im Young-seok, Team Manager, Systems Planning Team, Information System Department, Bokwang Family mart

Bokwang Family mart is South Korea’s leading convenience store chain, with 5,000 outlets across the country. The company is aiming to increase the number of outlets to 8,000 by 2015 to ensure customers have easy access to fresh food, groceries, and other items. Bokwang Family mart also has a strong corporate social responsibility ethic. The company uses environmentally friendly packaging for its lunch boxes, sandwiches, hamburgers, and hot dogs; and in March 2010 opened its first ‘Green Store’, built using sustainable materials. The company also works with local communities to publicize local cultural events.

Bokwang Family mart had an ageing ordering system that struggled to efficiently process stock orders as the number of retail stores increased. It was taking up to 50 minutes to process daily stock orders, about five times longer than the company would have liked. The lengthy order processing time affected deliveries, which meant stores did not always receive stock on time.

In April 2010, Bokwang Family mart implemented the Oracle Exadata Database Machine. The result was a dramatic improved order processing times, so that the company can now process up to 900,000 orders in seven to eight minutes. The order filtering task can be completed in 30 seconds, compared to 15 minutes previously. Retail stores are now receiving the right amount of stock on time for seamless trading.

Slow Order Processing Impacts Deliveries and Sales

For the retail industry, the efficient operation of point-of-sale and stock ordering systems is highly important. These systems must be able to process hundreds of thousands of transactions a day. Any system issues that affect the speed at which orders are processed will have flow-on effects on delivery and distribution times. If stores do not receive stock on time, they will miss out on sales and risk losing customers.

Bokwang Family mart stores order stock throughout the day. Orders are processed daily and sent to a logistics center, which then organizes three deliveries a day, based on location and transportation schedules.

As the number of stores and product ranges increased, Bokwang Family mart found that its ageing ordering system was not processing orders as quickly as it should. It could take up to 50 minutes to process daily stock orders, when ideally the task should be completed in less than 10 minutes. The lengthy order processing time affected delivery schedules, which meant stores did not have stock to sell and began losing out on sales. Logistics costs were also increasing.

Bokwang Family mart had deployed enterprise-class servers and in-memory database systems to address system performance issues, but these solutions did not result in any noticeable improvements in processing speed. After learning about Oracle Exadata at an Oracle seminar, the company decided to deploy the solution to run its ordering system.
Key Benefits:
• Processed up to 900,000 orders in less than 10 minutes, compared to 50 minutes previously
• Completed order filtering and product code checking in 30 seconds, compared to 15 minutes, previously
• Analyzed 16 months worth of order, product, and revenue data in 30 seconds, from five minutes previously
• Achieved on-time delivery, ensuring stock is available in stores for sale
• Ensured adhering to high quality standards for fresh food delivery
• Freed IT staff to focus on fixing system errors

Order Processing and Filtering Times Cut
Oracle Exadata has significantly improved performance since it went live in April 2010. For example, the ordering system can now process up to 900,000 orders in seven to eight minutes, about three minutes faster than the mandated 10 minutes and significantly faster than the 50 minutes required before Oracle Exadata was implemented.

Orders are also filtered much faster. This task involves collating orders from stores, checking the validity of product codes, confirming the validity of transaction dates, and checking stock availability. Under the old system, this took 15 minutes, but after implementing Oracle Exadata, it is now completed in 30 seconds. The time taken to aggregate and send orders to the logistics center was greatly reduced, giving staff extra time to double check their orders.

"Oracle Exadata has greatly exceeded our expectations," said Im Young-seok, team manager, systems planning team, information system division, Bokwang Family mart. "We have not encountered a single problem, and our staff is highly satisfied."

Analysis Time Cut from Five Minutes to 30 Seconds
Oracle Exadata’s clustering capabilities ensure high availability and fast data processing. Bokwang Family mart found the solution so powerful that it uses it for data analysis, as well as online transaction processing.

Together with Oracle Exadata, the point-of-sale ordering system can now analyze up to 16 months worth of order, product, and revenue data in 30 seconds, compared to five minutes in the past.

Delivery Times Improved
Faster order processing times have enabled Bokwang Family mart to set more efficient delivery schedules with the logistics center and consumer product manufacturers. By realizing on-time deliveries, the company can provide customers with the products they want, when they want it.

In addition, Bokwang Family mart can also ensure high quality standards for fresh food products such as lunch boxes that need to be delivered quickly to ensure they do not spoil.

More Time for Error Fixing
With order processing times cut, IT staff has more time to maintain systems and address issues. In the past, if an error occurred during order processing, staff did not have time to check the cause of the error, as they were more concerned about getting orders processed. Now, staff has the time to determine the root cause of system errors and ensure they do not recur.
Streamlined Infrastructure Reduces Costs

Bokwang Family mart has reduced IT costs by streamlining its IT infrastructure. In the past, the company’s ordering and analysis systems were run on eight servers, but now both systems can be run on a single Oracle Exadata Database Machine Quarter Rack and six Web servers. The two storage systems previously attached to the ordering and analysis systems have been integrated into the Oracle Exadata Storage Server, further reducing hardware costs.

Bokwang Family mart expects the Oracle Exadata infrastructure to maintain its current level of performance for the next five years without the need to purchase additional hardware. The company is confident the platform will be able to support its planned expansion to 8,000 stores by 2015. It will consider extending Oracle Exadata to other applications in the future.

Why Oracle?

Performance and reliability are the two most important features in an ordering system. Bokwang Family mart was initially hesitant about implementing Oracle Exadata, as there were no local references to vouch for the software’s performance. However, a series of tests over three months convinced Bokwang Family mart that Oracle Exadata would deliver the performance, reliability, and high availability it was looking for. The company was also impressed with Oracle’s extensive technical support.

Implementation Process

Bokwang Family mart took three months to migrate data, tune the Oracle Database, and set parameters for tables and queries. This ensured the system would perform optimally when it went live in April 2010.

Bokwang Family mart is South Korea’s leading convenience store chain, with 5,000 outlets across the country.
CCC Information Services Inc. Transforms IT Infrastructure to Support Growth in Evolving Insurance Claims Industry

“CCC Information Services, which has been doing cloud computing for nearly 20 years, is a leader in delivering cloud-based solutions for auto insurance claims. Oracle helps us remain at the forefront of our industry by offering a single source for essential software and, now, hardware with the introduction of Oracle Exadata.”

Chetan Ghai, Senior Vice President Global Marketing and Product Strategy, CCC Information Services Inc.

CCC Information Services Inc. is a leading provider of automobile physical-damage-claims solutions in the United States, working with more than 350 insurance companies, 21,000 repair facilities, and 3,500 parts suppliers.

To manage its operations more efficiently, and support company growth and expansion into new markets, CCC launched a business transformation initiative in 2007. The company wanted to eliminate its dependency on mainframe applications, which required overhauling the underlying technology platform for its business-critical systems, such as applications that connect insurance companies to repair facilities or connect CCC to its insurance and repair customers and vendors. CCC chose Oracle as a strategic partner and deployed Oracle Fusion Middleware, specifically, Oracle WebLogic Server, to serve as the backbone behind its network, which processes approximately 1 million business events each day. CCC also uses Oracle SOA Suite to more tightly integrate with external parties, including customers and vendors, such as salvage yards and parts suppliers. The new technology infrastructure has delivered three important benefits: improved availability and performance, greater agility to meet changing needs, and streamlined system management.

Challenges

• Facilitate a business wide IT transformation by migrating the company’s underlying technology platform for mission-critical applications from a mainframe system to a modern IT infrastructure
• Support more than 1 million business events daily
• Enable complex and unique workflows and business rules that are required to work with industry participants that range from insurance companies to auto repair shops and parts suppliers
• Meet customer and vendor demand for highly available business applications
• Support continued innovation, such as the launch of next-generation predictive solutions and mobile applications
• Provide a flexible IT foundation to support front-end application changes, such as the introduction of mobile applications

Solutions

• Migrated the technology platform for CCC’s business-critical applications to Oracle Fusion Middleware, improving performance while reducing overall total cost of ownership (TCO)
• Implemented Oracle WebLogic Server as the backbone for the system that processes application workflows, facilitating more efficient business processes between CCC, its repair facility, and insurance company customers, while reducing system management burden

• Increased agility, enabling the company to react more quickly to changing vendor and customer needs

• Simplified workflow and business rules management with Oracle SOA Suite, which provides greater visibility into how applications are configured, making it easier to monitor and improve performance

• Reduced development time, since Oracle SOA Suite enables users to configure workflows without writing new code for each one

• Gained the ability to support increasingly mobile end users, thanks to Oracle SOA Suite and its ability to reuse back-end services, which has, for example, enabled the company to make client claim folders available on a smart phone or a tablet without redesigning the IT infrastructure

• Improved system availability thanks to the flexibility Oracle Coherence provides in managing the entire technology stack and enabling the company to use session management and cache refresh tools to bring infrastructure components down for maintenance without interrupting service

• Deployed Oracle Exadata to reduce single points of failure in the database environment and provide 24/7 availability, which will be critical going forward as the company introduces next-generation products, including predictive solutions

• Expected to significantly improve performance and cost-effectively increase storage capacity 10-fold with Oracle Exadata

• Simplified data management with Oracle Exadata, which has helped reduce resource requirements for infrastructure management, ultimately lowering TCO

• Enabled single sign-on across applications with Oracle Identity Management, which has simplified access for end users, including insurance appraisers and adjusters, because they can access multiple applications using a single log in

• Expected to achieve full return on investment in three years

**Why Oracle**

CCC Information Services chose Oracle because, across all of the technology areas it looked to improve, Oracle by far had the greatest breadth and depth of solutions. The IT team was also pleased with the executive relationship and the sponsorship it received from various levels within Oracle.
“CCC Information Services is powering the automobile physical-damage-claims industry, and Oracle Fusion Middleware is our strategic choice to enable our industry-leading claims platform,” said Chetan Ghai, senior vice president, global marketing and product strategy, CCC Information Services Inc.

Going forward, CCC is working with Oracle to identify and support its next-generation tools. For example, CCC plans to build its next generation of predictive solutions on Oracle Exadata. With Oracle Exadata, CCC has seen how having a single provider for software and hardware has helped to simplify its tactical environment and reduce costs.

Implementation Process

CCC’s IT platform transformation project was very complex and involved support for multiple workflows. A five-person team worked more than 24 months to fully deploy the solution while minimizing the impact to CCC’s customer base. The team also scaled the system to handle up to 17,000 concurrent users, each completing an average of 15 transactions per session.
Deutsche Bank AG
Optimized Data Warehouse Infrastructure Ensures More Efficient Credit Risk Reporting

Deutsche Bank AG is a leading global investment bank with a substantial consumer banking business and business segments that support and reinforce each other. Deutsche Bank is the leader in Germany and Europe, and is growing steadily in North America, Asia, and other emerging markets.

The bank is exposed to many risks, including credit obligation, volatile market prices, liquidity, and legal and regulatory issues that affect capital and reputation. Risk assessment, reporting, and evaluation are critical for daily operations.

A high-quality data warehouse is the foundation for regulatory risk assessment and serves more than 500 active users and thousands of other users worldwide as the central information source for analysis, with approximately 20 terabytes (TB) of data. Escalating data and reporting demands—stemming from internal needs and external legal requirements—require strategic realignment to new data management methods.

With the implementation of Oracle Exadata Database Machine, data processing performance improved significantly, and the bank acquired the ability to analyze increasing data volume in much shorter cycles. In addition, compressing the data volume by 75% reduced electrical usage and costs.

Challenges

- Establish real-time credit risk, regulatory law, and internal management reporting to optimize credit risk analysis, as the ability to perform daily analyses of risk ratios is increasingly important
- Consolidate information from credit risk assessments, aggregation, and analyses into a single data warehouse
- Create a future-oriented, high-performance database infrastructure to maintain increasing data volume and ensure timely credit risk reporting
- Decrease data memory demands while ensuring capacity for future growth, as the bank maintains 20 TB of data for current and historical credit risk assessments and requires further memory for other source systems and data warehouse applications
- Establish a high-performance environment to adequately serve more than 500 active users and thousands of other global users that require information in varying formats

Solutions

- Implemented Oracle Exadata Database Machine X2-8 running on Oracle Linux to generate quarterly, monthly, weekly, and daily reports
- Improved database performance dramatically, even with increasing data requirements
- Generated internal and regulatory reports 50% faster, while assuring capacity for additional growth resulting from new financial regulations, such as Basel III
- Increased data volume in the data warehouse and made it more easy to manage
• Used Oracle Exadata Database Machine to compress storage and reduced data volume by 75%, which decreased costs by approximately 20% due to lowered storage requirements and electricity usage

• Ensured high-performance for internal and external users, including automatic data delivery to various regulatory authorities, such as the Bundesbank

Why Oracle

Oracle clearly led in its proof of concept for performance and compression capabilities, delivering a complete and seamless hardware and software solution. Thanks to Oracle Exadata Database Machine’s scalability the bank is well prepared to handle future volume increases and greater reporting demands.

Implementation Process

During phase one, pertinent credit assessment data was migrated to Oracle Exadata Database Machine. By the end of 2011, the next phase was completed, which involved migrating the entire data warehouse and source systems into Oracle Exadata Database Machine.
Dialog Semiconductor plc Improves Corporate Database Solutions Using Exadata

Dialog Semiconductor creates energy efficient, highly integrated, Mixed-signal circuits optimized for personal mobile, lighting and display, and automotive applications. The company provides flexible and dynamic support, world-class innovation and the assurance of dealing with an established business partner. Dialog Semiconductor plc is headquartered near Stuttgart with a global sales, R&D, and marketing organization.

Challenges

• Upgrade the current IT system to one that has sufficient capacity and performance for the highly demanding tasks of collecting and analyzing complex measurement data to assure product quality for semiconductors and integrated circuits
• Supply an innovative and flexible solution that aligns with the company’s own business philosophy and can scale up as the business continues to expand
• Institute a unified solution that requires less maintenance than an individually assembled one
• Ensure high availability to prevent interruptions to the manufacturing process

Solutions

• Deployed a solution based on the Oracle Exadata product family developed around Oracle’s Sun hardware and Oracle Database 11g Release 2, improving performance enormously
• Reduced the time spent on frequently executed data postprocessing jobs from 2.5 hours to 15 or 20 minutes
• Cut the time spent on continuous manufacturing data loading jobs from 60 minutes to 6 minutes—a ten-fold acceleration
• Guaranteed high availability thanks to redundancy in the cluster where the solution is installed
• Ensured scalability by factoring in growth for the next three years, as well as capabilities for integrating further applications
• Reduced administrative expenditure dramatically, freeing up administrator resources

“Oracle Exadata Database Machine is tailor-made for our applications that are demanding on computation power and online data aggregation.”

Kariem Yehia, Head of IT, Dialog Semiconductor plc
**Oracle Customer:**
**Digicel Haiti**
Port-au-Prince, Haiti
www.digicelhaiti.com

**Industry:**
Communications

**Employees:**
1,000

**Oracle Products & Services:**
- Oracle Exadata Database Machine
- SPARC Enterprise M5000
- Oracle Solaris
- Oracle Enterprise Manager
- Oracle Consulting Advanced Technology Services
- Oracle Advanced Customer Support Services

**Oracle Partner:**
Fujitsu
www.fujitsu.com

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**Digicel Haiti** Delivers Timely Data to Drive Business Strategy as Country Rebuilds Following Earthquake

“Our market growth is completely related to the benefits we have achieved with Oracle Exadata Database Machine. With the faster data warehouse, we can give our business users timely access to strategic information, helping them to target sales efforts, quickly resolve network problems, and deliver reliable, quality service to our customers across Haiti.”

*Rabih Youssef*, Chief Information Officer, Digicel Haiti

Part of the Digicel telecommunications group, which operates throughout Latin America and the Caribbean, Digicel Haiti launched in 2006 and today serves more than 3 million cellular customers. The company’s mission to provide its customers with reliable cellular service became even more important after the 2010 earthquake, as many Haitians rely on cellular phones as their only means of communication.

To manage the business strategically and meet growing customer needs, Digicel Haiti required a faster, more reliable data warehouse. To achieve these goals, the communications provider migrated its existing data warehouse to Oracle’s Exadata Database Machine X2-2 HC Half Rack. Since deploying the system, it has gained access and insight into customer intelligence previously unavailable, helping Digicel Haiti transform the way it addresses the market. The provider completed the complex IT project under stressful post-earthquake conditions without interruption to the day-to-day business operations. Since deployment, Digicel Haiti has been able to expand the hours it services its customers and accelerate the time it takes to provide sales, marketing, and customer care staff with key data to drive the business.

**Challenges**

- Ensure the company can provide the reliable, high-quality cellular service on which its subscribers in Haiti rely, often as their primary form of communication
- Resolve data warehouse performance issues that previously caused delays in providing business users with vital data needed to target sales efforts, resolve communications network problems, and deliver customer care
- Establish a stable foundation for future company and network growth along with the flexibility to adapt to changing market demands

**Solutions**

- Migrated its 38 terabyte data warehouse onto Oracle’s Exadata Database Machine X2-2 HC Half Rack in just two months, gaining significant performance increases that ensure business users have the data they need, such as customer event records, to make strategic decisions to improve service and grow revenue
- Improved system performance by 55% overall, eliminating the need to run central processing units (CPUs) and memory at full capacity
- Provided an average of 50 daily users with quick access to the data warehouse query tool, enabling them to quickly find data and run reports
• Reduced the time required to deliver key business reports from 8-to-10 hours to 3-to -4 hours

• Enabled business users—ranging from sales staff all the way to C-level executives—to arrive at 8 a.m. and immediately view the previous day’s reports, helping them to strategically target sales outreach, network maintenance, and other customer-facing activities

• Reduced storage requirements due to the built-in storage in Oracle Exadata, freeing the organization’s legacy storage system for other purposes

• Guaranteed rapid data warehouse recovery in 4-to-6 hours instead of the 10-to-15 hours required in the legacy environment, which is vital to recovering business operations in the event of a future emergency situation, such as another earthquake or hurricane

• Gave the organization the agility that it needs to adjust network bandwidth to follow the migration of customers in the event of a disaster

• Simplified overall management of the provider’s IT environment, which includes more than 300 servers and several databases

Why Oracle

Digicel Haiti wanted an out-of-the-box solution to quickly resolve its data warehouse performance issues. It benchmarked Oracle Exadata Database Machine against several other options and, ultimately, chose Oracle Exadata because of its performance and speed, the company’s familiarity with Oracle products due to the company’s use of Oracle Database, and the solution’s compatibility with third-party systems, including Digicel Haiti’s reporting system. Also, Digicel Haiti felt confident in the support provided by Oracle Partner Fujitsu. On the hardware side, Digicel Haiti has relied on Oracle’s SPARC Enterprise M-Series servers since its 2006 launch and continues to rely on these products because it feels they are a good fit for the demands of the communications industry. Digicel Haiti uses SPARC Enterprise M5000 servers running Oracle Solaris as back up data warehouse system.

Implementation Process

Digicel Haiti completed the very complex migration in just two months despite very difficult working and living conditions for its IT staff following the earthquake. Along with Oracle Partner Fujitsu, it also worked closely with Oracle Consulting Advanced Technology Services to gain the expertise required to complete a smooth migration. After migration, Digicel Haiti ran the legacy environment and Oracle Exadata in parallel for two weeks to ensure a smooth transition and to benchmark performance improvements. In the near future, Digicel Haiti plans to add another Oracle Exadata half rack to provide a full rack system and enable database consolidation. It will also work with Oracle Advanced Customer Services to complete an upgrade and to reconfigure some of its database nodes to optimize performance. The provider will then explore compression features inherent in Oracle Exadata with the aim of improving future capacity.
Digicel Jamaica Boosts Processing and Query Response Times, Reduces Storage Requirements

“With our goal to provide the highest quality communication services to our customers, we needed a highly scalable data infrastructure that provides unparalleled performance, which is why we chose Oracle Exadata Database Machine. We’ve achieved rapid gains in internal reporting and look forward to extending the power of our new infrastructure to support our 11 million subscribers.”

