Mobile Telephone Networks (MTN)

Realizing the benefits of a StorHouse enterprise data repository

Key Facts

Organization:
Mobile Telephone Networks (MTN)

Location:
South Africa

Application:
Call Detail Record Management

At Mobile Telephone Networks (MTN), business is booming, and that's sweet music to the ears of MTN employees and company management. MTN is a well-established and rapidly growing South African telecommunications provider that supplies cellular, satellite, and Internet access services to over 31.5 million customers in 21 African and Middle Eastern countries.

Background

Rapid corporate growth often introduces new business challenges. Because of a dramatic increase in MTN's number of subscribers, service offerings, and incoming/outgoing calls, the company's IT infrastructure increased from 400 terabytes of stored data in 2001 to over 1,000 terabytes in 2006.

Current growth projections indicate no market slowdown. To complicate matters, some MTN applications maintained the same call detail record (CDR) data in different locations throughout the enterprise, which further exacerbated the company's escalating storage requirements. MTN strategists knew that they somehow needed to reduce storage costs yet keep vital CDR information readily available to satisfy essential business queries and legal compliance requests.

Compliance requests stem from South Africa's Regulation of Interception of Communications Act 70 (RIC) of 2002. RIC stipulates that telecommunications providers must support the monitoring, interception, and archiving of qualifying direct and indirect communications by March 27, 2006.

Qualifying information includes CDRs because they contain critical statistics about every telephone call. CDRs must remain accessible electronically to the South African government on request for a prescribed time period.

MTN's Vision

MTN took progressive steps to curtail its burgeoning storage requirements and to promote good corporate governance through RIC compliance. Rather than maintain multiple similar data stores, the company envisioned an enterprise active archive strategy based on a secure, automatically managed, central repository for CDR information and ultimately, all historical relational and file-based enterprise data. Mike Styer of MTN IS Infrastructure Planning and Design remarked, "We began by creating a checklist of mandatory features for a central active archive. These features included virtually unlimited scalability to support future growth, secure access to centralized CDR data from different platforms across the enterprise, and the capability to add new devices and media to the enterprise architecture with no service disruption. We also required a solution that automated essential system administration tasks such as data migration, replication, retention, backup, and recovery."

To ensure selection of the most appropriate solution, MTN commissioned Bytes Technology Group (BTG) to research system requirements and propose an IT architecture that best satisfied the company's archiving and information life cycle management (ILM) objectives for the next ten years. During the discovery phase, BTG interviewed MTN staff members and created a statement of requirements, which formed the basis of an MTN-issued request for proposal to key data management and archiving software vendors.

After a rigorous tender process, MTN awarded the contract for the central active archive software to the company formerly known as FileTek, Inc.,(now a part of SGI) that specializes in data storage and access management solutions for active archive applications, database extension systems, ILM initiatives, and digital preservation programs. MTN selected the StorHouse® family of products to manage the central repository– StorHouse/SM and StorHouse/RM products to load, retrieve, and automatically manage relational CDR data and StorHouse/RFS software to store and access supporting file-based CDR information.

Mr. Styer added, "It was a pleasure to give FileTek and StorHouse a hearty Y'ello, which is MTN's unique way of welcoming customers, employees, future subscribers, and vendors. StorHouse software provides all the features we desired in one product – and then some. For example, during testing, we were surprised and quite impressed that certain queries ran faster within StorHouse products than in the existing CDR repositories."

MTN's Application

MTN collects call event details, or toll tickets (TT files), at the mobile switch level and moves them to its Ericsson Mediation System (EMS) at regular intervals. The EMS sends the collected TT files to downstream processes that include wholesale and retail billing programs, data warehouses, and an Oracle-based CDR Live application.

Before using the StorHouse application, CDR Live held the most recent two and one-half months of call detail information. In addition, the same call detail records were held in SAS tables and the enterprise data warehouse (EDW) for business analysis or legal compliance. As the CDR data aged, it was backed up and stored on tape. However, before historical data could be accessed, it required reloading from tape to disk and then deletion from disk once the query completed. These procedures consumed time, manpower, and valuable processor cycles. Queries spanning several months' worth of data (for example, list all calls made by this telephone number between a three-month range) were even more cumbersome to satisfy because they required several reload-from-tape iterations before they could be executed.

With MTN's new enterprise active archiving strategy, the company loads CDRs to CDR Live and to a StorHouse production system at its Newlands data center. MTN replicates data from the Newlands system to a StorHouse disaster recovery system at its Fairland location and retains data on both StorHouse systems for three to five years. (CDR Live continues to store CDRs for only two and one-half months.) In addition, MTN will load current and historical SAS data to the StorHouse system, thus creating one central, complete CDR repository that is easily accessible from diverse platforms and applications across the enterprise. Figure 1 illustrates the new MTN enterprise architecture Future Application Expansion.

All RIC requests go against the StorHouse CDR repository. Because StorHouse products supports direct, record-level access to relational data from any storage media including tape, it completely eliminates the need to restore data from tape to disk to satisfy query requests.

"Initially, MTN will load approximately 100 terabytes of CDR information to StorHouse," commented Erich Roberts, MTNSA IS Group Executive. "The company plans to add other types of data – E-mail, Microsoft Sharepoint Portal, billing, and imaging/workflow files – to the central archive in subsequent project phases, thus boosting total StorHouse data storage projections from 100 terabytes to multiple petabytes over the next few years.

Because StorHouse is specifically engineered for this high level of scalability, I am confident that MTN will meet its dramatic growth projections and still reduce storage costs, enhance overall operational efficiency, and satisfy RIC requests in a timely fashion. StorHouse will enable MTN to exhibit good corporate governance and to accomplish single-point lifecycle management for enterprise-wide relational and file system data."

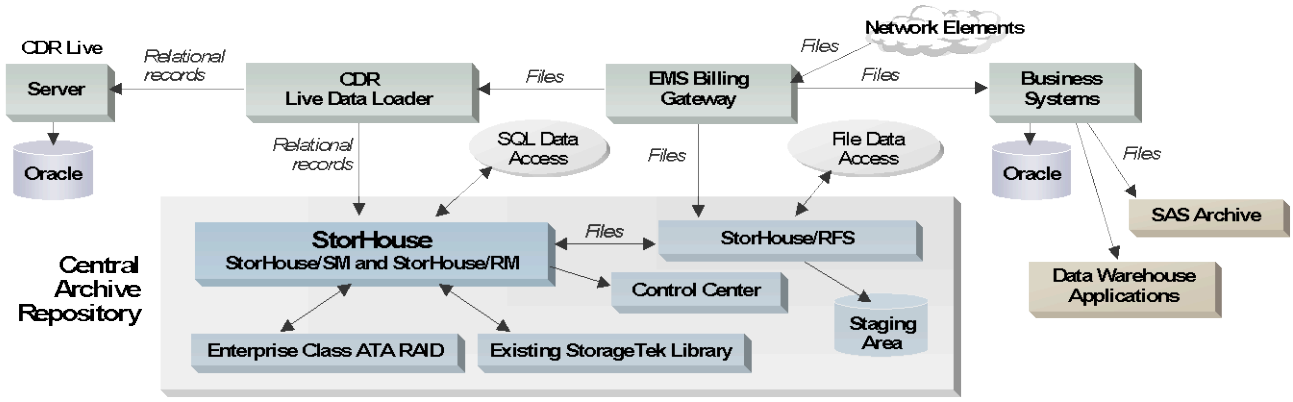

Figure 1: *New MTN Enterprise Architecture*

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