

Industry: Energy
Client: Alpha Natural Resources
Challenge: Database design to meet 3-year growth plan

With databases failing to keep up with the demand and expectations for strong growth over the next 3 years, changes need to be made. Lower costs, faster responsiveness and improved scalability were needed to support ANR's business objectives.



Rolta's Engineered Systems Center of Excellence takes the risk and worry out of database selection and migration

THE CHALLENGE

The struggles CIOs face today are not much different than in years past. They must optimize costs, return IT value back to the business and maximize effectiveness of all assets. They often need help.

Alpha Natural Resources (ANR), one of America's leading producers of coal, was using an outside vendor to host its Oracle Infrastructure EBS related stack. The cost of outsourcing, long turnaround times for requests and lack of support made the company decide to bring the Oracle related infrastructure in house. ANR wanted guidance to define a strategic and architectural roadmap from an Oracle database perspective.

THE SOLUTION

Rolta conducted a comprehensive evaluation of ANR's data needs and growth expectations to develop potential options and the value proposition for each. The strategic requirements of any design assumed a 3-year lifecycle providing the flexibility and agility of deployment to meet ANR business plans and growth projections. Additionally, the design had to incorporate a plan for migration, support and maintenance.

Rolta found that ANR's EBS system was running at 55% CPU utilization, and the server had 12 cores. I/O waits accounted for one-fourth of the total CPU utilization, and the OBIEE server was extremely over-powered. Also, the EBS database server, Huge Pages and ASYNCH IO were not set up, impacting I/O performance.

Following a comprehensive evaluation of the options, Rolta presented a complete comparison of identified solutions to ANR. Four architectural configurations were considered:

- Exadata Based Solution
- Commodity hardware using Oracle RAC based solution
- Commodity hardware, using Active Data and Instance Caging
- Commodity hardware using Active Data Guard

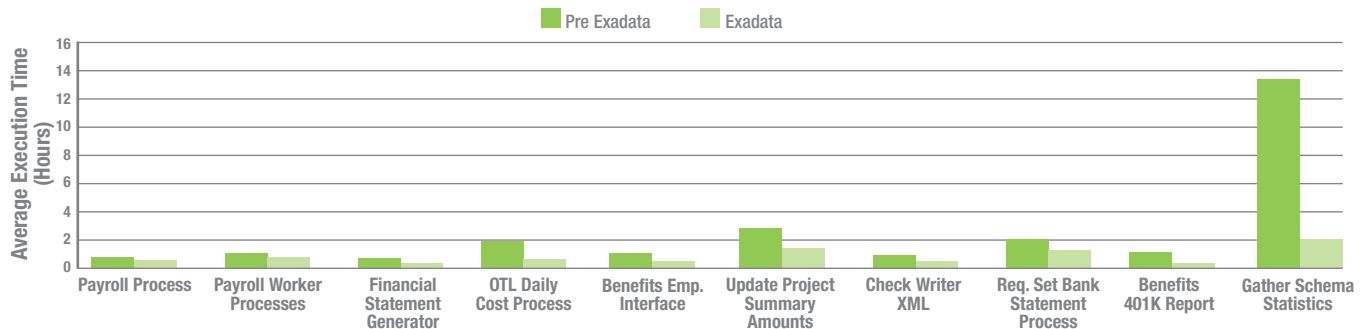
For each option, Rolta evaluated licensing costs, deployment processes, availability, scalability, manageability and storage capacity. Rolta's comprehensive third-party evaluation of ANR's needs and appropriate solutions led the company to select Oracle Exadata.

THE RESULT

Since going live with Exadata, ANR has seen significant performance improvements. Rolta was able to achieve performance gains for ANR that not only improved current operations but also allows for continued stable growth.

The graph and table below highlight the performance improvements ANR has seen since they brought their EBS environment in house and onto Exadata. Jobs have improved, anywhere from 2x to 12x.

Oracle EBS Performance – Before & After Exadata



ANR has also deployed a second Exadata ¼ rack to use for DR and development environments. With Exadata performance levels, ANR is able to meet a much higher demand on EBS clones that had not been possible. This has allowed ANR to take on and accomplish various functional reporting projects around quarter/year end, acquisitions, etc.

In addition to these significant performance gains, ANR has also been able to achieve higher availability and stability of their environment. Since going live, ANR has been able to meet its availability goals of four 9s (99.99%), excluding planned outages.

As a result of bringing the Oracle EBS in house, consolidating all database requirements onto Exadata and utilizing Rolta’s Managed Services support to continually ensure optimal operation, ANR is now well positioned to meet on-demand capacity and project needs in a timely fashion. Rolta’s managed services proactive and comprehensive support has helped ANR utilize both EBS and Exadata to achieve their full and true potential. Rolta’s custom-built, Exadata-aware proactive performance, system monitoring and alerting service identifies potential hardware or performance problems and alerts administrators before they become real issues. This is a large part of the reason ANR has been able to achieve its goal of four 9s.

A survey of ANR database users gave high marks to the Rolta team managing the migration. With nearly 300 responses received, users rated the following performance metrics as good or excellent:

- Communications leading up to migration – 75%
- Responsiveness following migration – 76%
- Oracle Exadata system performance – 59%
- Greater reliability and stability – 64%

Rolta’s Engineered Systems Center of Excellence (COE) provides the expertise and technology to deliver cost savings and improved productivity through superior data management processes and solutions. The COE helps reduce risk and imple-

EBS Process	Performance Gains
Payroll Process	258.82%
Payroll Worker Processes	170.37%
Financial Statement Generator	733.33%
OTL Daily Cost Process	472.50%
Benefits Emp. Interface	235.29%
Update Project Summary Amounts	226.56%
Check Writer XML	236.67%
Req. Set Bank Statement Process	151.52%
Benefits 401K Report	1200.00%
Gather Schema Statistics	671.50%

mentation expenses by providing a complete environment for Proof of Concepts to ensure that sizing, architecture and interoperability meet the organization’s needs now and in the future. Additionally, Rolta offers Consulting and Managed Services to further support an organization’s data needs.

ABOUT ALPHA NATURAL RESOURCES

Alpha Natural Resources (ANR) is one of America’s leading producers of coal. With \$7.1 billion in total revenue in 2011, ANR ranks as America’s second-largest coal producer by revenue and third-largest by production. It is the nation’s largest supplier of metallurgical coal used in the steel-making process and is a major supplier of thermal coal to electric utilities and manufacturing industries. In 2011, the company had more than 200 customers on five continents.

ABOUT ROLTA

Rolta is a leading provider of Consulting, Managed Services and Technology for many vertical segments, including Financial Services, Utilities, Oil & Gas, Retail, Healthcare and Manufacturing. Enterprise-level solutions are built around Rolta’s intellectual property and domain expertise to offer deep insights and understanding of industry drivers and supporting business processes that help organizations achieve their business goals. Through our innovative approach, Rolta makes a lasting impact on your business.