Pascal Assaad, IT Director, Digicel Jamaica

Since its launch in 2001, Digicel Jamaica has become the fastest growing wireless telecommunications operator in the Caribbean. In four years, Digicel became renowned for competitive rates, unbeatable coverage, superior customer care, a wide variety of products and services, and state-of-the-art handsets. It is the largest global system for mobile (GSM) communications operator in the region. By offering innovative wireless services and community support, Digicel has become a leading brand in the Caribbean and has placed the region at the cutting edge of wireless communications.

Digicel’s IT organization acts as a shared service for the company’s operations. As part of its duties and service level agreement (SLA) with internal clients, the IT team is responsible for delivering operations reports to business managers in 16 Caribbean markets by 8 a.m. daily. These reports are critical to Digicel’s business as they include data about active subscribers, daily revenue, promotions, and more. Digicel uses the information to make critical decisions, such as the types of promotions to launch, target audiences, and campaign timing. It is therefore, imperative that the information reaches managers in a timely manner.

As data volume grew, Digicel’s legacy data warehousing IT environment could no longer keep pace with reporting requirements. Query times had become longer, and senior managers were receiving data that was 48 hours old—which, in the fast-moving communications sector, is unacceptable.

To address these issues, Digicel’s IT team worked with Oracle Advanced Customer Support Services to deploy, with zero downtime, Oracle Exadata Database Machine, greatly improving operational reporting and services for valued subscribers. With Oracle Exadata, Digicel’s IT team can now deliver near-real-time key performance indicator (KPI) reports to senior management—including the Chief Executive Officer, Chief Operating Officer, Commercial Director, and teams in 16 Caribbean markets—by 8 a.m. each day, eliminating a two-day lag in getting up-to-date data and vastly improving decision-making.

Digicel also worked with Oracle Advanced Customer Support Services to tune the new environment and optimize queries, accelerating the time to realized value.

Challenges

- Provide the near-real-time operational information—such as the number of active subscribers, daily revenue, promotion data, and more—that managers need to make informed and agile decisions that drive the company’s continued growth in the region
- Create a data infrastructure that can scale and deliver processing power required to support the rapidly growing communications provider and its more than 11 million subscribers
- Enable the shared services IT department to consistently meet SLA requirements set by internal clients
Solutions

- Worked with Oracle Advanced Customer Support Services to implement Oracle Exadata Database Machine X-2 Half Rack, with zero downtime
- Consolidated critical operational data for the company’s operations in 16 Caribbean markets into a single database and gained the scalability and processing power required to support the company’s three-year growth plan
- Gained the ability to run queries 5 to 15 times faster than in the legacy environment
- Reduced storage requirements by almost 40%, using Oracle Hybrid Columnar Compression
- Enabled the Digicel IT team to deliver communications services KPI reports to senior level management by 8 a.m. each day—eliminating a two-day lag in data, improving decision-making, and meeting the group’s SLA requirements
- Provided executives with the ability to make faster decisions about critical promotional programs, as they can now see timely information about subscriber numbers and service minutes
- Cut power consumption as well as consolidated two servers—one for data warehousing and one for reporting—onto a single platform, reducing IT complexity and streamlining systems management
- Laid the groundwork to expand the Oracle Exadata Database Machine environment to support other critical business applications, which will, ultimately, improve customer service
- Leveraged Oracle Advanced Customer Support Services’ expertise to tune the new environment and optimize queries, accelerating time to value

Why Oracle

“We considered several database performance solutions—including Oracle Exadata, Teradata, and IBM Netezza,” said Pascal Assaad, IT director, Digicel Jamaica. “Oracle Exadata Database Machine quickly emerged as the best choice for our organization. It is powerful and cost effective. In addition, we have an unlimited licensing agreement with Oracle, which made the pricing structure even more attractive. Just as important, with existing Oracle solutions already in place, we had the skill set we needed to maintain the new environment.”

Implementation Process

“At the onset of the project, we performed a proof of concept—in which we tested our own queries—and saw significant improvement, including the ability to run queries up to 15 times faster,” Assaad said. “We then completed the full implementation in just three months working with Oracle Advanced Customer Support Services to conduct critical tuning. In particular, Oracle Advanced Customer Support Services was crucial in helping us optimize our queries, which was key to the project’s success.”
Oracle Customer:
Enkitec
Irving, TX
www.enkitec.com

Industry:
High Technology

Employees:
More than 50

Oracle Products & Services:
• Oracle Exadata Database Machine

Enkitec Improves Performance, Scalability, and Management of Hosted IT Services Environment

Enkitec is an IT consulting firm—and Oracle Partner—serving businesses primarily in the Southwestern United States. It provides complex database services, business intelligence, and data warehousing, customer application development, and managed IT services, with a strong presence in the utilities, energy, healthcare, and oil and gas sectors. During the past two years the company has established a reputation for its leading expertise on the Oracle Exadata platform.

Challenges
• Ensure an IT infrastructure that is high performing and highly scalable to support Enkitec’s hosted IT services customers, including transaction-intense businesses, such as utilities and oil and gas companies
• Streamline and optimize management of Enkitec’s IT environment for the hosted IT customers to enable highly reliable and cost-effective service
• Meet the needs of customers who want to efficiently consolidate databases from many servers to a single-server environment for better efficiency and easier management

Solutions
• Deployed Oracle Exadata Database Machine as an integral component of Enkitec’s hosted IT services environment, offering clients enhanced performance, scalability, and maintainability over legacy platforms
• Consolidated up to 20 servers on a single Oracle Exadata Database Machine, resulting in a reduced server footprint, lower management costs, and decreased cooling, ventilation, and power requirements
• Consolidated two full racks of hardware in the company’s hosted IT services environment to a single Oracle Exadata Database Machine, saving data center floor space
• Avoided US$100,000 in power and cooling retrofits with the deployment of Oracle Exadata Database Machine, compared to the installation of equivalent hardware systems
• Implemented Oracle Exadata Database Machine seamlessly and efficiently, with zero unplanned outages or hardware failures since deployment

“Oracle’s Exadata platform gives us the performance, reliability, and security our client’s demand. It delivers these results cheaper than lower performing alternatives.”

P Wade Nicolas, President, Enkitec
E-Plus Mobilfunk GmbH & Co. KG Centralizes Data Warehouse to Prepare for Increase in Data Volume

“Our goal is to ensure the stability and performance of our data warehouse for the next two to three years. With Exadata Database Machine, we can now handle the rapidly increasing quantities of data typical for mobile phone network providers, without having to carry out additional software optimization projects.”

Andreas Heinrich, Department Manager ERP & BI Technology, E-Plus Mobilfunk GmbH & Co. KG

E-Plus Mobilfunk GmbH & Co. KG (E-Plus Group), a leader in the German telecommunications market, has successfully transitioned itself over the last few years from a mobile phone network provider to a multi brand enterprise. With its own brands and strong partnerships, the company’s broad product portfolio is tailored to meet the needs of various mobile network customer segments. E-Plus Group services more than 22.1 million customers and is experiencing continued growth.

Due to its impressive growth, E-Plus’ existing data warehouse infrastructure had reached its capacity. The data warehouse’s performance was below par with low satisfaction among its 500 users. In addition, as a result of the architecture’s complexity, administrative effort was very high. It was also not possible to guarantee service during unexpected disasters or to guarantee operating hours that met the service level agreement (SLA).

To prepare for increased data volume from the proliferation of data-hungry smart phones and applications, as well as to address performance concerns, E-Plus Group centralized its disparate hardware environment into a central platform using Oracle Exadata Database Machine x2-2 HC Full Rack. With the implementation, E-Plus compressed data volume by 55% to prepare for future data growth. In addition, the company reduced month-end closing time by 25% to 80%. To address availability concerns, E-Plus leveraged Oracle Database 11g Release 2, Enterprise Edition with Real Application Clusters to implement a cost-effective fail-over environment that is deployable and productive for reporting within 24 hours of a disaster striking.

Challenges

- Acquire performance and stability within a data warehouse infrastructure that contains five servers holding 35.5 terabytes (TB) of data
- Reduce time required to generate monthly reports regarding participant analysis, telephone evaluation, or preparation of the customer mining center
- Establish an efficient, high-performing daily reporting system that covers SIM card registration and customer contract cancellations to recognize market changes in real-time
- Ensure data warehouse availability by upgrading from existing server hardware and storage area network, as well as establish SLAs for operating hours
- Upgrade hardware to accommodate an expected data increase of 5 to 10 TB in 2012
- Optimize software to ensure that important reporting processes function properly in the future
Solutions

• Implemented a central infrastructure based on Oracle Exadata Database Machine x2-2 HC Full Rack running on Oracle Linux to centralize the data warehouse and eliminate hardware bottlenecks

• Optimized performance and stability in daily operations and month-end closing processes

• Reduced month-end closing time by 25% to 80% according to task, providing call participant analysis reports in less than 12 hours, compared to the previous 48 hours required

• Improved daily reporting performance

• Leveraged Real Application Clusters 11g Release 2 to implement a fail-over environment—and a second environment used for test and preproduction—that is deployable and ready to produce reports within 24 hours of a disaster striking and that can guarantee SLA operating hours

• Reduced administrative effort considerably by centralizing the hardware infrastructure

• Used Oracle Exadata compression to reduce data volume by 55%, which prepares E-Plus for more data due to the increase in the use of smart phones and expansion of the mobile internet
FANCL Corporation Gains 360-Degree View of Customers across Multiple Sales Channels, More than Doubles Data Warehouse Processing Speeds

“Since we deal in large quantities of customer and sales data, we evaluated high-performance applications based on factors, such as the price-to-performance ratio. Our first impression of Oracle Exadata Database Machine was how fast it was. We intuitively felt it was taking less than half the time to analyze the same quantities of data as before.”

Masaki Ikemori, Corporate Systems Group, Information Systems Division, Administration Headquarters, FANCL Corporation

FANCL Corporation began operations in 1980 as a mail-order business selling preservative-free cosmetics, a field in which it was regarded as a pioneer. Since then, the company has expanded its product range to include skincare, health supplements, and nutritional products, such as green tea powder, kale powder, and brown rice powder. As its product range expanded, FANCL added two more sales channels—in addition to mail order—and its online shop. The company also sells its products in retailer stores, such as supermarkets and drug stores.

In 2010, FANCL began looking for ways to strengthen profitability and protect its market share in the face of changing business conditions. The company implemented Oracle Exadata Database Machine X2-2, Oracle Business Intelligence Enterprise Edition, and Siebel Marketing. It has reduced the number of reports by three-quarters and increased the number of users performing marketing analysis to around 300-half the company’s total workforce.

Customer Differentiation Needed

In recent years, the number of companies offering health supplements, nutritional products, and preservative-free skincare and cosmetics has increased, resulting in fierce competition. According to Masaki Ikemori, corporate systems group, information systems division, administration headquarters, FANCL Corporation, the company needed a system that enabled visibility of customer details.

“Customers were not differentiated into specific groups, and it dawned on us that we were not offering an appropriate response to each individual customer,” he said. “We could only see how many customers we had, not what type of customers they were. For instance, we could send out a news magazine to tens of thousands of our customers, but the only key performance indicators we determined were the number of customers who read the magazine or who made purchases within a specific time frame. We couldn’t see the attributes of the customers, such as who they were and what was important to them.

“We realized we needed a customer-based approach, whereby each customer is treated as an individual and approached in a personalized manner, along with a system that made such an approach possible.”

Greater Analysis Capabilities Required

FANCL Corporation also wanted to expand its customer and sales analysis capabilities.
“Our previous analysis system was not user-friendly,” said Takuto Watanabe, corporate systems group, information systems division, administration headquarters, FANCL Corporation. “To analyze data, such as the number of a particular lipstick sold, staff needed to be knowledgeable, not only about data infrastructure, such as where customer and product data is stored and how to access it, but also which analytical tool among several would be the most appropriate for a particular type of analysis. As the system was so complicated, only a few people could use it.”

Another issue was that the analysis system was divided up by sales channel with one analysis system for each channel, which made it impossible to see if a customer purchased from mail order only, or if they also shopped online and/or in-store.

According to Rio Endo, corporate systems group, information systems division, administration headquarters, FANCL Corporation, “There were cases where marketing campaigns aimed at mail order channels contributed to in-store sales, such as customers who purchased a three-month supply of a supplement online but their next three-months’ supply in-store, but we had no way of measuring the correlation. Mail order campaigns were measured simply by the results seen from mail-order sales. We needed a system that would enable us to carry out a comprehensive analysis of what influences a particular campaign could have on customers’ buying behaviors by channel, such as whether customers were buying a health supplement online that was being promoted through a mail order campaign.”

Finally, the analysis system also suffered from performance issues. “A single analysis, such as a demographic query regarding age or location, would usually take between 30 and 60 minutes,” said Ikemori. “Analysis involving large quantities of data, such as the extraction of specific demographic targets with a particular combination of gender, age, location, and purchasing traits, would often take up to a week, including manual preparations.”

To resolve these issues, FANCL Corporation reformed its information systems to create an environment that allowed for the rapid analysis of large quantities of data and would enable people not well versed in IT to carry out advanced analytical procedures. To make this possible, the company required a data warehouse where information on customers and their purchases could be stored, a machine to process the vast quantities of data stored in this data warehouse at high speed, and the construction of a plan-do-check-act (PDCA) cycle related to marketing campaigns.

FANCL Corporation selected Oracle Exadata Database Machine X2-2 to serve as the platform for the data warehouse; Oracle Business Intelligence Enterprise Edition to conduct analysis; and Siebel Marketing, to evaluate the results of marketing campaigns. The company started implementing these solutions in June 2010 and went live in May 2011.

Easy-to-Use Business Analysis System Used by Half the Company

Ensuring the usability of the business analysis system was critical to the reformation project.
“Once marketing staff and other front-line users were able to analyze product sales by customer and sales channel, they could set up hypotheses and test them as rapidly as possible, deepening their insight into the business,” said Watanabe. “In addition, by sharing this knowledge across the organization, we could improve efficiency.”

In the past, the Information Systems Division had to produce a wide range of reports for users in the sales and marketing departments. With Oracle Business Intelligence Enterprise Edition, users can now create ad hoc reports themselves, lifting the burden on the Information Systems Division by reducing the need to generate similar reports for different users and divisions. This also makes it possible to compile and analyze reports immediately if there is an issue or business opportunity in a particular product sector.

In addition, the company has reduced the number of reports by three-quarters—from 500 to 120—creating a standard set of reports and sharing information across the entire organization, which saves time and resources.

The ease of use of the Oracle system has led to an increase in the number of users undertaking analysis. “In the past, around 20 to 30 people in the marketing department were analyzing data, but because the Oracle system is so user-friendly, it is now being used by around 300 people, or approximately half of all employees,” said Watanabe.

360-Degree View of Customers

FANCL Corporation often runs marketing campaigns where gifts or discounts are offered to customers who reach a certain number of points. These points are collected under a customer loyalty program, and also allocated to customers who spend a certain amount of money within a certain period.

However, it was difficult to tell with precision whether these campaigns were effective. The company wanted to see whether it was meeting key performance indicators for all its campaigns but couldn’t tell which campaign was generating mail order response rates or walk-in customers by just using the results from the loyalty program.

“One of the reasons we could not measure the results of marketing campaigns was because the standards of evaluation differed according to the sales channel and the marketer in charge,” explained Endo. “We would measure the success of a retail campaign by the number of customers visiting a store, but measure a mail order campaign by the number of responses we received. However hard we tried, it just wasn’t possible to evaluate return on investment by using the same standards to analyze and compare the results of various campaigns.”

Siebel Marketing enabled FANCL Corporation to resolve these issues. The system stores the same information for different marketing campaigns, such as response rates, expected ROI metrics, and how much that campaign contributed to revenue. The results of campaigns can then be analyzed by combining and cross-analyzing this information with transaction data, such as product order figures.
“We wanted to look at what campaigns had been adopted for specific products in the past and what sort of response we had from customers,” said Endo. “By visualizing this information for each customer, we can develop marketing campaigns that are better targeted to specific customers. Siebel Marketing enabled us to achieve this goal by providing a 360-degree view of customers, from what products they purchased, to which channels they used, and how much they spent.”

Siebel Marketing has also allowed FANCL Corporation to measure and evaluate marketing campaign results across multiple sales channels, using standard evaluation criteria. This has enabled the company to complete more marketing PDCA cycles and gain a better insight into how to make the next campaign more successful.

"By looking at customers across different sales channels, we can see which campaigns are proving to be effective," said Endo. “By doing this repeatedly, we can select those marketing tactics that deliver the best results. This is the PDCA cycle we’ve now set in motion.”

The analysis system has already become indispensable for various departments. The company has linked the Oracle system to its customer relationship management and efforts are being made to improve the quality of marketing activities. According to Endo, “We didn’t have clear criteria to measure marketing campaigns in the past. The new system has allowed us to establish clear standards for accurately evaluating individual campaigns.”

Having created a platform for visualization, FANCL Corporation intends to embark on projects involving other business systems, such as supporting storefront activities. By bringing about further evolution in IT environments, the company hopes to enhance its competitiveness yet further.

**Oracle Exadata Database Machine Enables Faster Analysis**

When analyzing marketing activities and campaign results, sales order data over the past few years had to be collated with customer data. However, the master data on customers and sales transactions was as much as one terabyte. The previous system had difficulty extracting the relevant information quickly and efficiently, so that a simple query on how many customers had purchased a cleansing oil advertised in a marketing campaign, for example, could take up to an hour.

Oracle Exadata Database Machine significantly improved the performance of the data warehouse. According to Ikemori, it now takes less than half the time to process the same amount of data.

**Challenges**

- Implement a user-friendly business analysis system that would provide staff with a 360-degree view of customers, including the sales channels they used
- Provide staff with more detailed information about each customer, so they could be treated as individuals and approached in a personalized manner
• Measure the effectiveness of marketing campaigns, such as product promotions or special offers, in depth, across customers, products, and sales channels

• Ensure the platform supporting the data warehouse could process large amounts of customer and sales data, and support a high number of queries and concurrent users

• Enable users to create ad hoc reports to reduce the administrative load on the Information Systems Division

Solutions

• Developed marketing campaigns that are better targeted to specific customers by gaining a 360-degree view of customers, from what products they purchased, to which channels they used, and how much they spent

• Reduced the number of reports by three-quarters—from 500 to 120—by creating a standard set of reports and accelerating information sharing across the organization

• Eliminated the need to generate the same report for different users in different departments

• Increased the number of users undertaking marketing analysis from 20 to 30, to around 300—half the company’s total workforce

• More than doubled data warehouse processing speeds by increasing the efficiency of data extraction from the 1TB data warehouse

• Cut the time required to process simple queries by more than half

• Allowed users to create their own reports, lifting the burden on the Information Systems Division and making it possible to compile reports immediately if there is an issue or business opportunity in a particular product sector

• Acquired new knowledge about the business by ensuring users can analyze product sales by customer and sales channel, such as whether they bought cosmetics via mail order and/or a health supplement from the online store

• Enhanced the company’s ability to measure return on investment on various campaigns and rotate the marketing PDCA cycle, by standardizing the evaluation criteria across all sales channels

• Ensured a smooth implementation by engaging Oracle Consulting to provide consulting services and high-quality training materials

Why Oracle

FANCL Corporation selected Oracle Exadata Database Machine after comparing several products. “Since we deal in large quantities of customer and sales data, we evaluated high-performance applications, based on factors such as the price-to-performance ratio,” said Ikemori. “Our first impression of Oracle Exadata Database Machine was how fast it was. We intuitively felt it was taking less than half the time to analyze the same quantities of data as before.”
Oracle Business Intelligence Enterprise Edition was chosen for its comprehensive analysis and report-producing functions. “Oracle Business Intelligence Enterprise Edition has outstanding operating features, making it easy to create reports,” said Watanabe.

