

Reliance Communications Ltd.

Leading Indian Telecom Achieves Five Times Faster Performance with Super-Capacity Data Warehouse Appliance

Customer Success Story

Industry

- Communications

Business Issues

- Explosive growth in systems and infrastructure
- Ability to scale the existing database while maintaining performance
- Compliance with government regulations

Solution

Reliance Communications deployed a high performance data warehouse system to improve performance in loading and querying of the Call Detail Records (CDRs) Datamart, and mitigate the risk of non-compliance with legal and regulatory agencies.

Business Results

- Achieved three to five times faster performance for data loading and ad hoc data query responses in context of RCOM needs in CDR database
- Helped in RCOM's goal of compliance with regulatory Service Level Agreements
- Reduced data center rack space and lowered overall energy consumption
- Saved up to two weeks of implementation through Sun Customer Ready Program

Products/Services/Solutions

- Sun Fire X4200 Server
- Sun Fire X4500 Server
- Sun Data Warehouse S1004
- Greenplum database software
- Solaris 10 Operating System
- Data Migration Services

URL Reference

sun.com/customers

Reliance Communications Limited (RCOM) founded by the late Shri Dhirubhai H Ambani (1932-2002) is the flagship company of the Reliance Anil Dhirubhai Ambani Group. Rated among "Asia's Top 5 Most Valuable Telecom Companies", RCOM is India's foremost and truly integrated telecommunications service provider.

RCOM, with a customer base of over 50 million (as of May 2008) including over 1.5 million individual overseas retail customers, ranks among the Top 10 Asian Telecom companies by number of customers. RCOM's corporate clientele includes 1850 Indian and multinational corporations, and over 250 global carriers. RCOM's subscriber base has been increasing by almost 1.5 million subscribers each month for last few months.

RCOM has established a pan-India, next generation, integrated (wireless and wireline), convergent (voice, data and video) digital network that is capable of supporting best-of-class services spanning the entire infocomm value chain, covering over 15,000 towns and 400,000 villages. RCOM owns and operates the world's largest next generation IP enabled connectivity infrastructure, comprising over 165,000 kilometers of fiber optic cable systems in India, USA, Europe, Middle East and the Asia Pacific region.

Success at a glance

Call Detail Records (CDRs) for all subscribers are stored as required by the local governments which act as the regulatory authorities. The company must fulfill data query requests received from these agencies within twenty four hours.

RCOM generates about 160GB of CDR data per day and loading of this CDR data from the production environment into the Datamart would take from six to eight hours. Complex query requests on the Datamart would be fulfilled in one to two hours. To speed information retrieval and remain compliant, many requests were fulfilled by queries, directly on the production environment rather than on the Datamart.

Sun is RCOM's preferred vendor, with Sun products accounting for a significant part of the company's existing hardware. Based on

its established relationship, RCOM selected the S1004 model of the Data Warehouse Appliance powered by Sun and Greenplum. The S1004 integrates Greenplum Database with Sun OpenStorage Sun Fire™ X4500 servers, and Sun Fire X4200 servers to provide a fast, efficient scalable system with significantly reduced density, cooling and power requirements. "The combination of Sun server technology, including the Sun Fire X4200 and Sun Fire X4500 servers and the Greenplum database, results in an extremely powerful appliance providing fantastic performance to the customer" explains Bobby Nimbalkar, Director of Professional Services at Sun. All systems in the solution run on the Solaris™ 10 Operating System. RCOM is taking advantage of open source software Zettabyte File System (ZFS) in the Solaris 10 Operating System. ZFS offers the company end-to-end data integrity and almost unlimited data capacity.

Greenplum played a key role in establishing business requirements and converting the existing database system to the Data Warehouse Appliance. Scott Yara, co-Founder and President of Greenplum notes “Customers need the flexibility to scale to hundreds of terabytes of data and the speed to access their data in a timely manner. The Sun Data Warehouse Application is the game-changing solution that enables the world’s leading enterprises like Reliance Communications to have their current and future data needs met at considerable cost savings compared to other solutions in the market.”

Offered as a Sun Customer Ready architected system, the server, storage, and database were integrated at the factory, delivering RCOM with a system ready to run on arrival at the datacenter. Using the Sun Customer Ready Program, RCOM reduced deployment from two weeks and multiple resources, to a single day installation requiring a single system administrator. The project was delivered on time as scheduled, just four months after initiation.

The solution utilizes the massive parallel processing capability of the Greenplum Database (about 20TB of data) combined with Sun Data Server, with near-zero latency access to data. This has resulted in faster retrieval times for inquiries, with RCOM delivering canned requests for call detail records within seven to ten minutes in the existing dataset, compared with one hour previously. The parallel loading enables data to be added to the Greenplum database at a faster load rate, resulting in three to five times faster data loading performance (one to two hours).

RCOM has also recognized significant space and corresponding cost savings from deploying Sun OpenStorage technology, with six rows of datacenter rack space saved and power and cooling reduced significantly, lowering overall energy consumption for a better eco footprint.

“Latency time has been reduced notably using Sun data server technology. Ad hoc Query and data load is three to five times faster than in the previous system in our context and use profile. It is more compact, with significant savings in storage space and energy consumption, while providing high performance.”

Pankaj Shah

Decision Support Systems, Reliance Communication