Finally, the company selected Siebel Marketing as the software supported the optimization of marketing activities. “What particularly impressed us when we assessed Siebel Marketing was that we could use the system without having to interrupt our thought processes,” said Ikemori. “Various types of customer information could be retrieved and verified from lots of different viewpoints, and we particularly liked that it offered a 360-degree view of the customer.”

Implementation Process

During the implementation process, Oracle provided consulting and training services to ensure FANCL Corporation experienced a smooth transition to the Oracle platform. “This was a project in which coordination with other systems was essential, and Oracle was active in helping us solve any integration issues,” said Ikemori.

Watanabe recalled that Oracle provided thorough support when the system was introduced to ensure users would be comfortable and able to use it: “We created our own training manual on the basis of materials provided by Oracle and incorporated our own terminology. It was a high-quality manual that enabled us to provide efficient training.”

During the preparation phase before the system was up and running, 70 or so key people from each division of FANCL Corporation were trained in its use and subsequently played a central role in helping people in their divisions become familiar with the system. Each person received around 10 hours of training.

“Because the system is so easy to use, its introduction went ahead extremely smoothly,” said Watanabe. “We received almost no questions from users about the system’s basic functions.”
Finansbank A.S. Boosts System Performance for Its 600,000 Monthly Report Queries

Finansbank A.S., established in 1987, is a leading Turkish financial institution. Its accolades include the European Call Centre Awards (ECCA), the Best in Class Banking Web Site award from Interactive Media Awards (IMA), and a reputation as the Turkish bank with the largest network in foreign countries.

**Challenges**

- Enhance data warehouse performance for 600,000 monthly financial reporting queries and reduce the average reporting time by at least 30%
- Enable the company to run 600 extract-transform-load (ETL) jobs daily, concurrently with reporting queries and without compromising the performance of the data warehouse
- Facilitate the daily backup of 18 terabytes of financial data instead of limiting backups to weekends
- Reduce time to refresh the data warehouse and manage storage demand for data from a dozen sources—such as a credit card system—while overall volume almost doubles every two years

**Solutions**

- Used the advanced indexing and data compression tools of Oracle Exadata Database Machine to scale down the size of the data warehouse from 18 terabytes to 9.5 terabytes
- Reduced the average refresh time of the data warehouse from 341 minutes to 250 minutes, enabling users much faster access to the latest data from the company’s core banking and credit card systems as well as a dozen other data sources
- Enabled the bank’s employees to run 600,000 financial reports per month without any constraints, with the average reporting time dropping by 45%, from 31 seconds to 17 seconds
- Provided the bank with the capacity to run all ETL jobs without interfering with ad-hoc reporting queries, thereby stabilizing system performance and enhancing the user experience
- Implemented daily backups and significantly mitigated the risk of losing a whole week’s financial data, analyses, and reports
- Relieved users of Monday morning waiting periods for backups to be completed before they could start work

“Oracle Exadata Database Machine made our operations run much faster and enabled us to save four hours per day for our highly qualified banking experts. Once again, we are one step ahead in Turkey’s highly competitive credit card market.”

**Alaattin Sabuncu**, Department Manager, Card Payment Systems Analytics, Finansbank A.S.
Garanti Bank Achieves Extreme Data Warehouse Performance

“To achieve the ambitious goal of becoming the most profitable bank in Turkey, we use Oracle Exadata Database Machine, the best product available in the market today. Oracle Exadata Database Machine’s real benefit is that it enables us to make the right decisions at the right time to drive profitability.”

Tufan Alatan, Chief Technical Officer, Garanti Bank

Garanti Bank, founded 63 years ago, is Turkey’s second largest private bank, holding US$78 billion in assets. Dogus Holding in Turkey and Banco Bilbao Vizcaya Argentaria (BBVA) in Spain are equal partners in the bank.

Garanti is an integrated financial services company with its nine subsidiaries that serve the corporate, private, commercial, midsize enterprise, retail, and investment banking markets. It provides payment systems, pension, leasing, factoring, brokerage, and asset management in addition to standard banking services. Garanti serves customers through a strong, extensive distribution network of 880 branches, nearly 3,000 ATMs, an award-winning call center, and mobile and online banking facilities built on a cutting-edge IT infrastructure.

To support its branch network and maintain its leadership position, Garanti Bank requires centralized operations management, superior data warehousing, reliable management reporting systems, and effective alternative delivery channels. It enhances its operational efficiency and profitability by continuously investing in alternative delivery channels, such as internet banking, mobile banking, and Garanti Paramatik, the bank’s ATM network. Most recently, Garanti Bank added Oracle Exadata Database Machine to improve data warehouse queries and support its goal of becoming the most profitable bank in Turkey. With Oracle Exadata, the bank can run faster reports, which gives users visibility into key metrics, including metrics for profitability and risk management.

Challenges

• Achieve high performance in data warehouse queries to support the bank’s ambitious plans of becoming the most profitable bank in Turkey
• Enable accurate and timely reporting on data-intensive queries, such as for managing risk and profitability, vital to a growing financial services company and necessary to comply with increasingly rigorous regulatory reporting requirements
• Eliminate long-running data warehouse queries on mainframe computers due to low central processing unit power, especially on critical days, such as at the beginning and end of the month, tax payment days, and Mother’s Day
• Provide the bank’s 800 data warehouse end users with a better user experience and give them more time for analysis
• Improve backup strategy by enabling daily backups and reducing time required to complete them
• Avoid user complaints about the duration of report queries that originate from shortcomings in system power due to missing and suboptimal resources for data warehouse workloads
Solutions

• Deployed the preconfigured and ready-to-deploy Oracle Exadata Database Machine with Oracle Linux to consolidate data warehouse applications onto a common platform, increasing data warehouse performance substantially and reducing performance-related customer complaints to an insignificant number.

• Transferred 2.5 terabytes of data daily from mainframe systems through 1,300 scheduled file transfer protocol loads and Oracle external table features, resulting in nearly 8 billion daily inserts. Used the full-rack Oracle Exadata Database Machine to convert more than 2,500 reports extremely quickly and easily—in merely 20 days—enabling 800 end users to run their reports at any time.

• Moved from a first version full-rack Oracle Exadata Database Machine to a half-rack Oracle Exadata Database Machine X2-2 with high-performance SAS drives with a 600 gigabyte capacity to reduce data storage requirements with hybrid columnar compression from 17 terabytes to 5 terabytes, database server nodes from eight to four, and storage server cells from 14 to 7, improving performance by a factor of three while saving on floor space and energy consumption.

• Used Oracle Exadata’s smart scans and smart flash cache features to reduce the amount of data sent to servers and to break random input/output bottlenecks, achieving a 10-fold performance improvement in data warehouse queries.

• Enabled employees to run reports in a few minutes instead of up to eight hours, freeing them to spend more time on subsequent processes, such as generating the same report with modified key parameters. Took advantage of time gained through faster query processing to more thoroughly test data, resulting in more reliable and accurate reports.

• Enabled the bank to make data-intensive queries that it could not attempt before—for reports on things such as the management of profitability, customers, risks, products, and strategic performance—giving managers the information and time needed to make appropriate decisions, even on critical days. Optimized data backup with full instead of incremental backups, completing seven-terabyte backups in only three hours on Oracle Exadata Database Machine X2-2.

Why Oracle

Garanti Bank did not consider other manufacturers, but compared Oracle Exadata Database Machine with the deployment of Oracle Unix boxes that included a storage area network. Oracle Exadata’s predictable extreme performance-coupled with out-of-the-box configuration that offers the fastest time to value, lowest risk, and unlimited scale to match Garanti Bank’s ambitious growth plans-clinched the decision.

Implementation Process

In three months, Garanti Bank moved from Oracle Exadata Database Machine Version 1 to Oracle Exadata Database Machine X2-2, including conversion of 2,500 reports.
**Garmin International Inc.** Improves Database Performance up to 50% by Consolidating onto Hardware and Software That’s Engineered to Work Together

“Oracle Exadata helped us meet our challenges by enabling us to consolidate onto a single footprint. We can more efficiently utilize space, power, and cool the data center while lowering administrative costs and ensuring high database availability to deliver optimal services to internal and external customers.”

**Ed Link**, Vice President, Information Technology, Garmin International Inc.

A pioneer in global positioning system (GPS) navigation, Garmin International Inc. was founded in 1989 with a handful of dedicated engineers and the idea for an innovative product. Today, with 8,800 employees worldwide, Garmin is a global leader in the design, manufacture, and sale of navigation and communication devices and services. The company has built and sold 88 million devices that serve aviation, automotive, marine, outdoor, fitness, and wireless markets. Its goal is to enrich the lives of customers, suppliers, distributors, and employees by providing the very best products that offer superior quality, safety, and operational features at affordable prices.

Garmin wanted to reduce total cost of ownership for its extensive Oracle Database environment and for supporting the infrastructure that powered the company’s Oracle Advanced Supply Chain Planning, Demantra Demand Management, and Hyperion Financial Management applications, as well as other business-critical systems. The company’s supply chain and demand management environments, alone, process 13 million queries, as well as 30,000 batch jobs and reports monthly.

Garmin also wanted to address IT performance issues that had begun to escalate alongside the company’s rapid growth.

Garmin Connect, which supports the company’s fitness segment, provides customers with an online platform to store, retrieve, and interact with data captured using Garmin fitness products. The environment, which is built on an Oracle Database, processes approximately 40 million queries per week. Prior to using Oracle Exadata Database Machine, as the online offering grew in popularity, it began to face reliability issues that had negatively impacted the customer experience.

To combat these issues and support continued growth and innovation, Garmin implemented two Oracle Exadata Database Machine Half Racks. One rack supports production systems, including Garmin Connect, as well as the company’s Oracle Advanced Supply Chain Planning, Demantra Demand Management, and Hyperion Financial Management environments. The other rack is for non production databases that IT and business teams use as a development and test environment for future initiatives.

With the implementation, Garmin consolidated four production databases and 20 non production databases onto the two Oracle Exadata Database Machines, significantly reducing IT costs. The company has realized a 20% to 50% improvement in overall database performance with no additional modifications.
Even with a roughly 400% increase in Garmin Connect traffic and a four-fold increase in data from 3 terabytes to 12 terabytes, Oracle Active Data Guard has significantly reduced the amount of planned and unplanned downtime. Further, the company has reduced backup times by up to 50% and cut the time needed to duplicate the company’s largest database from eight days to just 10 hours.

Moving forward, Garmin plans to migrate to Oracle Exadata the databases supporting its critical business systems, including the core Oracle E-Business Suite database that supports the company’s financials, order management, inventory, warehouse, shipping, purchasing, and manufacturing operations.

Challenges

- Reduce total cost of ownership for extensive Oracle Database environment that powers Oracle Advanced Supply Chain Planning, Demantra Demand Management, and Hyperion Financial Management applications, each month processing 13 million queries, as well as 30,000 batch jobs and reports
- Enable high availability for new GPS-based offerings, such as Garmin Connect, a community-based Web site for runners, cyclists, and outdoor enthusiasts who track their activities with Garmin devices
- Reduce unplanned outages and ensure quick system and data recovery in the event of an outage-vital capabilities when providing essential GPS services
- Create a solid foundation to support exponential year-over-year data growth for various enterprise applications without performance degradation

Solutions

- Deployed two Oracle Exadata Database Machine Half Racks, with one used for production systems—such as Garmin Connect, as well as Oracle Advanced Supply Chain Planning, Demantra Demand Management, and Hyperion Financial Management—and the other used for application development and testing environments
- Consolidated four production databases and 20 non-production databases on the two Oracle Exadata Database Machines to reduce total cost of database ownership by saving maintenance, energy costs, and more
- Improved database performance by 20% to 50% without making additional changes—such as modifying queries
- Reduced planned and unplanned Garmin Connect database outages—which previously plagued the system—making it more reliable for customers, even as site traffic increased by as much as 400% in the past year and data increased from 3 terabytes to 12 terabytes
- Reduced storage area network backup times by up to 50% and decreased the time needed to duplicate Garmin’s largest database from eight days to 10 hours
• Implemented Oracle Active Data Guard to reduce the time to create database clones, decrease demand on the primary database, and provide standby failover protection

• Improved Oracle E-Business Suite Advanced Supply Chain Planning and Demantra Demand Management application performance by 20% to 50%, enabling Garmin to complete its planning cycle in record time to more accurately identify demand, efficiently process orders and specify manufacturing materials, and effectively plan production cycles to support just-in-time manufacturing

• Created a highly scalable and extreme performance platform that will enable Garmin to continue to migrate applications to Oracle Exadata, including its core Oracle E-Business Suite database that supports the company’s financials, order management, inventory, warehouse, shipping, purchasing, and manufacturing operations, as well as other databases supporting critical business systems

Why Oracle

“We selected Oracle Exadata Database Machine because it efficiently integrates networking, I/O, and CPU in a single cabinet. This reduces the footprint in the data center regarding space, power, and cooling. Consolidating databases onto Oracle Exadata reduces patching, system management, and security maintenance demands,” said Ed Link, vice president, information technology, Garmin International Inc.

“Oracle Exadata provides a single hardware and software solution. The synergy between the hardware and the software components leads to high performance, and system consolidation eases environment management,” Link said.

Implementation Process

Garmin International Inc. purchased its Oracle Exadata Database Machine in May 2010 and began its proof of concept in August 2010. It completed the implementation in three phases: first addressing the databases processing Oracle Advanced Supply Chain Planning and Demantra Demand Management transactions, and then moving to the Garmin Connect environment, followed by the company’s Hyperion Financial Management data infrastructure. It completed and tested all implementations by April 2011.

“The key lesson we learned is to perform extensive testing. In addition, it is important to purchase the latest versions for all solutions to maximize performance. Further, by performing a database consolidation project in parallel with the implementation, we could take full advantage of our investment,” Link said.

“Oracle Support has helped us throughout our implementation—with personalized daily conference calls, late-night support, custom help from Exadata product management, and involvement with upper-level executives at Oracle,” Link said. “Oracle has gone above and beyond to help make sure our Oracle Exadata implementation is a success.”
Oracle Customer:
GfK Group Retail and Technology
Nuremberg, Germany
www.gfkrt.com

Industry:
Professional Services

Annual Revenue:
US$1 to US$5 Billion

Employees:
11,000

Oracle Products & Services:
• Oracle Exadata Database Machine

“The performance demands of our customers exceeded the capabilities of our legacy hardware environment. Oracle Exadata Database Machine has allowed us to manage our growth and handle additional projects.”

Dr. Jens Albrecht, Head of Service Delivery, GfK Retail and Technology

GfK Group Retail and Technology Ensures Successful Growth with Exadata Consolidation

GfK Group Retail and Technology’s retail sales tracking solution offers powerful insights into the consumer goods market with data from the world’s largest retail network, reporting what’s selling where, at what rate. GfK is one of the world’s largest research companies, with 11,000 GfK experts working to discover new insights about the way people live, think, and shop in over 100 markets, every day. GfK is constantly innovating to use the latest technologies and the smartest methodologies to give its clients the clearest understanding of the most important people in the world: their customers.

Challenges

• Enable customers to access reports, such as worldwide key data for high technology consumer goods, directly from the data warehouse using an efficient and scalable hardware infrastructure

• Ensure satisfaction for 3,000 users, 50% of whom were customers who had been displeased with the previous environment’s performance

• Shorten report cycles from monthly to weekly, without a decline in performance

• Maintain high storage and performance requirements for new projects, such as reports on communications services provided, including a mobile internet usage report

• Replace existing data warehouse infrastructure, which did not meet performance requirements, specifically in the storage sector

• Select a solution to address all needs without increasing the total cost of ownership

Solutions

• Ensured business intelligence self-service efficiency for customers for the next two years and efficient expansion thereafter, based on a highly scalable, reliable, and stable data infrastructure

• Tripled performance by using Oracle Exadata Database Machine while maintaining low total cost of ownership

• Consolidated 50 distributed data marts into one Oracle Exadata system, thereby improving performance and reducing total cost of ownership

• Accelerated generation of global reports

• Implemented reporting for GfK’s mobile internet service in its mobile internet usage report successfully, despite extremely large data requirements

• Tripled infrastructure performance while maintaining a low total cost of ownership
Hong Kong Housing Authority Improves Ad Hoc Query Response Time by up to 97%

The Hong Kong Housing Authority (HA) is a statutory body established in April 1973. HA develops and implements a public housing program that seeks to achieve the Hong Kong Special Administrative Region Government’s policy objective of meeting the housing needs of people who cannot afford private rental housing. HA manages over 700,000 residential units, which house approximately 30% of Hong Kong’s population.

Challenges

• Improve the performance of the corporate information system, which collects data from 14 other systems, including the estate management system, and consolidates it in a data warehouse for summary reporting and ad hoc querying
• Increase the speed at which ad hoc requests are processed, which, in some cases, could take days to complete

Solutions

• Migrated the Corporate Information System to Oracle Exadata Database Machine running Oracle Database 11g with Oracle Real Application Clusters
• Improved response times for ad hoc queries such as revenue collection (by estate and collection amount) by 80%; and arrears and revenue trend analysis by 97%
• Achieved average query response times of four to five seconds, ensuring users no longer had to wait minutes or hours for information on the type and location of available housing
• Cut day-end batch processing time by eight hours, from 13.5 to 5.5 hours
• Reduced month-end batch processing time, ensuring senior managers can review developments in public housing trends at the start of each month

“We were looking for a holistic solution capable of delivering quick, dramatic improvement. The results after the implementation of the Oracle data warehouse solution were very impressive. In addition, the solution will also enable us to upgrade smoothly to the new release of Oracle Database, adding an extra dimension to the existing performance benefits.”
Raymond Chu, Head, IT, Hong Kong Housing Authority
**Hotwire, Inc.** Enhances Ability to Compete in Online Travel with High-Performance Data Warehouse

Hotwire is a leading discount travel site that works with major travel providers to help them fill seats, hotel rooms, and rental cars that would otherwise go unsold. Travel-value hunters have come to rely on Hotwire for deep discounts on highly respected travel brands. The Hotwire Group also includes CarRentals.com and Travel-Ticker.com.

**Challenges**

- Provide high-performance environment to support advanced analytics, a key competitive advantage for Hotwire
- Drive data-intensive site features, marketing programs, and data mining to ensure travel industry competitiveness
- Deploy a data warehouse solution that will scale to support increasing growth in data volume, data warehouse users, and complexity of business intelligence demands

**Solutions**

- Deployed Oracle Exadata Database Machine to improve data warehouse performance and to scale for growing business needs
- Migrated 10 terabyte data warehouse onto Oracle Exadata with Oracle Linux in just six months
- Improved reliability and scalability of system at a low cost
- Cut extract, transform, load (ETL) processing time in half
- Improved query response time by an order of magnitude
- Deployed Resource Manager to enable around-the-clock access to warehouse, even during resource-intensive ETL periods
- Enabled analyses that hadn’t been possible on previous system because of data volumes or system resource constraints
- Improved accuracy of models with larger sample sizes
- Provided a platform for analytic innovation, helping Hotwire deliver compelling, personalized travel deals to customers
- Simplified the data warehouse environment, eliminating the need to bring in new expertise by going with a familiar Oracle platform
- Established a solid foundation for future growth to support business needs, including two sister Web sites, Travel-Ticker.com and CarRentals.com

“Oracle Exadata Database Machine allows us to support increasingly complex analytic work on rapidly increasing data volumes. By removing system performance constraints, it encourages more innovative data use and gives us a significant advantage in the highly competitive discount travel industry.”

**Kolin Ohi,** Business Intelligence Architect, Hotwire, Inc.
IDS GmbH – Analysis and Reporting Services
– Optimizes Central Data Warehouse System for Allianz

IDS GmbH – Analysis and Reporting Services is a subsidiary of Allianz SE and specializes in providing operative investment controlling services for the capital investments of the Allianz Group and third-party clients. Allianz’s investment controlling services apply both to investments made by its insurance companies and asset management division. For this purpose, IDS operates and maintains a financial database for Allianz.

Challenges
• Eliminate storage bottlenecks caused by performance and risk analyses of the company’s finance and insurance portfolio, as well as finance-specific reporting for the Allianz Group
• Provide a solution able to handle the number of source systems—including stock market prices, share price indices, and inventory data—which grew from 200 to 250 since the implementation of a data warehouse
• Perform overnight batch jobs in required time frames to provide up-to-date data for analysis
• Ensure support for an active user base—which had doubled since the original data warehouse deployment
• Provide capacity to reliably and efficiently handle ad hoc queries and generate financial and risk analysis reports several times daily rather than monthly—with no performance issues

Solutions
• Worked with Information Systems Engineering GmbH to perform a smooth migration of the disk-based Oracle Data Warehouse to Oracle Exadata Database Machine X2-2 without coding or design modification—eliminating programming costs
• Migrated all financial data—approximately 12 terabytes (TB)—in one day, to support continued data growth
• Ensured high performance data consolidation from 250 source systems—including stock market prices and share price indices, as well as inventory data from more than 7,000 portfolios with more than 250,000 different active investments—within the defined timeframe for each
• Optimized performance by a factor of four by deploying the system out-of-the-box—without any tuning or customization
• Achieved efficient access for 1,500 active financial users
• Tripled performance and storage capacity—from 50 TB to 150 TB—without increasing total cost of ownership

“Oracle Exadata Database Machine is a cost efficient, high performance, and scalable system that has provided us with an optimal data warehouse infrastructure, not only for the next three years but for the long term.”

Holger Haun, Managing Director, IDS GmbH – Analysis and Reporting Services
Immonet GmbH Uses New Data Warehouse to Consolidate Real Estate Data, Enable Real-Time Information Access, and Improve Decision-Making

“Oracle Exadata Database Machine is the most highly performing solution on the market. Oracle is the only company that offers a one-stop shop-approach for data warehousing, as it can deliver everything, from hardware and databases, to business intelligence solutions and implementation. This is a clear advantage for Oracle, and we are elated with the results of our data warehouse project.”

Christian Maar, Chief Executive Officer, Immonet GmbH

Immonet is one of Germany’s leading real estateWeb sites. Each month, more than 2.6 million users visit its online portal, which includes 1.14 million real estate listings (source: comScore Media Metrix’s ranking for “Total Unique Visitors,” July 2011). The company’s growth initiative, which began at the end of 2010, resulted in an exponential increase in the data handled by its portal. As a result, Immonet needed the ability to be the first to react to market changes.

To meet this challenge, Immonet worked with Oracle Platinum Partner Information Systems Engineering GmbH (ISE) to implement, in less than six months, Oracle Business Intelligence Suite Enterprise Edition Plus On Demand, running on Oracle Exadata Database Machine X2-2.

With the implementation, Immonet established a single repository for storing and processing real estate data, one capable of handling a 350% increase in data while maintaining optimal system performance. In addition, Immonet unified its key performance indicators (KPIs) to enhance financial reporting for more efficient and sound decision-making.

Challenges

- Ensure that Immonet’s IT infrastructure is capable of supporting significant growth in business and real estate listing data while maintaining optimal performance requirements
- Centralize and consolidate real estate and financial data for efficiency
- Unify KPIs for business areas—such as the number of contracts, visits, page impressions, unique users, churn rate, customer life cycle, sales staff efficiency, contract value, and conversion rates—to create real-time reports that assist executive decision-making
- Replace ad hoc budget controls using Excel and SQL with data warehouse-based, centralized, automated, and accelerated budgetary control
- Improve agility for capitalizing on real estate market changes and new trends, made difficult with heterogeneous systems and a lack of transparency
- Create accurate forecasting scenarios that enable the company to prepare for further market reactions
- Prepare Immonet for future growth, meeting a 100% growth target in 2011
Solutions

- Established a single repository for Immonet’s real estate data, such as properties for sale or rent, using Oracle Exadata Database Machine X2-2
- Used Oracle Exadata Database Machine X2-2 to connect with nine relevant source systems—including Oracle Database, customer relationship management systems, and Google Analytics—to effectively manage a data volume that had grown by 350%
- Reduced IT energy costs by 90% and lowered total cost of ownership for the portal by 75%, due to the consolidated IT environment
- Gained the ability to access real estate data as much as 100 times faster, enabling the organization to evaluate the data within minutes instead of weeks
- Leveraged Oracle Business Intelligence Suite Enterprise Edition Plus On Demand to acquire the reliable and consistent information that management needs to make more informed decisions, including data on customer lifecycle value, customer segmentation, sales resources, budgetary controls, and budget allocation for online and offline marketing
- Standardized business information to acquire consistent KPIs for real estate operations, such as customer lifecycle value, churn rate, competition, real estate listings, and agent market shares
- Improved ability to quickly respond to changes in a dynamic market environment by leveraging real-time financial data, real estate data that reflects current business performance, and expanded reporting capabilities
- Enabled easily access Oracle Business Intelligence Suite Enterprise Edition Plus On Demand through a Web interface to decrease time spent on data analysis and research and increase employee satisfaction
- Improved generating online offerings, such as regional average market price per real estate object and regional customer demand analysis for real estate agents, by leveraging Oracle Exadata Database Machine’s optimized online transaction processing features
- Expanded customer segmentation capabilities, which helped to increase sales efficiency
- Improved analysis of search engine marketing to optimize investment in key words that deliver the best results
- Worked with Oracle Partner ISE and Oracle Consulting to seamlessly implement the data warehouse environment

Partner

ISE delivered and implemented Immonet’s complete data warehouse solution, based on Exadata hardware. It established the data warehouse infrastructure, developed and implemented the backup recovery system, setup the database and business intelligence server, developed and fine-tuned the business intelligence application, and conducted workshops for end-users and administrators before final project handover to the client.
Information Systems Engineering GmbH

Enables Customers to Achieve Extreme Processing

Information Systems Engineering GmbH (ISE) provides IT consulting and implementation. ISE works with customers to optimize their business processes with a complete service portfolio that ranges from analysis and consulting to IT planning, application development, performance tuning of Oracle Database environments, system administration, and IT infrastructure implementation.

Challenges

- Enable ISE’s enterprise clients, which include e-commerce platform providers, logistics companies, and consumer goods manufacturers, to enable extreme performance for both data warehousing and online transaction processing (OLTP) applications
- Support efforts to reduce IT costs through consolidation, manage more data on multiple compression tiers, improve application performance, and make better business decisions in real time

Solutions

- Built first test center in Germany that enabled current and potential customers and independent software vendors to test Oracle Exadata Database Machine live with their own data to assess the benefits it can deliver for their organizations
- Enabled an e-commerce platform provider to load data 35 times faster and achieve an OLTP benchmark that was five times faster than its legacy environment consisting of a four-node Oracle Real Application Clusters configuration
- Enabled a pet food manufacturer to increase query speed by 200% in a test environment using one terabyte of data
- Enabled a logistics company to achieve data loading that was 40 times faster and reporting that was 5 times faster than the company’s existing environment

“Our new test facility enables organizations to experience firsthand the extreme processing that they can achieve with Oracle Exadata Database Machine. Most are amazed at how they can achieve reporting that is 20 to 50 times faster with the Oracle solution.”

Herbert Rossgoderer, Chief Executive Officer, Information Systems Engineering GmbH
**Oracle Customer:**
**Ingeniería de Software Bancario (Isban)**
São Paulo, Brazil
www.isban.com

**Industry:**
Professional Services

**Employees:**
800

**Oracle Products & Services:**
- Oracle Exadata Database Machine
- Oracle Advanced Compression
- Oracle Consulting
- Oracle Advanced Customer Support Services

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**Ingeniería de Software Bancario (Isban)**

**Improves Santander Brasil’s Data Warehouse Performance by 40% with 140% Increase in Data**

Ingeniería de Software Bancario (Isban, or Banking Software Engineering), part of the Grupo Santander (Santander Group), is responsible for defining the IT architecture for the group’s companies, developing IT projects, maintaining and supporting systems in production. Santander Brasil, which is served by Isban, completed its integration with Banco Real this year. Banco Real accounts for 25% of Grupo Santander’s revenue.

**Challenges**

- Integrate Santander Bank’s IT technological environment with Banco Real bank—the latter of which was the third-largest private Brazilian bank in terms of assets. Improve IT performance to offer high-level customer service with the incorporation of Banco Real’s data volume
- Maintain the bank’s competitiveness in the retail and wholesale markets while meeting the requests of regulatory bodies. Develop Banco Real’s competitive advantages in Santander’s banking systems
- Consolidate various data warehouses and calculation engines used by the controller’s, marketing, and finance departments to further improve the service levels beyond that delivered before incorporating the new bank

**Solutions**

- Worked with Oracle Consulting to adopt Oracle Exadata Database Machine to absorb a 140% increase in data volume for Santander Bank—including client, product, contract, transaction, insurance, and bank card information transferred from Banco Real
- Migrated twenty environments in five departmental data warehouses in under three months to a single environment that handles daily marketing actions, verification of financial results and analyzes products, channels, and segments, reducing the demand for physical space, energy, and lowering maintenance costs
- Reduced backup times by 90%, enabling daily backups, increasing reliability for the business, and providing more efficient system resource use. Achieved environmental stability and improved performance up to 260% with no additional tuning
- Reduced the time it takes to generate the management group’s monthly reports by 83%, from 36 hours to 6 hours, and reduced the time to generate client position reports by 45%, from 9 hours to 5 hours
- Achieved an average reduction of 30% in allocated storage and up to 90% compression in certain cases using Oracle Advanced Compression, providing for more efficient usage of storage by compressing 100 terabytes into 70 terabytes and thereby freeing extra capacity to support the company’s organic growth and infrastructure needs of future projects
- Used Oracle Database,11g Enterprise Edition with Real Application Clusters to improve management and infrastructure monitoring, saving time and money invested in these processes. Won the Oracle OpenWorld 2010 success case award for Isban
- Installed and configured Oracle Exadata Database Machine with help from Oracle Advanced Customer Support Services, especially enhanced to serve the bank’s needs, helping to achieve the objectives of high availability, scalability, and performance for an around-the-clock applications environment

**“With our Oracle Exadata Database Machine architecture, we increased our data volume by 140%, gained 30% in storage space with data compression, and reduced backup time by 90.”**

Marcelo Miranda de Souza Pinto, CRM and Management Information Systems Superintendent, Ingeniería de Software Bancario (Isban)
KyivStar, JSC Reduces Storage Volumes to 15% of Its Legacy Environment and Increases System Productivity by 500% with High-Performance IT Infrastructure

“Our mission is to make life better for our customers by providing the highest quality communication services. To achieve this goal, we need a fully reliable and scalable IT platform that provides unparalleled performance. That’s why Oracle Exadata Database Machine is so important for us. We choose Oracle as a strategic partner, and the performance gains we achieved have influenced our service quality significantly.”

Andrei Peshiy, Head of IT Department, KyivStar, JSC

KyivStar, JSC is Ukraine’s foremost mobile communications and mobile internet provider, making the company one of the most visible Ukrainian brands. KyivStar’s wireless network operates using the global system for mobile (GSM) communication standard and provides coverage accessible to approximately 99% of the Ukrainian population. In October 2010, KyivStar merged with Beeline-Ukraine, a leading provider of landline communications and communication solutions for business clients to create the largest private communications company in the country, serving 25 million subscribers.

KyivStar deployed Oracle Exadata Database Machine to help it effectively serve its more than 25 million communications services subscribers and make its systems fault-tolerant. The company’s IT infrastructure adds 6 billion records daily, totaling 60 gigabytes of data, including call data records (CDRs), so this is no easy task. Oracle Exadata helped the company achieve record-breaking data processing results. It increased financial and analytical calculation performance by 300% to 500%, and provided KyivStar with a foundation to retain the leadership spot in the Ukrainian telecommunications market.

Challenges

• Enhance processing power to efficiently serve the company’s more than 25 million communications services subscribers in an environment in which it adds 6 billion records totaling 60 gigabytes of data each day to its databases
• Make KyivStar’s systems fault-tolerant to ensure on-demand customer service
• Improve analytical calculation performance, as well as financial reporting, to quickly provide management with insight into the company’s financial position
• Ensure that the company correctly calculates mobile and landline telephony taxes
• Facilitate the detection of data losses, due to such things as erroneous system operations or fraud, for periodical financial reporting required by online services

Solutions

• Deployed Oracle Exadata Database Machine to achieve record-breaking data processing results, increasing financial and analytical calculation performance by 300% to 500%, and providing KyivStar with the foundation to remain the leader in the Ukrainian telecommunications market
• Reduced storage volume to merely 15% of its legacy environment—from 444 terabytes to 70 terabytes—resulting in significant savings in energy consumption and data center floor space

• Enabled the company to effectively monitor revenues and margins, apply taxes correctly and quickly, and detect data losses due to errors or fraud by consolidating all key subsystems, such as financial reporting services or online services for subscribers—all within a year of deploying Oracle Exadata Database Machine

• Optimized the company’s risk assessment processes, retrieving data samples five times faster than before, and executing risk analyses two to three times faster

• Deployed Oracle Active Data Guard 11g to improve system reliability by allocating physical space in databases, freeing IT resources for report generation and analytical tasks, such as analysis of the company’s 25 million subscribers by services, zones, and call types

• Gained the ability to analyze and gain insight into key performance indicators—such as customer acquisition and churn, channel performance, average revenue per subscriber, and network performance—twice as fast for more timely and informed decision-making

• Made systems fault-tolerant by adding a new half-rack Exadata Database Machine X2-2 with small computer system interface (SAS) disks connected serially for the company’s second data processing center

• Revised purchase plans for disc arrays, as no other solution provides the performance of Oracle Exadata Database Machine
LinkShare Corporation Manages Large Volumes of Historical Data with Flexible Data Warehouse Solution

LinkShare Corporation provides Fortune 500 businesses with a wide range of online marketing services, including search engine marketing, lead generation and affiliate marketing. LinkShare has significantly enhanced the performance and availability of its reporting and analysis services for hundreds of thousands of advertisers and publishers in its network.

Challenges

- Enable the company to easily manage huge volumes of historical e-commerce data in a consolidated database that can scale for future growth
- Provide ability to meet the needs of the company’s advertisers and publishers as it continues to expand globally, and as online advertising and e-commerce continue to grow
- Deploy flexible reporting and analysis tools, including sophisticated dashboard functionality for business users

Solutions

- Worked with Oracle Partner Pythian to plan, deploy, and manage Oracle Exadata, using Oracle Database and Oracle Database with Real Application Clusters to deliver better value to LinkShare Corporation
- Improved processing efficiency with the ability to control space and power demands in the company’s data warehouse, reducing data center floor space and power requirements by 400%
- Achieved an eight-fold increase in database query speed while reducing servers and storage by eight-fold
- Leveraged employees’ existing Oracle transactional environment experience to streamline database and systems management teams—improving operational efficiency
- Used Oracle Enterprise Manager to quickly identify trouble spots, troublesome queries, and ways to keep the transactional databases running smoothly
- Cut in half the average response time for customer queries
- Provided advertisers and publishers direct access to data through an application built on top of Oracle Business Intelligence Suite Enterprise Edition, enabling them to assess trends and analyze historical data
- Enabled advertisers and publishers to analyze the performance of their campaigns in near real-time

“Oracle Exadata has helped us consolidate 15 years of historical data onto a reliable data warehousing solution that enables us to scale for future growth. The solution allows us to guarantee high performance and will play a vital role as we expand globally.”

Jonathan Levine, Chief Operating Officer, LinkShare Corporation
Nagase & Co., Ltd Cuts Batch Processing Time by One-Third, Improves Regulatory Compliance

“Oracle Exadata Database Machine offers extreme performance processing capabilities, translating to faster response times over our previous Teradata solution, and it’s more affordable. The performance improvements supply our marketing team with consolidated management, and the compliance team has, for the first time, near real-time access to critical information around chemical trading.”

Mitsuaki Ito, General Manager and Executive Officer, Business Administrative Office–IT Administrative Office, Nagase & Co., Ltd

Founded as a dyestuff wholesale store in Kyoto in 1832, Nagase & Co., Ltd is now a diversified business, importing and exporting chemicals, plastics, electronic materials, cosmetics, and health foods. Headquartered in Tokyo, the company has offices in Europe, North and Central America, the Middle East, and North East and South East Asia.

As a global business, Nagase requires sales and other business information availability in real time. The company had an enterprise data warehouse for querying and batch processing, but found the performance unsatisfactory. For example, overnight batch processing sometimes ran into the next business day, which affected the company’s ability to do business.

Nagase discovered it was cost prohibitive to upgrade its existing Teradata data warehouse. The company was looking for better cost performance in a solution that could be deployed in days once it arrived in the data center. After implementing Oracle Exadata Database Machine, Nagase enjoyed faster query responses and batch processing, and easier, risk-free maintenance. The ability to retrieve information quickly from large stores of data also ensured compliance with international chemical trading regulations.

More Powerful Performance Needed

Nagase’s global operations benefits greatly from having access to real-time information. “Our aim is to anticipate our customers’ needs as early as possible and ensure we have the products on hand to fulfill their requests,” said Mitsuaki Ito, general manager and executive officer of the Business Administrative Office, Nagase.

“Providing our staff, from senior managers to warehouse workers, with real-time sales and business information is essential if we are to take advantage of business opportunities.”

Nagase was using a six-year-old Teradata data warehouse that struggled to complete large batch processing jobs and respond quickly to staff queries.

“Month-end batch processing jobs in particular took a long time,” said Kenji Yoshizawa, general manager, System 2 Division, Business Administrative Office, Nagase. “Sometimes we couldn’t finish batch processing until the morning of the next business day, which made it difficult for our staff to do their work. Our supply chain planning was inefficient as we did not know exactly what products we should be shipping to our customers”

According to Ito, scalability was also important. “Over 40% of our sales come from outside Japan,” he said. “Our head office and overseas offices require access to the same real-time data. As our business grows overseas, we want to know our enterprise data warehouse can also scale.”
**Key Benefits:**

- Gained a powerful, scalable data processing system with 10 times the capacity of the legacy solution at a lower cost
- Enabled senior officials to receive a query response in three to five seconds
- Provided sales representatives with responses to queries in under 10 seconds
- Cut batch processing time by one-third
- Gained the capability to store 10 years’ worth of data and retrieve the relevant information in 20 to 30 minutes
- Eased the IT maintenance task by adopting a widely-used technology platform

**Faster Query Response Times and Batch Processing**

After witnessing the performance of Oracle Exadata Database Machine at an Oracle event, Nagase undertook a proof-of-concept. The results were impressive enough to convince the company to implement Oracle. For example, the search time for the real-time query test was cut from six minutes to 2.5 seconds, while batch processing time for large data queries reduced from 30 minutes to 13.4 seconds. “Speeding up processing times even as our data volumes grow is always a goal for the Information Systems Division,” said Ito.

“Senior officials need a response within three to five seconds, while sales representatives don’t want to wait any longer than 10 seconds,” said Ito. "Oracle Exadata Database Machine enabled us to meet these requirements easily.”

He added that batch processing times for monthly reports have also been cut by one-third.

**Regulatory Compliance Strengthened**

Japan has tightened already strict regulations governing the trade of chemicals in and outside the country.

With toxic substance and environmental control under high scrutiny in recent times, Nagase is confident it can comply with such new regulations. The Oracle Exadata Database Machine has no problem housing 10 years’ worth of data and extracting the required information in 20 to 30 minutes, depending on the parameters.

“We now have a solution that ensures we can meet the strict data retention and retrieval requirements,” said Ito.

**Easier, Risk-free Maintenance**

The biggest benefit for the Information System Division is the improvement in efficiency between the database and storage servers.

“Funding technical experts who could maintain our previous Teradata platform was costly,” said Ito. "It is much more cost effective with Oracle Exadata Database Machine, as we can leverage our existing Oracle skill sets and save costs by eliminating our stovepipe Teradata system. Furthermore, there were not many technicians available who had the knowledge and experience to manage non Oracle information systems. It was quite a risk for the business.

“We can run mixed workloads with both our critical business and information systems running on Oracle Exadata Database Machine,” said Yoshizawa. “Because we have used Oracle Database for more than 15 years, we know how Oracle products work. Our ability to maintain our information infrastructure has been significantly improved.”
Global Standardization Required

Nagase plans to standardize on Oracle Exadata Database Machine globally, to leverage the processing power necessary to consolidate its subsidiary operations. Currently, each country operates by its own rules. Standardizing on a common platform and processes would solve operation and governance issues. This will enable the company to strengthen the management of its global operations.

Why Oracle?

Nagase initially considered upgrading its Teradata data warehouse. However, the company found the upgrade too expensive. Moreover, if it wanted to increase capacity, the cost would be even higher. A new solution was needed.

Oracle was selected after a number of Nagase executives attended an Oracle Exadata summit in February 2009.

According to Ryosuke Sasaki, leader of the Corporate Planning Office, IT Planning Team, at Nagase: “I was very impressed by the extreme performance and fast implementation time of Oracle Exadata Database Machine. I thought we could certainly use a solution like that.”

Osamu Oda, systems engineer, IT Management Section, Systems and Logistics Management Division, Business Administrative Office, Nagase, also agreed. “I thought a data warehouse needed a special server to perform properly, but Oracle Exadata Database Machine completely changed my mind.”

Another reason for selecting Oracle was the competitive price. “Even though the Oracle Exadata Database Machine half-rack offered 10 times more capacity than our previous Teradata solution, it was more competitively priced than upgrading our legacy platform,” said Ito.

He added that Oracle’s credentials as a “stable and reliable world class company that is the global market leader in data warehousing” gave Nagase confidence that the Oracle solution could handle the company’s commercially-sensitive management information.

Implementation Process

After using Oracle database solutions for 15 years, Nagase has confidence and deep experience in implementing Oracle solutions. The Nagase IT team was able to quickly deploy Oracle Exadata Database Machine, a job they completed in December 2009.

Nagase & Co., Ltd is a diversified business importing and exporting chemicals, plastics, electronic materials, cosmetics, and health foods.
Procter & Gamble Completes Point-of-Sale Data Queries up to 30 Times Faster, Reduces IT Costs, and Improves Insight with Engineered Data Warehouse Solution

"With Oracle Exadata, we have a single machine-combining hardware and software-that forms the foundation for our business intelligence environment. This simplifies our IT landscape significantly, helps us reduce costs, and gives us a single partner for managing our end-to-end environment."

Jim Fortner, Vice President of IT Development and Operations, P&G

Procter and Gamble (P&G) touches the lives of approximately 4.4 billion people in 180 countries with its extensive consumer-brand portfolio, which encompasses personal care, household cleaning, laundry detergent, and prescription drug products. The company’s leading brands include Pampers, Tide, Ariel, Always, Whisper, Pantene, Mach3, Bounty, and Dawn.

Challenges

• To foster innovation and effectively meet changing market demands, the P&G Global Business Services (GBS) organization relies on insight from terabytes of point-of-sale data collected from retailers around the globe

• As data volume and business intelligence requirements grew, the company began to reassess its legacy data warehouse environment

• The infrastructure, which included multiple Oracle and non Oracle database environments, was costly and inefficient, restricted business agility, and resulted in solid customer data that prevented optimal visibility and analysis

• Point-of-sale data queries could take hours and sometimes would fail to process

• GBS looked for a way to improve the performance and cost-effectiveness of its data warehouse environment and wanted to expand its analytical and brand decision-making capabilities. Consolidating point-of-sale data into a single data warehouse platform was fundamental to these objectives

• “We had essentially two challenges in the data warehouse space. We wanted to cut costs and improve performance when analyzing massive amounts of data,” said Corrado Azzarita, director, IT development and operations, P&G

Solutions

• After considering several options, GBS selected Oracle Exadata Database Machine as the foundation for its new data warehouse infrastructure, initially deploying V2 machines and later expanding with X2-2 and X2-8 machines to fully convert multiple data warehouse landscapes to Exadata hardware

• The solution provides a complete, optimized package of software, servers, and storage that deploys rapidly and streamlines IT management

• With the implementation, the company consolidated customer point-of-sale data into one repository, enhancing control over information assets and extending visibility
• Expanded analytical capabilities are enabling P&G to enhance its business agility and scalability to support continued innovation and growth. Today, the company can respond more quickly to emerging trends and needs.

• Using Oracle Exadata, GBS can complete some queries up to 30 times faster.

• Prior to the implementation, one periodic end-user query required upwards of 20 hours to complete, sometimes failing to complete the cycle entirely.

• With Oracle Exadata, the same query takes three minutes to complete.

• In addition, the company streamlined operations and improved stability by consolidating information into a single repository.

• “With Oracle Exadata, we can conduct analysis and respond to the data much quicker than ever before. The end-to-end support model is a second benefit,” said Jim Fortner, vice president of IT development and operations, P&G.

• “You have hardware, software, and support all wrapped up from a single vendor. Cost is the third major benefit. It’s simply easier and more cost-effective to own and manage. From a performance, cost, and support perspective, Oracle Exadata Database Machine is creating big value for P&G.”

Why Oracle

“We chose Oracle Exadata because we wanted an out-of-the-box, end-to-end solution from one vendor that dramatically improved our data warehouse performance, while simplifying our support structure and reducing costs. Oracle provides a breakthrough business model for P&G. We’re getting a total solution in a box,” Fortner said.

“From a performance standpoint, we can get, out of the box, with Oracle Exadata a much better performing application than we can by investing time, money, and resources in tuning the application on our legacy platform. From a price standpoint, getting a preconfigured, integrated, out-of-the-box solution from Oracle dramatically simplifies the amount of time and money we have to invest in building and maintaining our data warehousing platform,” said Brian Beckman, data warehouse platform manager, P&G.

“Oracle is one of P&G’s strategic partners,” he continued. “We’re counting on Oracle to drive innovations like Exadata into P&G to help us digitize our business and enable better analysis of consumer behavior so we can touch and improve more lives more completely.”
Reliance Commercial Finance Processes
Financial Transactions up to 40% Faster, Collates Report Data in One Hour, Compared to Eight Hours

“The financial services market in India is extremely competitive and customers have many options when it comes to finding an appropriate loan to meet their requirements. The Oracle infrastructure ensures we can provide our customers with access to loans as quickly and efficiently as possible.”

Shashi Kumar Ravulapaty, Senior Vice President and CTO, Reliance Commercial Finance

Reliance Commercial Finance, a division of large Indian financial services provider Reliance Capital, provides loans for mortgages, commercial and private vehicles, construction equipment, and infrastructure. The company also offers loans against existing property and investments, such as gold, as well as microfinance services to the self-employed and individuals on low incomes. Reliance Capital had a loan book of US$2.9 billion for the financial year ending June 30, 2011.

Since 2007, Reliance Commercial Finance has used Oracle Database with Oracle Real Application Clusters running on Sun SPARC servers to underpin FinnOne, its core lending application. In 2009, Reliance Commercial Finance set up a disaster recovery center using Oracle Active Data Guard to provide automatic online data replication between servers at its primary site and disaster recovery center. In March 2011, the company moved its data warehouse and business intelligence solution to Oracle Exadata Database Machine X2-2 Quarter Rack.

“The financial services market in India is extremely competitive and customers have many options when it comes to finding an appropriate loan to meet their requirements,” said Shashi Kumar Ravulapaty, senior vice president and CTO, Reliance Commercial Finance. “The Oracle infrastructure ensures we can provide our customers with access to loans as quickly and efficiently as possible.”

Ensuring High Availability of Core Lending Application

Reliance Commercial Finance began operations in early 2007 and initially deployed Oracle Application Server and Oracle Database 10g to support its FinnOne core lending application, which is used by staff to complete commercial and home lending transactions. At the time, the application was hosted on a Sun Fire V40Z server and Oracle Database was hosted on a Sun Fire V890 server running eight UltraSPARC CPUs and 16GB of RAM.

“We had just entered the market and planned to become one of the top three lending organizations in India by 2010,” said Ravulapaty. “To reach that goal, we needed to make sure we served our customers as quickly and efficiently as possible. This would involve upgrading infrastructure to improve the performance of our core lending applications, more easily analyze our financial and customer data, and provide high availability features to eliminate unnecessary system downtime, which affects customer service.”

In 2008, Reliance Commercial Finance purchased a second Sun Fire V890 server running eight UltraSPARC CPUs and 16GB of RAM. It used Oracle Real Application Clusters to create a two-node server environment to provide high availability and redundancy features at its headquarters in Mumbai, India.
The aim was to ensure the reliability of its FinnOne and other lending systems, so that if these systems went down, the business would still be able to process customers’ loan applications, repayments, and other financial transactions.

In March 2011, Reliance Commercial Finance migrated its high performance data warehouse, which enables the company to store and analyze financial transactions onto Oracle Exadata Database Machine X2-2 Quarter Rack, which features Oracle Database 11g running the Oracle Linux operating system. The Oracle Exadata Database Machine has 21TB of storage capacity.

These transactions include the amount of unpaid debt per month and customer data, such as the amount and term of a customer’s loan, and the amount and frequency of their repayments.

The company also created a disaster recovery center in Bangalore by deploying a Sun Fire V490 server with four UltraSPARC CPUs and 16GB of RAM. It deployed Oracle Active Data Guard to provide automatic, online data replication between servers at its primary site in Mumbai and its Bangalore disaster recovery center. This ensured the organization could recover from a disaster, such as a fire or anything else that could impair availability at its primary site.

**Faster Transaction Processing with Clustered Infrastructure**

Reliance Commercial Finance is running its FinnOne core lending application on Exadata Database Machine X2-2 Quarter Rack, and can now process customer loans and other account information up to 40% faster than previously.

This ensures customer queries, loan applications, repayments, and other financial transactions are completed quickly, which improves customer service levels.

“The performance of Oracle Exadata Database Machine is phenomenal. One of our very critical transaction processes—which used to take eight hours—is now completed within an hour,” said Ravulapaty. “This ensures we can serve more customers, more efficiently.”

With Oracle Exadata, Reliance Commercial Finance can process more customer transactions per day. “Oracle Exadata eases the load on our Oracle Database by distributing transaction workloads easily,” said Ravulapaty. “This ensures we can easily process up to 25,000 customer transactions per day. Previously, we processed about 5,000 customer transactions per day.”

Oracle Real Application Clusters also provides automatic failover capabilities, which means that if one server node fails, the data processing load automatically shifts across to the other server node. The company can be sure that its FinnOne application—used by staff to manage customer loans—will still be available in the event of a server failure.

“This ensures we can continue to help our customers by processing and approving their applications efficiently so they have money to buy a house or car, or invest in property,” said Ravulapaty.
Highly Scalable Data Warehouse Supports Business Growth

Reliance Commercial Finance’s data warehouse—deployed on Oracle Exadata Database Machine—includes online business analytics tools; a barcode-based file tracking system used for loan application tracking; and an inventory funding system used for customer acquisition and maintenance of vehicle loans.

These systems work with its FinnOne core lending application to complete loan processing, and data from each system is loaded into the company’s data warehouse for further analysis.

“Over the next two years, we are expecting our customer numbers to increase by four times to between three and four million, which is likely to double our transaction load. We believe Oracle Exadata Database Machine will handle the increase easily, so there’s a lot of room for growth. We are also expecting our data warehouse to grow to 15TB between now and 2013.”

Improved File Tracking

Oracle WebLogic Server was implemented to improve the performance of Reliance Commercial Finance’s file tracking system, by migrating the application from open source servers to Oracle Exadata Database Machine.

“Multiple users can now access this system almost immediately and we don’t have to deal with system compatibility and support issues that hampered our ability to service customers as efficiently as possible,” said Ravulapaty.

Financial Reporting Times Reduced

Reliance Commercial Finance’s transaction load increases significantly towards the end of the month as financial staff prepare for end-of-month reporting.

“It previously took between seven and eight hours to collate all the loan transactions for the month and provide it to the finance team, so they could compile reports,” said Ravulapaty.

“With Oracle Exadata Database Machine, the takes one hour, which means that financial staff and senior managers have faster access to transaction and customer information that enables them to make more informed decisions, such as which types of customers to target for up-selling or cross-selling.”

Business Continuity Guaranteed

Reliance Commercial Finance uses Oracle GoldenGate to capture any changes in transaction and customer data stored on a number of Sun Fire V890 servers and automatically move this data in real-time to an Oracle Exadata Database Machine, located at its primary data center in Mumbai.

“Without Oracle GoldenGate in place, we wouldn’t be able to provide an automatic failover mechanism because data is saved in different formats on the Sun Fire servers and Oracle Exadata Database Machines,” said Ravulapaty. “It simply would not be retrievable.
“Because Oracle GoldenGate replicates data in real-time, we know that our data is always up to date and our operations won’t be affected in the event of a server failure at our primary site.”

“Our staff can be responding to customer queries based on the latest information, and senior managers can make decisions based on accurate information.”

Challenges

- Deploy IT infrastructure that would support a plan to grow the company to become one of the top three lending providers in India
- Improve the performance of its FinnOne core lending application
- More easily analyze financial and customer data
- Provide a highly available environment that avoids unnecessary system downtime

Solutions

- Implemented Oracle Exadata to process transactions quickly and easily, ensuring the organization could serve more customers, more efficiently
- Processed customer loans and other account information up to 40% faster than previously, which improved customer service levels
- Eased the load on the company’s Oracle Database, ensuring it could process up to 25,000 customer transactions per day, up from 5,000 transactions previously
- Served customers more efficiently by ensuring a critical transaction process, which previously took eight hours, now only takes one hour to complete
- Provided automatic failover capabilities, ensuring staff could still use core lending and financial applications to serve customers in the event of a server failure
- Enhanced customer service by enabling multiple users to access a file tracking system almost immediately
- Reduced the time it took to collate loan transactions for the month from eight hours to one hour, enabling finance teams to compile monthly reports faster
- Replicated transactional data in real time, which ensured the most up-to-date data could be recovered after a server failure
- Expected to scale to accommodate four times the number of customers and double the transaction load, over the next two years

Why Oracle

Reliance Commercial Finance chose Oracle due to the company’s extensive experience working with large organizations in the Indian financial services market and the maturity of its technology.
“I had experience working with Oracle technologies before I started at Reliance Commercial Finance,” said Ravulapaty. “Oracle technologies, particularly Oracle Real Application Clusters and Oracle Database, are considered the gold standard in this industry.

“We also have access to many technical specialists with high-level Oracle skills. Oracle Consulting’s technical teams provide us with 200 hours of support annually, which ensures our Oracle infrastructure is always running smoothly.”

Implementation Process

During the initial stages of the project, Reliance Commercial Finance developed a test environment to analyze the infrastructure. Over the following 40 days, the company moved its applications and databases into a production environment and developed the appropriate system failovers and redundancies before the new infrastructure went live in early 2009.
Robi Axiata Limited, A Fast-growing Mobile Telecom Leverages Oracle Exadata to Accelerate Customer Insights and Control Costs; Achieves Payback in One Year

“We have witnessed excellent results with Oracle Exadata Database Machine. It has helped us to simplify our IT infrastructure and reduce operation cost. The Oracle Exadata Base Machine has enabled the mobile operator to increase data mining and analytical efficiency to provide better services to Robi customers.”

AK Monzur Morshed, Chief Technical Officer of Robi

About Robi Axiata Limited

Axiata is one of the largest Asian telecommunication companies focused on high growth/low penetration emerging markets. Axiata has controlling interests in mobile operators in Malaysia, Indonesia, Sri Lanka, Bangladesh and Cambodia with significant strategic stakes in India, Singapore and Iran. Formed in 1997, Robi Axiata Limited, a joint venture of Axiata Group Berhad, Malaysia, and NTT DOCOMO INC. in Japan, is a dynamic and leading countrywide GSM service provider in Bangladesh with 15.2 million customers.

Executive Summary

Since its debut in 1992, the Axiata Group has made good on its motto: “Advancing Asia.” The pioneering Malaysia-based mobile telecommunications company has advanced to the point that it now has 168 million individual and business customers in 10 countries, achieving its fast growth by investing in emerging, low-penetration markets previously overlooked or underserved by other operators. In 1997, it entered Bangladesh, where its subsidiary Robi Axiata Limited (Robi) now serves around 15.2 million customers.

Although technology innovation is integral to the parent company’s global strategy, Robi had a specific need for it in Bangladesh, where attracting and retaining customers primarily depend on product and service differentiation rather than price. To execute that strategy, Robi built a business intelligence infrastructure to help analyze customer behavior, target the most profitable customers and respond rapidly to market shifts.

The company’s existing infrastructure, however, lacked the capacity to keep up with Robi’s massive and growing data-processing demands, including analyzing more than 100 million call detail records (CDRs) per day. Robi needed a fast, reliable, and scalable business analytics platform that wouldn’t burden the company with high operating costs.

To achieve the speed, dependability and savings it was looking for, Robi turned to Oracle Exadata Database Machine, a computing platform that uses innovations in smart storage to dramatically boost performance and manage more data. After the Exadata rollout—a smooth process that took just one week—Robi reported significant system performance increases, including exponentially faster data loading and query speeds, and lower system utilization.

In its assessment, Mainstay Partners calculated a range of business benefits from the move to an integrated Exadata-based platform. These included IT savings in the form of avoided hardware and software costs, and significant storage infrastructure savings. Moreover, the faster analytics is eliminating reporting delays, boosting business user productivity, and enabling the company to gain rapid and reliable insights into customer preferences and profitability.
Key Benefits:

- 60% ROI, and payback within the first year
- Total savings of $2.1 million over three years
- $1.3 million savings to business users through increased productivity
- 7–10x better compression
- 5 percent increase in profitable customer base; 10% boost in customer loyalty
- 5–50x faster query reports
- 15% decrease in utilization

According to Mainstay Partners’ assessment, Robi’s investment in Oracle’s products and services will achieve a 60% return on investment and yield total benefits of US$2.1M (BDT155.9 million) over three years. Furthermore, the investment will pay for itself in less than one year.

Background

Robi Axiata Limited, a joint venture of Malaysia’s Axiata Group Berhad and Japan’s NTT Docomo Inc., introduced the Aktel brand into the Bangladeshi market in 1997 under the name Telekom Malaysia International (Bangladesh). Axiata was one of the first GSM mobile telecommunications companies to enter the country, and was rewarded by capturing a significant portion of the market. “Our aim has always been to create distinct services with local flavor to remain close to the hearts of our customers,” said Michael Kuehner, Robi’s Managing Director and CEO.

But as the eighth-most populous country in the world and with a Next Eleven (N-11) economies designation from Goldman Sachs, Bangladesh became a magnet for mobile telecom companies. Competition intensified; prices for phones and service stabilized at low rates; and service, products, and innovation became the only way to attract and retain customers. Campaigns—and data on how they were working—became more frequent and important. However, increased campaign demands began to strain Robi’s underlying data warehousing and business intelligence system, underscoring its weak processing capabilities and lack of storage space. Robi also noticed that its two biggest competitors both had extensive processing capacity for their commercial activities.

The need to improve its campaigns and compete within these new and technologically more sophisticated parameters prompted Robi to re-examine its entire IT infrastructure, which was essentially added onto and layered over its original 1997 grid. “A cutting-edge technological system had become a necessity for Robi to compete effectively in the market,” Kuehner said.

Robi wanted a system that would address a range of issues, including inadequate data processing capabilities and storage space. The new system needed to support ongoing data analysis of subscribers’ call patterns and usage trends, carry out detailed, segmented customer-cohort analysis, and generate effective and comprehensive post-marketing campaign evaluation reports.

The Oracle Exadata Solution

Oracle Exadata Database Machine represents a breakthrough in information technology, using an innovative software stack and unique architecture built on industry-standard hardware. The system combines servers, storage, networking, and software in a fully integrated platform that is hugely scalable, highly secure, fully redundant, and less costly to operate. As Robi IT executives observed, the result is significantly faster performance for data warehousing applications.
Robi installed an Exadata Database Machine X2-2 Half Rack in May, 2010, consolidating its data warehouse onto one integrated platform. Robi also deployed Oracle Data Mining on its Exadata platform to improve marketing campaigns and gain deeper insights into its customer base. Robi manages the entire stack using Oracle Enterprise Manager.

Because the core system components were built from an integrated Oracle technology stack, Exadata was fast and easy to deploy. Hardware installation took one day; software took another day; and the database and warehouse framework, configured to support Robi’s existing data warehouse structure, took three days. Within one week, Robi had the new system up and running, including migrating all the legacy data. “The migration was remarkably easy, said Rana Shohel, vice president, Robi. “Going with Oracle saved us time in not having to do extensive rewiring of applications into a different environment.”

Operational And Strategic Benefits

Directly after moving to Oracle Exadata, Robi began to see an array of operational and financial benefits, ranging from million-dollar productivity gains among its business clients to a marked rise in customer satisfaction. From a strategic perspective, Exadata has given the company the platform it needs to compete more effectively, support growth, and boost customer loyalty—while at the same time containing IT overhead costs.

Figure 1: 5–10X Faster Reports

Significantly Higher System Performance

As a direct result of the performance enhancements from Exadata, Robi can now run reports significantly faster—typically 5–10 times faster, but in some cases as much as 50 times faster than in the previous environment. “We saw first-hand the power of conducting non-index searches and what that could mean for product development and for our customers, and how it could potentially transform our business,” said Shohel.
How Exadata Maximizes Performance

- **Exadata Smart Scan.** The smart storage software in Exadata offloads data-intensive query processing from Oracle Database 11g servers to Exadata’s storage layer for parallel data processing. Because there’s less data moving through the higher bandwidth connections, performance improves significantly as well as concurrency for simple and complex data warehousing queries.

- **Exadata Smart Flash Cache.** With more than 5 terabytes of flash memory per full rack, Oracle Exadata intelligently caches “hot” data and assigns the rest to disk storage, giving organizations the speed of flash with the cost-effectiveness of disk storage. Exadata Smart Flash Cache can process up to 1.5 million random I/O operations per second and scan up to 50 GB of data per second to deliver ultra-high performance for OLTP applications.

The move to Exadata also enabled Robi to avoid reporting delays that it was experiencing when system utilization approached 100% during peak hours. Today, Robi’s utilization rates are running at about 85%, affording the company enough headroom to maintain superior performance. Robi also saw an immediate and substantial drop in data warehouse loading times—from one hour on the legacy system to six minutes on Oracle Exadata, as shown in Figure 3.

**US$1.3M Productivity Savings for Business Users**

The boost in system performance is leading to significant increases in business user productivity. With Robi’s business analysts (about 50) running about 6,000 searches per day, the speedier Exadata platform means users spend substantially less time validating and re-running reports and data. The improvement is expected to save an estimated 3 hours per user per day, translating into savings of more than US$1.3M over three years. The company will benefit by giving business users more time to spend on value generating activities.

**End-User Deliverables Supported by Exadata**

- Business Analytics
- Decision Support Analytics
- Strategic and Business Decision Support Analytics
- Campaign Management
- CRM Analytics (Customer Satisfaction, Complaints, Customer Care Service)
- Data for Strategic Analysis
- Financial Reporting
- Revenue-Stream Data
- Analytics for Technical and Operational Support
- Different Statistics regarding Technical Systems
Deployment Cost Savings
Leveraging Exadata’s pre-integrated infrastructure and dedicated vendor support, Robi saved significantly on deployment time and costs. Robi estimates the Oracle Exadata deployment required about 90% fewer hours to implement compared to a typical data warehousing solution. The integrated system’s overall simplicity, ease of adoption, and streamlined network architecture also contributed to the economical deployment. As shown in Figure 4, Robi estimates it saved US$95K (BDT7.1 million) on implementation costs alone.

Figure 4: Streamlined Exadata Deployment Yields Savings

<table>
<thead>
<tr>
<th></th>
<th>Deployment Hours</th>
<th>IT Resource Time Cost to Deploy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical Comparable Solution Deployment</td>
<td>320</td>
<td>$180,800</td>
</tr>
<tr>
<td>Oracle Exadata Deployment</td>
<td>40</td>
<td>$13,600</td>
</tr>
<tr>
<td>Estimated IT Deployment Savings</td>
<td>280</td>
<td>$95,200</td>
</tr>
</tbody>
</table>

Lower System Ownership Costs
By consolidating its data warehouse and analytics operations on a single integrated Exadata system, Robi will garner significant savings in the form of avoided hardware outlays and lower software licensing costs, the assessment showed. “All the hardware and software components are engineered to work together, be managed together and supported together, resulting in lower total cost of ownership and lower ongoing costs,” Shohel observed.

According to the assessment, Robi will avoid an estimate $250K in hardware costs by consolidating multiple systems onto Exadata, and will save approximately $250K on lower software and licensing costs.

Figure 5: Handling More Data with Lower Utilization

<table>
<thead>
<tr>
<th>eBIS at a Glance</th>
<th>Old</th>
<th>Current (now supported by Exadata)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 100m CDRs/day</td>
<td></td>
<td>300m+ CDRs/day</td>
</tr>
<tr>
<td>• 75m customers</td>
<td></td>
<td>15m+ customers</td>
</tr>
<tr>
<td>• 20 data sources</td>
<td></td>
<td>30+ data sources</td>
</tr>
<tr>
<td>• 15 BO licenses</td>
<td></td>
<td>50 BO licenses</td>
</tr>
<tr>
<td>• 5TB of storage</td>
<td></td>
<td>40TB of storage</td>
</tr>
<tr>
<td>• 100% system utilization (peak hours) causing huge delays in reports generation</td>
<td></td>
<td>500 marketing campaigns per quarter</td>
</tr>
<tr>
<td>• 10–12 marketing campaigns per quarter</td>
<td></td>
<td>Comprehensive analysis based on SIM, time and location</td>
</tr>
<tr>
<td>• In-house simple data extraction and data mining tools</td>
<td></td>
<td>40 TB of storage</td>
</tr>
<tr>
<td>• Limited analysis and data retention</td>
<td></td>
<td>Longer data retention</td>
</tr>
</tbody>
</table>
US$200K Storage Cost Avoidance

Robi will also benefit from using Exadata’s compression capabilities to cost-effectively scale out system capacity when needed and extend the life of its storage infrastructure. Robi’s IT administrators observed that most Oracle Exadata tables can be maintained at 2X compression levels with no loss of performance, and that less frequently accessed information can be stored at 7X to 10X compression without impacting performance. Extended storage capacity will mean that Robi can avoid near-term purchases of additional storage equipment — a benefit that will save the company an estimated US$200K over three years.

Improved Customer Insights

At the end of the day, the performance advantage provided by Exadata is about getting business insights into the hands of decision makers in a more timely fashion. Today, business decision makers at Robi are accessing customer data and running more complex market analytics faster than ever before. The result is accelerated response to market shifts, a more complete view of the customer (through a profitability matrix), and better support for marketing campaigns and business initiatives.

Benefits Summary

According to Mainstay’s projections, Robi’s investment in the new Oracle Exadata platform is expected to generate total business and IT benefits of approximately $2.1M over three years, as shown in Figure 6. The largest portion of the benefits will come from ongoing business user productivity increases, with additional benefits coming from avoided hardware and software cost avoidance and system deployment savings. Robi is expected to breakeven on its investment in less than one year and is on track to earn a 60% ROI over three years.

Figure 6: Benefits by Category — Three-Year View
SK Telecom Strengthens Real-time Service Analysis and Enhances Customer Satisfaction

“We use Oracle Exadata Database Machine as the high performance database platform to bring together data from our systems for roaming and usage enquiries. Both systems had become more elaborate due to the increased complexity of data analysis and verification. Presently, Oracle Exadata Database Machine processes on average 40 billion transactions each day with no strain on the hardware components.”

Jin-hyung Lee, Manager, Network Engineering Department, SK Telecom

SK Telecom is Korea’s largest mobile communications service provider, specializing in data-driven applications and advanced multimedia services delivered to cell phones, personal digital assistants, and MP3 players. It provides music and streaming video services such as movies, video clips, animation, games, sports, and television programs, as well as real-time financial information (such as stock trades, investments, and insurance policies).

Since its foundation in 1984, SK Telecom has maintained its commitment to customer service. In 2009, the company was ranked first in the national customer satisfaction index (NCSI), the Korea customer satisfaction index (KCSI), and the Korean standard service quality index (KS-SQI). SK Telecom was also voted most innovative company of the year by Wall Street Journal Asia.

SK Telecom leads in customer satisfaction by being innovative. The company’s aim is to improve satisfaction by providing detailed and accurate usage information in real-time, which would help users obtain the information they want without having to go through complicated call center procedures.

Providing a Better Customer Experience

SK Telecom prides itself on being an innovative communications company that introduces new products and services ahead of a changing market. Due to the increasing demand for more wireless mobile data from smart phone customers, SK Telecom became the first mobile communications operator in Korea to introduce rate plans with unlimited data usage. This led to a large increase in data volumes and, as a result, the company’s data analysis and verification processes became more complex.

To address these issues, SK Telecom developed a range of support systems, including a data billing analysis system in October 2009, the first system to benefit from increased performance through the use of Oracle Exadata Database Machine. The company migrated to Oracle Exadata Database Machine V2 in December 2010. Due to rapid increases in database size, in May 2011 SK Telecom added Oracle Exadata Database Machine X2-2, incorporating Exadata Storage Server Software, enabling the company to store 1 petabyte (PB) of raw data. A second system was developed to offer more detailed categorization of usage data, making available that data in real-time.

SK Telecom also implemented a third system: a roaming data inquiry system based on the prediction that customers would increasingly demand access to more detailed usage information. The system would also support the increase in roaming data traffic due to the use of services such as e-banking and e-mail. All three systems benefit from improved performance on Oracle Exadata Database Machine V2 and Oracle Exadata Database Machine X2-2.
Achieved 10:1 (10x) Data Compression Rate

"In comparison to custom-built equipment with similar capabilities, Oracle Exadata Database Machine has overwhelmingly superior performance, with average data processing rates 8 to 20 times greater than other SK Telecom in-house systems."

Jin-hyung Lee, Manager, Network Engineering Department, SK Telecom

Today SK Telecom runs 70 billing collection systems on Oracle Exadata Database Machine V2 and Oracle Exadata Database Machine X2-2. The systems process, on average, 40 billion transactions each day, equivalent to 10 terabytes (TB) of raw data.

SK Telecom compresses raw user data before it is loaded into Oracle Database 11g. "We use the Oracle Exadata Hybrid Columnar Compression technology to compress around 10TB of raw data each day, reducing the data size to 1TB, achieving a 10:1 (10x) compression rate," said Jin-hyung Lee, manager, network engineering department, SK Telecom. "This means we need fewer storage resources."

Oracle Exadata can support 560 simultaneous users per hour, with data processing rates between 8 to 20 times greater than other SK Telecom in-house systems. It is also two to three times faster when it comes to real-time extract, transform, and load processes, as well as daily batching and fact generation.

Strengthening Responsiveness by Enhancing Service Analysis

In 2009, SK Telecom deployed Oracle Exadata Database Machine to run a data billing analysis system, which checks for any billing inconsistencies before invoices are sent to customers. This led to a 10-fold improvement in data warehouse querying performance and enhanced billing accuracy, which uncovered millions of dollars of unbilled revenue. This delivered a very quick return on investment (ROI).

With the introduction of the data billing verification system in 2009, SK Telecom also gained the ability to provide proactive services, which reduced the cost of labor assigned to answering customer billing inquiries and increased customer satisfaction.

In 2010, SK Telecom implemented Oracle Exadata Database Machine V2. In the same year, the company also introduced usage data and roaming data inquiry systems, further enhancing proactive services as these systems allow customers to search for their roaming data usage information.

In response to a rapidly growing database, in May 2011 SK Telecom implemented Oracle Exadata Database Machine X2-2, incorporating Exadata Storage Server Software, enabling the company to store 1PB of raw data.

As the Oracle Exadata Database Machine platform collects and processes data in real-time, SK Telecom can now develop a data traffic prediction system. This system can systematically prepare for the increase in data traffic caused by the rise in the use of mobile internet services, both in Korea and abroad.
As demand for more data throughput increases and customer expectations grow, SK Telecom aims to expand areas of analysis used for planning and predicting services. The company is also seeking to improve the volume of data throughput and accuracy, and it plans to utilize new solutions and optional functions offered by Oracle, such as database compression and partitioning, to enhance the performance of existing systems.

**Easy Data Integration and Analysis**

SK Telecom implemented Oracle Data Integrator to ensure data from its various systems can be easily integrated into the Oracle Exadata Database Machine. Oracle Data Integrator provides extremely fast data integration capabilities, while ensuring maximum availability of the Oracle Exadata Database Machine.

The company also uses Oracle Business Intelligence Enterprise Edition to analyze billing data, customer usage and roaming information, and trends in mobile internet usage. This ensures SK Telecom is fully aware of any changes in customer usage and preferences, as well as industry developments, helping the company develop strategies to grow its business.

**Challenges**

- Implement a system that provides detailed, accurate information about customers’ roaming data usage
- Ensure high availability and powerful performance to support billions of transactions a day
- Improve the efficiency of customer support staff by giving them the information they need to answer queries promptly

**Solutions**

- Improved service by implementing systems that allow customers to search for detailed data usage and roaming information, which is made available in real-time
- Achieved average data processing rates 8 to 20 times greater than other SK Telecom in-house systems
- Delivered performance that was two to three times higher for real-time extract, transform, and load processes, and daily batch and fact generation
- Established an environment for processing, on average, 40 billion transactions per day
- Accomplished a ten-fold improvement in data warehouse querying performance and enhanced billing accuracy
- Attained a 10:1 (10x) data compression rate
- Stored up to 1 PB of raw data
- Prepared for an increase in customer usage by implementing a data traffic prediction system
• Gained a large capacity, packaged system that offers high performance, stability, and availability

• Ensured data from its various systems can be easily integrated into the Oracle Exadata Database Machine, by deploying Oracle Data Integrator

• Strengthened strategy planning through regular analysis of billing, customer usage and roaming information, and trends in mobile internet usage

Why Oracle

Oracle Exadata Database Machine was chosen because test results showed it could support and exceed the performance service level agreements required for all new systems designed to enhance customer satisfaction. The data usage and data roaming systems have been deployed on Oracle Exadata Database Machine in a large multi-terabyte data warehouse. Oracle Exadata Database Machine runs on Oracle Linux and offers SK Telecom the stability and flexibility to expand according to data usage, and optimized data warehouse performance.

SK Telecom was the first company in the Asia-Pacific region to implement Oracle Exadata Database Machine. The company selected Oracle to underpin its integrated billing analysis system because of its previous experience with Oracle products and services. Oracle Exadata Database Machine’s performance was confirmed when the extraction of voice-of-customer data was shortened from between one and three days to real-time, while maintaining accuracy.

Implementation Process


SK Telecom is the largest mobile communications service provider in Korea, specializing in data-driven applications and advanced multimedia services delivered to cell phones, personal digital assistants, and MP3 players.
SoftBank Mobile Corporation Improves Database Query Performance by up to Eight Times

“Oracle Exadata Database Machine has enabled SoftBank Mobile to create a data warehouse with up to eight times the processing capacity of our previous data warehouse while reducing our overall database running costs by 50%.”

Keiichiro Shimizu, Senior General Manager, Planning Management Department, Information Systems Division, SoftBank Mobile Corporation

Established in 1986, SoftBank Mobile Corporation is a leading mobile telecommunications service provider based in Tokyo, Japan. It offers a range of mobile services that run on Wideband Code Division Multiple Access (W-CDMA) and Universal Mobile Telecommunications System (UMTS) 3G networks.

Driven by the popularity of smartphones, SoftBank Mobile has achieved the highest growth in Japan’s mobile phone market over the past two years, attracting more than 200,000 subscribers per month.

This increase in subscribers from a previous average of 50,000 per month strained the company’s data warehouse.

“We quickly realized that with this expected increase, we would run out of storage capacity by the end of March 2010,” said Keiichiro Shimizu, senior general manager, planning management department, information systems division, SoftBank Mobile Corp. “Performance problems started to occur; it was taking us 25 hours to analyze the data log each day.”

Database Performance Increased Up to Eight Times

In January 2009, SoftBank Mobile conducted an Oracle Exadata Database Machine proof-of-concept test with a data volume based on an expected future increase in transactions.

During this test, the company’s data warehouse performance improved by up to eight times. As a result, SoftBank Mobile determined it was able to replace 36 Teradata racks with just three Oracle Exadata racks.

The new data warehouse, running on Oracle Exadata, is connected to the customer care and billing system, which runs on Oracle Database. It can store up to 150TB of data, an increase in capacity of 150% on the previous Teradata solution.

Faster Performance at a Lower Cost

The intelligent storage software in every Oracle Exadata Database Machine enables the company to offload processing from its database server to the storage servers. This provides significant database performance improvements by reducing database server CPU consumption while eliminating network bottlenecks.

For example, it now takes only seven hours to analyze call records and customer logs each day, compared to 25 hours previously.

This enables SoftBank Mobile to serve customers faster based on common call details records and customer logs, which has strengthened the company’s marketing power.
Key Benefits:
- Replaced 36 Teradata data racks with three Oracle Exadata racks
- Increased storage capacity for data warehouses to 150TB, an increase of 150% on the previous capacity
- Improved database query performance by up to eight times
- Reduced database running costs by 50% and operational costs by more than half
- Analyzed call detail records and customer logs from each day in seven hours rather than 25 hours

Operational Costs Reduced
SoftBank Mobile’s operational costs have been significantly reduced since the introduction of Oracle Exadata Database Machine.

“Oracle Exadata Database Machine has enabled us to create a data warehouse with up to eight times the processing capacity of our previous data warehouse, while reducing our overall database running costs by 50%,” Shimizu said.

The introduction of Oracle Exadata Database Machine has also helped increase staff skills by eliminating proprietary technology and utilizing over 100 Oracle master engineers.

“It’s also much easier to get access to engineers that have the relevant experience working with this system, and our operational costs are less than half what they were previously,” said Shimizu.

Why Oracle?
SoftBank Mobile initially considered updating its existing data warehouse but decided it would be too costly. The company then compared five solutions before selecting Oracle Exadata Database Machine.

According to Yuji Watanabe, deputy manager, operations department, business base management department, information systems division, SoftBank Mobile Corp, Oracle Exadata Database Machine is an open and high performing system.

“The technology is also based on Oracle Database, a simple architecture that we understand, so we knew we would succeed implementing the system,” he said.

Masaki Matsuoka, project manager, information systems division, business base management department, project promotion department, SoftBank Mobile Corp, travelled to the United States in March 2009 to observe the system at one of Oracle’s test centers.

“The system processed a data volume exceeding one trillion items within a few seconds,” said Matsuoka.

Implementation Process
The implementation took just three months after system analysis and base design phase, and was completed in May 2010. The Oracle Development and Oracle field teams fully supported this project.

SoftBank Mobile Corporation is a leading mobile telecommunications service provider based in Tokyo, Japan. It offers a range of mobile services that run on WCDMA and UMTS 3G networks.
Sogeti USA LLC Improves Performance and Productivity of Critical Business Systems

Founded in 1967, Sogeti is a leading provider of IT consulting services. It is a member of the Capgemini Group, one of the world’s largest consulting services firms, and has 20,000 experts in 15 countries. Sogeti USA LLC is headquartered in Dayton, Ohio, with local branches in 23 cities across the United States. It specializes in enterprise IT solutions including application development, infrastructure services, business information management, testing, advisory services and engineering services.

Challenges
- Support growing business with scalable, cost-effective business systems
- Improve performance of company’s OLTP applications
- Move from a batch-reporting to a real-time reporting model to better meet the needs of its clients
- Reduce time for customizing code and optimizing queries
- Consolidate multiple database instances to simplify administrative tasks, and reduce infrastructure costs
- Decrease periods of unavailability of its business systems

Solutions
- Migrated Oracle E-Business applications onto Oracle Exadata and aggregated all Oracle database instances into a single instance, providing superior performance and reliability and simplified administration
- Reduced the weekly tape backup from four hours to five minutes, enabling the switch to daily backups on disk and database replication in the cloud
- Provided real-time reporting for critical key performance indicators such as sales performance, financial KPIs, HR KPIs, account performance and project performance tracking.
- Improved system reliability, enhancing productivity of the business users and enabling them to provide better support to their IT services customers
- Reduced the number of servers required and simplified software licensing, resulting in meaningful cost savings
- Improved accuracy of measuring profitability for each cost center and practice area
- Reduced dependence on IT staff for reporting, enabling them to focus on more value-added activities

“As an IT consulting services provider, we know a successful project when we see one, and our migration to Oracle Exadata was a huge success. We have consolidated OLTP applications and enhanced reporting, while improving productivity and reducing costs.”

Manohar Reddy, Sr. Manager of Applications, Sogeti USA LLC
SquareTwo Financial Increases Database Transaction Speed Four-Fold, Improves Scalability to Meet Exponential Company Growth

“Oracle Exadata Database Machine X2-2 HC Quarter Rack and Oracle Exalogic Elastic Cloud give us the scalability we need to ensure the company continues to grow and evolve. They enable us to handle thousands of concurrent users and provide optimal performance to ensure we maintain constant contact with customers and leverage revenue opportunities. In addition, their out-of-the-box functionality enabled us to implement the products in just 134 days.”

Bill Weeks, Senior Vice President and Chief Information Officer, SquareTwo Financial

SquareTwo Financial, a leader in the US$100 billion asset-recovery and management industry, plays an integral role in maintaining the integrity of a credit-based economy, including bringing much needed liquidity to the financial services sector through purchases of distressed assets. It is also involved in the recovery of those assets through its pioneering network of legal partners, who liquidate the debt. As one measure of SquareTwo Financial’s current success, the company now does business with eight of the top-10 credit card issuers in the United States. SquareTwo Financial considers technology a company cornerstone, which is a key differentiator from competitors in the industry, and a driver of its business success. SquareTwo Financial’s state-of-the-art debt collection management system, called eAGLE, is integral to the company’s core business areas of acquiring and managing debt. It also serves as the foundation for SquareTwo Financial’s Partners Network, which includes 36 affiliates across the United States. The eAGLE system assesses and loads debt, then distributes that debt to SquareTwo Financial’s Partners, where payment processing and reconciliation occur.

SquareTwo Financial began searching for a technology solution when its legacy hardware infrastructure neared end of life and would soon be unable to keep pace with the company’s exponential growth. In January 2011, eAGLE had 800 daily users, and by October 2011, the system had 1,500 daily users, processing approximately 680,000 user transactions. The company needed to enhance its scalability to meet such a growth in demand. In addition, it needed to enhance system performance. With the legacy system, the data warehouse process ran for approximately 16 hours and then cut off data at 6 p.m. to ensure it was available for the next morning—meaning it was incapable of processing a full day’s worth of data.

SquareTwo Financial reviewed different hardware solutions and then chose Oracle Exadata Database Machine X2-2 HC Quarter Rack and Oracle Exalogic Elastic Cloud. After a 90-day-trial, the company worked with Oracle Consulting to install the new solutions in 44 days. With the implementation, SquareTwo Financial increased database transaction speed four-fold and realized a 28% improvement in performance. Initial performance tests showed that eAGLE could handle as many as 25,000 daily users—demonstrating it had the scalability to handle additional growth.

In addition, the data warehouse process can now commence at 10 p.m. to ensure SquareTwo Financial processes a full day’s worth of data.
Challenges

- Enhance hardware scalability to ensure the system maintains optimal functionality while the number of users, from SquareTwo Financial and its partners, increases exponentially
- Accelerate system processing speed to increase the number of transactions franchise partners—who work with end consumers to liquidate debt—can process per day to enhance customer contacts and subsequently revenue
- Implement the new hardware solution quickly to ensure the company can keep pace with data demands
- Reduce data warehouse processing time to ensure processing a whole day’s worth of data
- Decrease IT maintenance costs with a consolidated environment

Solutions

- Implemented Oracle Exadata Database Machine X2-2 HC Quarter Rack and Oracle Exalogic Elastic Cloud to serve as the foundation for eAGLE—the company’s debt collection management system—to handle a significant increase of daily users, which had increased from 800 to 1,500 in 10 months
- Leveraged Oracle Exadata and Oracle Exalogic to increase database transactions approximately four-fold and enhanced performance by 28%
- Improved system scalability, including the ability to handle as many as 25,000 daily users without decreasing performance
- Processed 100 more transactions per day per franchise collector, enabling more customer contacts and revenue opportunities
- Gained the ability to commence data warehouse processing four hours later than with the legacy system, ensuring a whole day’s worth of data can be processed
- Used Oracle Exadata and Oracle Exalogic to reduce, from 98 to 2, the number of environments requiring updates for new system roll-outs
- Leveraged Oracle Exalogic Elastic Cloud to enhance performance speed by 1 second, even as the load on the system continued to increase, an improvement from 2.5 to 3 seconds per transaction, to 1.5 to 2 seconds

Why Oracle

SquareTwo Financial chose Oracle Exadata Database Machine X2-2 HC Quarter Rack and Oracle Exalogic Elastic Cloud after reviewing many potential hardware solutions, including options from IBM, and participating in a 90-day proof-of-value period with the product. In addition, SquareTwo Financial was already using a number of Oracle solutions, including Oracle SOA Suite and Oracle Identity Management, giving the company a consolidated platform to reduce maintenance costs and ensure optimal performance. Finally, Oracle Exadata and Oracle Exalogic maintained the out-of-the-box functionality necessary to implement the product quickly and cost effectively.
Implementation Process

Quickly implementing Oracle Exadata Database Machine X2-2 HC Quarter Rack and Oracle Exalogic Elastic Cloud was critical for SquareTwo Financial, as its data demands were growing rapidly. First, an Oracle team visited SquareTwo Financial and completed an Excite Review to determine exactly the company’s hardware needs. After determining a quarter rack was the best fit for SquareTwo Financial’s data demands, a 90-day proof-of-value period commenced. Following a successful trial period, SquareTwo Financial worked with Oracle Consulting to implement Oracle Exadata and Oracle Exalogic in 44 days.
Targetbase Improves Performance Dramatically, Speeds Time to Market and Lowers Total Cost of Ownership for Clients

Targetbase is a data-driven marketing agency that delivers customer engagement through database, digital, and direct marketing expertise. It uses data-driven insight to create powerful brand communications that combine the right messages and tactics through the best channels with optimal timing. The results are strong creative services that drive customer engagements and deliver motivated individuals, ready to take action.

Challenges

• Boost processing power significantly to support the real-time and evolving mixed processing capabilities and complexities required to deliver sophisticated marketing services for Targetbase customers
• Increase throughput to get clients to market in a timely manner with the right message to the right audience at the right time
• Ensure ability to maintain bidirectional dialogue with consumers in all digital channels
• Gain ability to quickly interpret raw consumer data and enable actionable insight

Solutions

• Deployed Oracle Data Guard to ensure client data is secure and recoverable in the event of a system outage
• Allowed Targetbase to provide more services to its clients by improving throughput
• Deployed Oracle Exadata Database Machine to improve data processing performance and lower storage costs
• Achieved up to a 30-fold improvement in the performance of ad hoc database queries
• Accelerated updates and refreshes to client key performance indicators by nine-fold
• Decreased the time required for analytical queries from hours to seconds in many cases for faster and more in-depth analysis of client marketing initiatives
• Reduced data storage costs by up to 30% in many cases, using Oracle Exadata Hybrid Columnar Compression
• Integrated analytical modeling capabilities with client Web sites, point of sale systems, and enterprise resource planning systems to ensure real-time marketing information

“We’ve always been an Oracle shop, so migration was relatively easy. Going Oracle to Oracle saved us time in not having to rewire apps into a different environment. And the performance improvements have been dramatic and game changing for our business.”

Ed Forman, Chief Technology Officer, Targetbase
Oracle Customer:
Tribunal de Justiça de Santa Catarina
(Santa Catarina Court of Justice)
Santa Catarina, Brazil
www.tjsc.jus.br

Industry:
Public Sector

Employees:
9,000

Oracle Products & Services:
• Oracle Exadata Database Machine

Oracle Partner:
Samaia IT
www.samaiait.com.br

Tribunal de Justiça de Santa Catarina Improves Application Performance by 90% with Data Storage Architecture That Is Engineered to Work Together

“Oracle Exadata Database Machine ensures superior performance and streamlines managing the data environment as compared to traditional IT models. We are very satisfied with our new agile, robust, and scalable infrastructure that has enabled us to reduce costs and improve performance.”
Renato Chierighini, Data Administration Division Chief, Tribunal de Justiça de Santa Catarina (Santa Catarina Court of Justice)

The Tribunal de Justiça de Santa Catarina (Santa Catarina Court of Justice), the judicial branch in Santa Catarina state, works to improve delivery of judicial services in the region. The court maintains records for 2 million legal cases, and it has updated its IT structure to more efficiently manage open cases. Many of its files have been digitized, and new cases are now initiated in digital format to improve processing and facilitate authorized internal and external access to them.

Document digitalization and the use of digital certification led to a four-fold increase in the size of the court’s database, resulting in performance problems. To resolve this issue, the court migrated its core applications—including systems for legal case management, judicial deposit financial control, its jurisprudence database, and Diário da Justiça Eletrônica (Electronic Justice Daily) publication—to Oracle Exadata Database Machine X2-2 Half Rack.

With this implementation, the court improved application performance by 90% and reduced costs of hardware and management by 30% when compared to its legacy infrastructure. In addition, it reduced the time needed to generate reports on the productivity of the court’s 450 judges, from two hours to 20 seconds. Further, Oracle Exadata Database Machine made it easier and faster for judges, prosecutors, and government officials to access important case information.

Challenges
• Improve data environment performance, which had experienced slowdowns and periods of unavailability for end users, such as judges, prosecutors, bailiffs, court officers, and external counsel

• Simplify the court’s data management infrastructure to enhance response time for core applications, including its systems for legal case management, judicial deposit financial control, daily journal publication, and its jurisprudence database

• Expand storage capacity to absorb data volume growth resulting from case file digitalization and the use of digital certification

Solutions
• Worked with Oracle Partner Samaia IT to deploy Oracle Exadata Database Machine X2-2 Half Rack, acquiring an agile, robust, and scalable infrastructure to resolve database performance problems
• Created an integrated data environment—including a server, database, and storage—with a single management point to optimize and enable proactive IT management, while improving IT team productivity

• Expanded data storage capacity to support database growth, which had quadrupled in recent years to 4 terabytes due to case digitization and digital certification

• Ensured 30% savings, compared with cost of expanding storage capacity and performing maintenance on traditional servers and storage over the next five years

• Reduced the time required to generate reports on the productivity of the court’s 450 judges from two hours to 20 seconds—without changing any code

• Improved response time for core applications by 90%

• Provided high case availability for consultation by hundreds of external users, such as lawyers, prosecutors, other court officers, government officials, and the community at large

Why Oracle

"Oracle Exadata Database Machine ensured a 30% savings in acquisition and maintenance costs for the data management platform, compared to the legacy storage and server model we had been using. Our technical team will never give up Oracle Exadata Database Machine. We are very satisfied with it, and, in our opinion, it is the best solution on the market,” said Renato Chierighini, Data Administration Division Chief, Tribunal de Justiça de Santa Catarina.

Partner

Tribunal de Justiça de Santa Catarina worked with Oracle Partner Samaia IT to implement Oracle Exadata Database Machine.

“'The Samaia IT team was very committed to making everything work right. They went beyond what the contract required. Samaia IT was a true partner,” said Renato Chierighini, data administration division chief, Tribunal de Justiça de Santa Catarina (Santa Catarina Court of Justice).
TUI Nederland N.V. Improves Service and Online Sales with Data Warehousing Solution

TUI Nederland N.V. was formed in 1995 by a merger of the nation’s two leading tourism companies at the time, Arke and Holland International, and is now one of the leading travel agencies in The Netherlands. TUI Nederland includes approximately 220 travel agencies.

Challenges

- Improve database performance to meet the challenge of providing real time information on travel opportunities despite ever-changing travel pricing, taxes, and availability details
- Improve online transaction processing (OLTP) performance to optimize online sales, by improving customer experience on the company’s Web sites

Solutions

- Deployed Oracle Exadata to improve database performance significantly in terms of speed and scalability
- Upgraded to a high-performance data warehouse that enables online customers and agencies to see the most up-to-date and accurate travel details such as pricing, taxes, and availability
- Enhanced customer experience by using Oracle Exadata to improve data quality and speed up processing time, enabling TUI Nederland’s Web sites to provide customers with up-to-date availability information for each specific travel option before the booking process begins
- Optimized online sales with the OLTP functionality by providing faster transaction processes, resulting in more online conversion and higher sales
- Accelerated information processing, enabling TUI Nederland to process changes in price and availability in a few hours, a process that previously took up to several days to complete

“TUI Nederland selected Oracle Exadata because it is the only solution that meets our database requirements—including online transaction processing. The performance and scalability of Oracle Exadata enables our travel agents to find answers to complex questions quickly, leading to greater efficiency, improved service levels, and ultimately a better market proposition.”

Eli Lysen, Senior Manager ICT, TUI Nederland N.V.
**Turkcell** Accelerates Reporting Tenfold, Saves on Storage and Energy Costs with Consolidated Oracle Exadata Platform

“It was a never-ending race to match the company’s requirements for business performance and capacity. After the test migration, users were so happy that they did not let us go back. With Oracle Exadata Database Machine, we have outperformed expectations and prepared Turkcell for future growth.”

**Metin Yilmaz**, IT Manager, Turkcell

**About Turkcell**

Turkcell is the leading communications and technology company in Turkey with 33.1 million subscribers and a market share of approximately 54% as of March 31, 2011 (Source: Our estimations, operators’ and Authority’s announcements). Turkcell is a leading regional player, with market leadership in five of the nine countries in which it operates with its approximately 60.4 million subscribers as of March 31, 2011.

Turkcell reported a TRY2.1 billion (US$1.3 billion) net revenue with total assets of TRY15.2 billion (US$9.8 billion) as of March 31, 2011. Turkcell covers approximately 83% of the Turkish population through its 3G and 99% through its 2G technology supported network. It has become one of the first among the global operators to have implemented HSDPA+ and achieved a 42.2 Mbps speed using the HSPA multi-carrier solution.

Turkcell has been listed on the NYSE and the ISE since July 2000, and is the only NYSE-listed company in Turkey. 51.00% of Turkcell’s share capital is held by Turkcell Holding, 0.05% by Cukurova Holding, 13.07% by Sonera Holding and 1.19% by others, while the remaining 34.69% is free float.

**Executive Summary**

Turkcell is Turkey’s leading mobile communications and technology company and ranks third in Europe and 16th in the world by number of subscribers. Each day, Turkcell’s networks process about 1.5 billion call records, which form the basis for critical business reports used by teams in finance, marketing and other parts of the company. The amount of data managed by the company is huge — over 500 TB and growing — and Turkcell wanted to make sure that the heavy volume wouldn’t slow down the delivery of critical business reports.

Turkcell found a solution in Oracle Exadata Database Machine, a new computing platform that takes advantage of innovations in smart storage to radically boost system speed and lower cost. After making the move to Oracle Exadata, Turkcell boosted reporting speeds tenfold, eliminating long waits for users while also providing data compression capabilities that cut the size of its data repository by a factor of eight. The Exadata migration required no changes to system interfaces and allowed Turkcell to consolidate hardware and create a highly scalable framework to handle future growth.

Mainstay Partners estimates that Turkcell’s investment in Oracle Exadata will break even within 30 months and achieve an ROI of at least 25% over three years, with total benefits expected to reach into the millions of US dollars over three years.

Turkcell should realize additional savings from a range of other improvements, including more efficient disk space utilization, higher business user productivity, and faster system deployments.
Key Benefits:

- Achieved 25% ROI over three years
- Estimated $2M in total benefits
- Accelerated report run time by 10x, eliminating long wait times for business intelligence
- Enabled significant infrastructure consolidation, reducing hardware footprint by 90%
- Leaner hardware environment reduced energy costs
- Improved capacity and scalability to handle future business data and business growth
- Increased data throughput performance, reducing backup time by 3x
- Achieve up to 10x data compression, reducing overall data volume 8x

Background

In addition to Turkey, Turkcell operates in nine countries and has approximately 60.4 million subscribers. The Istanbul-based company was the first — and remains the only — Turkish company listed on the New York Stock Exchange. In 2010, Turkcell Group reported revenue of US$6.0 billion.

Each day, Turkcell’s communications network generates about 1.5 billion call detail records (CDRs), the computer records containing details of every phone call that passes through the network. The CDRs, along with other business information, adds up to a total of about 600 TB of data, which Turkcell holds in more than 500 databases across the company.

Eager to mine these data for customer and business intelligence, Turkcell built a high capacity data warehouse that extracts 600 to 1,000 GB of data from more than 20 source databases. Marketers, financial analysts and other business users rely on the data warehouse to run more than 50,000 reports every month, helping Turkcell manage its finances, analyze customer trends, and evaluate marketing campaigns.

But with the volume of data surging in recent years, Turkcell was looking at opportunities to boost the performance of the data warehouse and keep reporting operations running efficiently. Moreover, Turkcell was looking for ways to rein in its sprawling hardware footprint, which had been growing to accommodate the company’s expanding data processing and storage needs. “Data storage requirements have been doubling every year,” said Metin Yilmaz, IT manager at Turkcell. “It was a never-ending race to match the business’ performance and capacity needs.”

The Oracle Exadata Solution

All of these challenges prompted Turkcell to launch a comprehensive initiative in 2009 aimed at simplifying and consolidating its data warehouse infrastructure and meet rising service-delivery expectations. The implementation of Oracle Exadata Database Machine was an essential part of the project, combining servers, storage, networking, and software in an integrated platform that is massively scalable, secure, and redundant. Turkcell also replaced its application server environment, subsequently loading data into the Exadata Database Machine.

Installed and fully tested in less than four months, the Oracle Exadata platform featured an upgrade to Oracle Database 11g and a new clustered server architecture running Oracle RAC (Real Application Clusters) software and Oracle Linux operating system. Because Turkcell could implement the Exadata environment without changing existing extract, transform, load (ETL) and reporting software or application interfaces, it could plan and manage the project as a simple migration. Alternative methods of boosting performance by rewriting source code would have required a two- to three–year project, IT managers said.

1 These countries are: Ukraine, Belarus, Turkish Republic of Northern Cyprus, Germany and in Kazakhstan, Azerbaijan, Moldova, Georgia through Fintur. Subscriber figures are as of March 31, 2011
Operational And Strategic Benefits

Turkcell saw immediate benefits from the move to Oracle Exadata, with improvements ranging from faster reporting to streamlined system management to reduced business risk. “With the Oracle Exadata Database Machine, we have outperformed our users’ expectations and we are prepared for future growth,” said Yilmaz. Exadata-driven cost and productivity savings are expected to reach into the millions of US dollars over three years.

Consolidated Infrastructure Speeds Deployment

In the migration to Oracle Exadata, Turkcell replaced 10 data-storage cabinets and a Sun M9000 server with a single full-rack high performance Exadata Database Machine, as shown in Figure 1. The consolidated hardware footprint and Exadata’s simple implementation requirements helped minimize Turkcell’s resource commitment.

IT managers noted that a comparable system implementation would have required at least five dedicated IT resources (including OS, storage and database administrators) and at least 45 days longer to complete.

“Our main objective was to combine the data warehouse domain databases in a single rack Oracle Exadata Database Machine environment,” said Yilmaz, the IT manager. “One platform, one version, one vendor. Time wise, this was a tremendous savings.” The shortened deployment timeline helped Turkcell avoid substantial labor costs.

Figure 1: 90% Reduction in Server and Storage Hardware

IT Administrative Efficiencies

Database administrators noted that running Oracle Exadata generated significant IT management efficiencies, in large part because of the simplicity of the one-box Oracle solution. “Oracle Exadata requires very minimal storage and OS administrative work,” a Turkcell database administrator said. “We’re only involved during patching and installation activities.” Additional time savings came from significant reductions in performance-tuning requirements and simplified vendor support now that Turkcell has consolidated most of its computing infrastructure on Oracle.
Currently, Turkcell’s IT group employs four system administrators to oversee the Exadata platform in addition to other responsibilities. The company estimates that it has improved administrative efficiency by about 20% during an average week, which is expected to generate additional savings.

10x Boost in Reporting Efficiency

Exadata drove significant increases in reporting speed — a critical improvement for hundreds of business users who run more than 50,000 reports each month to help track market trends, analyze finances, and refine business strategies. In the previous environment, it took about 30 minutes to generate a typical report and as much as four hours or more for more complex analyses. Today, reports are running almost 10 times faster and about 90% of all reports take less than five minutes to run.

“End users can easily get the results they need when they arrive at work. There’s no waiting for hours anymore,” said Yilmaz, adding that business managers and analysts can now focus on productive activities such as generating new business. “This gives us a real advantage because Turkcell is in a highly competitive environment and we can’t afford waiting hours to get answers to questions.”

Turkcell estimates that more efficient reporting is saving users about one hour per week, translating into significant annual productivity benefits. Moreover, the IT department has reduced business risk by moving to a reporting platform that can handle the increase in reporting that is expected in the next few years.

Figure 2: 10x Reduction in Average Report Run Time*

<table>
<thead>
<tr>
<th>Number of Minutes</th>
<th>Legacy</th>
<th>Exadata</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30</td>
<td>3</td>
</tr>
</tbody>
</table>

*NOTE: This decrease was measured even as report volumes doubled over the last nine months and data queries tripled.

Data Compression Yields Savings, Scalability

As Turkcell’s mobile communications business continues to expand, data volume is expected to grow to 500 TB within a few years, up from 250 TB today. Managing and storing such a huge amount of data is a major challenge for IT, and managers stressed the importance of compression technologies to save disk space and speed backups.
The data compression features of Oracle Database 10g helped address the issue to an extent, shrinking data volume from 250 TB to about 100 TB. But with Oracle Exadata's hybrid columnar compression technology, Turkcell achieved exponentially greater space savings, cutting total data size to about 30 TB, an eightfold reduction. As a result, Turkcell expects to benefit from lower costs associated with data storage hardware requirements.

**Figure 3: 8x Data Compression**

<table>
<thead>
<tr>
<th>Average Data Compression Size</th>
<th>Legacy</th>
<th>Exadata</th>
</tr>
</thead>
<tbody>
<tr>
<td>250 TB</td>
<td></td>
<td>30 TB</td>
</tr>
</tbody>
</table>

**Cost-Effective System Scaling**

Turkcell will rely on Exadata’s space-saving capabilities to cost-effectively manage its exploding data processing and storage requirements, which managers say is almost doubling every year. Oracle RAC clustered database technology will also help Turkcell keep pace with the growth by enabling IT to economically scale out the system. “Going from one to multiple racks will be easy now,” one IT administrator noted.

The company is continuing with plans to simplify its database architecture and has launched a project that will consolidate six new databases on the new Exadata platform. Ultimately, IT managers say they want to reduce the total number of production databases by two-thirds and keep a tight rein on building new ones.
Faster System Performance and Backups

Among other critical enhancements, the move to Oracle Exadata — with its Smart Scan capabilities and faster throughput — boosted system speed fourfold and led to a range of efficiency gains. Before Exadata, administrators struggled with slow throughput, which, when combined with less data compression, extended backup sessions to as long as 40 hours. Today, administrators working with smaller databases and faster throughput can perform backups in just 10 hours with Exadata. Data-transfer speeds rose from 6GB per second to 21GB per second simply by moving to Exadata; no additional changes to the system were required. Furthermore, faster backups and lower data volumes (due to higher data compression) mean that Turkcell needs fewer backup tapes to handle each backup session.

Lighter Hardware Footprint Cuts Energy Costs By 80%

Turkcell captured additional savings in the form of lower energy costs as it retired its sprawling hardware infrastructure in favor of a consolidated Exadata platform. “The old environment was a big problem for us in terms of electricity usage, and it was only going to get worse,” a senior IT administrator said. “Exadata came to our rescue and allowed us to replace 11 cabinets with just one Exadata cabinet. By making this transition we’re saving space and cutting energy usage in the data center, and getting a 10x performance improvement as well.”

As shown in Table 1, the Exadata and consolidation initiative shrunk the company’s floor space needs by 90% and helped Turkcell achieve an 80% reduction in energy consumption. Turkcell is on track to significantly cut energy costs over the coming years.

| Table 1: Summary of Floor Space and Energy Savings |
|-----------------|-----------------|------------------|
|                 | Old System (11 rack) | Duplication of Legacy System (20 rack) | Current Exadata Environment |
| Floor Space (m²)| 33               | 60               | 3                  |
| Energy Consumption (kw)| 50               | 90               | 10                 |
| monthly Cost (of base)| 100%          | 180%            | 20%                |
Estimated $2 Million In Total Benefits

Mainstay Partners estimates that Turkcell’s investment in Oracle Exadata will achieve a 25% ROI over three years and break even within 30 months. Turkcell should realize additional savings from a range of other improvements, including more efficient disk space utilization, higher business user productivity, and faster system deployments.

Figure 4: 3x GB Per Second Performance Improvement
Unicoop Firenze Upgrades Hardware, Accelerating Distribution Chain Data Processing to Enhance Executive Decision-Making

Unicoop Firenze is the largest cooperative company in Italy, with more than 1 million members. The company manages a sales network of 120 stores in Tuscany and Rome, operating under the Coop and Doc brands. Unicoop Firenze’s mission is to provide its members and consumers with high quality goods and services at the best market price by promoting its cooperative values of mutuality, solidarity, and socio-economic development.

To enhance real-time decision-making, company executives wanted to ensure that they had timely and accessible cash flow and sales data from Unicoop Firenze’s stores. The organization looked to Oracle and Oracle Partner Bridge Consulting Srl for a solution.

By deploying Oracle Exadata Database Machine, Unicoop has significantly reduced the time it takes executives to pull financial data from its 120 stores and compile reports, enabling faster and more informed decisions. In addition, the new environment enables Unicoop Firenze to increase the number of simultaneous jobs it runs during night-batch processing, from 5 to 30, while reducing overall IT costs.

Challenges

- Improve the scalability and performance of the company’s business intelligence environment to effectively support managing its network of cooperative retail stores
- Reduce time to process business intelligence data, such as sales and cash flow, from Unicoop Firenze’s 120 stores to aid company executives in making time-sensitive business decisions and improving operations
- Reduce IT costs by consolidating and managing data on multiple compression tiers
- Enhance system scalability to handle an influx of new services and applications

Solutions

- Deployed Oracle Exadata Database Machine and reduced the time it takes to process data, such as sales and cash flow, coming from 120 stores—a process that previously took all night, slowing business processes.
- Enabled company financial officers to compile reports seven times faster by processing concurrent operations, data charging, and queries during the night-batch process
- Optimized night data scheduling sequences, which enabled Unicoop Firenze to run 30 simultaneous jobs compared to just 5 concurrent jobs in the legacy environment—reducing costs and gaining the ability to complete batch jobs faster
- Accelerated the user interactivity function and eliminated the previous waiting break
- Increased system scalability, the number of applications it runs, and the number of services offered
- Worked with Oracle Partner Bridge Consulting Srl to implement Oracle Exadata Database Machine, due to its success with conducting comparative tests and the solution’s cost-effective performance, specifically for business intelligence environments

“Oracle Exadata Database Machine enables us to improve and accelerate data processing within our IT environment, specifically our business intelligence solution. We can now quickly provide our executives with the data they need to make strategic business decisions regarding Unicoop Firenze’s 120 stores.”

Filippo Cecchi, ICT Manager, Unicoop Firenze
Yamazaki Baking Co., Ltd Processes Sales Data 30 Times Faster, Improves Factory and Business Operations

“Building our own data warehousing machine with a different architecture would have required a large-scale remodeling of our IT infrastructure. However, with Oracle Exadata Database Machine, we made the transition quickly, easily, and cost effectively, which helped us achieve dramatic improvements in database performance.”

Makoto Fukumoto, Assistant General Manager, Information Systems Department, Yamazaki Baking Co., Ltd

Founded in 1948, Yamazaki Baking makes bread, sweet buns, Japanese and Western confectionery goods, prepared rice, side dishes, biscuits, rice crackers, jams, and desserts. These products are sold through supermarkets and convenience stores, as well as the company’s own network of outlets and bakeries, which sell food products made onsite and offsite. The company’s 20 nationwide factories produce around 4,500 food items a day. These items are delivered from each factory to about 100,000 stores, with deliveries scheduled up to three times daily.

The company’s aim is to ensure timely production and delivery of food products to consumers. To guarantee efficient production and deliveries to its wide distribution channel, Yamazaki Baking relies heavily on the use of data analytics to complete daily business operations reports.

However, as its data volumes increased, it took progressively longer to generate these reports, creating inefficiencies in day-to-day business and limiting the ability to undertake ad hoc analyses. Complicated searches had to be aborted when systems timed out, which frustrated sales and other staff.

To resolve these issues, Yamazaki Baking engaged Oracle Partner Sumisho Computer Systems Corporation to deploy Oracle Exadata Database Machine. For the first time, the company can generate three years’ worth of sales results in five minutes, 30 times faster than in the past.

“Building our own data warehousing machine with a different architecture would have required a large-scale remodeling of our IT infrastructure,” said Makoto Fukumoto, assistant general manager, information systems department, Yamazaki Baking.

“However, with Oracle Database Machine, we made the transition quickly, easily, and cost-effectively, which helped us achieve dramatic improvements in database performance.”

Faster Query Response Times

Yamazaki completes 3.5 million transactions per day, which are aggregated and analyzed from different perspectives, such as by product, store, and delivery.

“Without a proper understanding of daily production, next-day shipments, and the percentage of new products among the shipments, we can’t run effective factory operations,” said Fukumoto. “Furthermore, managers at the head office need to know the production status of all our factories and require up-to date data for trend analyses.”
**Key Benefits:**
- Enabled three years’ worth of sales results to be generated in five minutes, 30 times faster than in the past
- Guaranteed responses in a few seconds, instead of long delays due to system time-outs
- Provided up-to-date production and distribution data to factory staff to help them improve operational efficiency at 20 factories
- Gained a high-performing solution that does not require regular tuning or daily maintenance
- Accommodated future growth, as the Oracle solution has capacity to expand

**Legacy System Background**

In 2000, Yamazaki Baking introduced a UNIX-based system to extract, collect, and analyze different types of sales data. This reduced the time required for data aggregation from two days to two to three hours.

In 2003, the company adjusted the system to provide store sales data. However, an increase in the number of users affected system performance, so the company moved from UNIX to a 32-bit version of the Microsoft Windows operating system in 2005.

Access to analytical information is based on an employee’s job title and description. For example, sales staff may want to analyze sales trends following a promotional campaign, while business managers may want to undertake a year-on-year comparison of sales. Due to the variation in analysis needs, it was too costly to create data marts to comply with each request. Instead, the company created static reports for each product, business area, and sales type. For queries outside this range, users could create ad hoc reports, Some staff members even wrote their own SQL code to conduct complicated searches.

For users to successfully carry out ad hoc analysis, a fast data retrieval time was necessary. “However, as the number of users reached more than 2,000 and the amount of data increased, it became harder to tune the database for faster performance,” said Kazuya Ueda, manager of the system development group in the information systems department at Yamazaki Baking.

“If we wanted to improve the performance of the Oracle9i Database, we would have to add memory, but with a 32-bit version of Windows, we were limited to 4GB of memory.”

**Performance Improved by 30 Times**

In 2010, Yamazaki Baking upgraded to Oracle Exadata Database Machine to overcome these issues.

Oracle Exadata Database Machine is a complete, highly tuned database environment that does not require any additional tuning to speed up search functions. Because the data throughput rates are so fast, the company had the option to remove indexes, reducing the need for index management and gaining back valuable storage space. This also reduced expensive storage costs.

“Oracle Exadata does not need complex tuning, reducing the need for daily operational management,” said Masahito Yamaji, systems engineer in Yamazaki Baking’s system development group, information systems department.

High-speed processing is now possible without the need to split tables. In the past, Yamazaki Baking manually aggregated the previous month’s sales data from extracted tables.

Oracle Exadata Database Machine ensures necessary data is in one table, which enables three years’ worth of sales results to be generated in a single query. This was unheard of in the company’s old hardware environment. The operation can now be completed in five minutes, 30 times faster than in the past a 3,000% improvement in performance.
Database Queries Returned within Seconds

Feedback from business users in the sales department has been positive. Database queries are returned in just a few seconds, allowing these users to excel at their jobs. Moreover, they are now able to ask questions against even larger data sets, providing better insight into new trend analysis.

Prior to implementing Oracle Exadata Database Machine, queries often timed out at the end of the month, when the system was processing large data loads. This meant users were unable to make calculated business decisions based on factual data.

“We now need to tell more users about Oracle Exadata Database Machine so they too can benefit from the smart scans of Exadata software and increase performance,” said Fumio Matsuyama, systems engineer, system development group, information systems department, Yamazaki Baking.

Why Oracle?

Yamazaki Baking initially looked at building its own data warehousing machine. However, the company realized that it would have to make large-scale changes to its existing IT infrastructure to accommodate this solution. There were also issues with the solution itself, its pricing, and the fact that it did not integrate with the existing client tools.

Oracle Exadata Database Machine proved to be a better, faster solution. “It uses the same architecture as Oracle Database, and was easier and more cost-effective to implement,” said Fukumoto. “It was ready in days, instead of the months that it would have taken to build our own version.”

Fukumoto said he was surprised that such a small unit could deliver such high performance. “We chose a half rack and the portion we actually use is only half of it, so it is small enough to fit in one quarter of the rack space. There is plenty of capacity left so we have the option to use it as a test and development environment, and expand it to other groups within Yamazaki Bakery.”

Implementation Process

Yamazaki Baking engaged Sumisho Computer Systems Corporation (SCS) to implement the Oracle solution. SCS is an Oracle Partner known in Japan for the expertise of its engineers.

Yamazaki Baking makes bread, sweet buns, Japanese and Western confectionery, prepared rice, side dishes, biscuits, rice crackers, jams, desserts, and prepared foods. The company’s products are available at more than 100,000 outlets across Japan.
ZLM Verzekeringen Improves Customer Service with Integrated Back-Office Environment

ZLM Verzekeringen is a nonprofit mutual insurance association that offers a complete range of products for vehicle, home, and liability insurance. It maintains contact, either directly or through intermediaries, with customers in the Dutch provinces of Zeeland and North Brabant. ZLM Verzekeringen’s key values are customer-focus and reliability, which it backs by being accessible and offering uncomplicated products at attractive prices.

To guarantee personalized client service and improve operational efficiency, ZLM Verzekeringen upgraded part of its back-office and production environment by deploying Oracle Exadata Database Machine X2-2 to support the aquila software it uses for customer relations, policies, losses and accounts receivable. Now all customer information from the insurance software is available through an integrated, easy-to-use screen, and is linked to the company’s financial system. In addition, performance has improved significantly, enabling users to process insurance and claim transactions faster. Moreover, Oracle Exadata Database Machine offers ZLM Verzekeringen the ability to quickly roll out and install new functionality and databases, which reduces administrative workload and enables the company to use technology to optimize business processes.

Challenges

• Upgrade the back-office and production environments to establish an integrated system with a central screen for all insurance transactions

• Provide staff members with rapid access to all relevant customer and status information, including history, financial, and insurance information, so they always have a complete customer overview and can answer customer queries instantly

• Cut time needed to find customer information to further improve service level. Shorten processing time batch processing transactions, minimizing errors and downtime

• Create adequate scalability and flexibility for adding processes and functionality to the environment without sacrificing availability and performance. Ensure a lower total cost of ownership (TCO) by operating the entire environment on an integrated platform

Solutions

• Implemented Oracle Exadata Database Machine to support ZLM Verzekeringen’s specific back-office processes. With assistance from Oracle Partner VX Company

• Ensured support of the company’s business-critical processes for managing customer relations, insurance policies, losses, and accounts receivable by providing a seamlessly integrated environment for the company’s deployment of aquila (insurance software)

• Slashed the time necessary by a factor of three to present complete customer information delivered in a single, unified screen view—including history and insurance data—with connections from internal processes to external systems that enable staff members to provide customers with quick and complete information and support

• Increased availability of the production environment through faster transaction data batch processing with minimal downtime. Facilitated easy implementation of new functionality or databases, implementations that can be done within 30 minutes compared to the previous average of three days

• Reduced administration and lowered TCO by integrating databases, transactions, storage, and back-up into a single environment, enabling administrators to focus on optimizing the back office and helping staff members to improve customer service

“To realize our customer focus and reliability goals, we upgraded part of our back-office system and introduced Oracle Exadata Database Machine, which enhanced performance and improved manageability and scalability. Our staff now has 300% faster access to information they need to communicate professionally with customers—yet another way to ensure our business operates at the highest level.”

Marinus Schroevers, Head of Insurance Affairs, ZLM Verzekeringen
Exadata

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