Hewlett Packard Enterprise

![MTS logo]

Objective
Reduce the IT infrastructure total cost of ownership without disrupting critical applications

Approach
Migrate critical OSS/BSS applications from legacy SPARC/Solaris platforms to HPE ProLiant servers and HPE Integrity Superdome X Servers

IT Matters
- Efficiently migrate critical applications from proprietary servers
- Ensure reliability of billing and other OSS/BSS applications during migration
- Deliver reproducible results at deployments throughout Russia and the CIS

Business Matters
- Reduce capital and operating costs by migrating to an x86 Linux architecture
- Ensure reliability of mission-critical OSS/BSS applications
- Implement server migration within approved budget parameters

MTS migrates business-critical applications to HPE x86 architecture

Leading Russian service provider achieves successful migration to HPE Integrity

Mobile TeleSystems OJSC (MTS) is the leading telecommunications group in Russia and the Commonwealth of Independent States (CIS). Billing and operational support applications were running on legacy UNIX servers that were expensive to operate and upgrade. To reduce both capital and operating costs, MTS

Mobile TeleSystems OJSC (MTS) is the leading telecommunications group in Russia and the CIS, offering mobile and fixed-line voice, broadband, pay TV as well as content and entertainment services in one of the world's fastest growing regions. Including its subsidiaries, the Group services over 100 million mobile subscribers in Russia, Ukraine, Armenia, Turkmenistan, and Belarus, a region that boasts a total population of more than 200 million. The Group's fixed-line business has a total of 12.471 million households passed and 7.185 million residential subscribers.

> "Migration of our core business critical applications to HPE x86-based solutions helps us to reduce both capital and operating costs for buying and supporting hardware platforms. This provides us with the opportunity to invest this savings in developing new services to meet the needs of our customers."

— Dmitry Khomchenko, CIO, MTS

The implementation of its strategic corporate objective required that MTS implement a hardware upgrade to modernize its server infrastructure. The legacy SPARC servers had to be replaced without breaking business processes or forcing IT to cope with downtime of critical applications. MTS sought to migrate its Operational Support System/Business Support System (OSS/BSS) from SPARC servers running the Solaris operating system and move from UNIX to an open and standard x86 Linux environment.

This migration was necessary in order to drive down the total cost of ownership of the IT infrastructure. MTS wanted to implement the migration in the shortest possible timeframe and on a turnkey basis while minimizing the costs of replacing expensive, proprietary server platforms.

Powering critical workloads with x86 infrastructure

When preparing for the migration, solutions from several alternative suppliers were considered. MTS narrowed it down to Hewlett Packard Enterprise (HPE) and IBM, and then selected a server solution from HPE. NVision Group, the developer of the OSS/BSS solution that MTS was migrating, is also involved as a partner of the project.

The initial stages of the project have already been successfully completed. The FORIS OSS/BSS migration was completed in the MTS North-West macro region first, and then the MTS South and Siberia macro regions were migrated. Now, migrations in the Volga and Moscow macro regions are planned.

For the largest installations of the FORIS OSS/BSS applications, the new HPE Integrity Superdome X Servers are used. MTS continues to rely on the high-end line of Superdome X servers to deliver a superior x86 availability experience to accelerate service delivery for its business-critical OSS/BSS applications.

The key difference between mission-critical HPE Integrity Superdome X Servers and the traditional x86-architecture is in how the infrastructure copes with various types of errors and hardware faults. The Integrity Superdome X Server sets new high standards for x86 efficiency, availability, scalability, and performance, making it the ideal platform for critical enterprise x86 workloads.

Through its HPE nPars hard partitioning technology, the Integrity Superdome X Server delivers up to 20X greater reliability than platforms relying on software virtualization alone. HPE nPars hard partitions are electrically isolated from other nPar partitions within the same chassis, so if an nPar partition experiences a hardware failure, the other nPar partitions would continue to run undisturbed.

Customer at a glance

Products
- HPE Integrity Superdome X Servers
- HPE ProLiant DL980 Servers
- HPE ProLiant DL580 Servers

HPE services
- HPE Technology Services

With breakthrough innovations such as the fault-tolerant Crossbar Fabric and Error Analysis Engine coupled with hard partitioning capabilities, the Integrity Superdome X Server sets the standard for mission-critical x86 computing. In Integrity Superdome X Servers, hardware errors are isolated because of advanced fault management features. These are much higher performing servers compared to all known Intel® x86-based servers. Today, one server hosts up to 16 processors, 384 DIMM modules, and 40 I/O adapters, which ensures scalability within one server:

- By CPU cores – up to 240

- By overall RAM – up to 12 TB

- And by data interfaces – up to 80 10 Gb Ethernet ports, or 16 Gb Fibre Channel ports

MTS also relies on HPE ProLiant DL980 Servers and HPE ProLiant DL580 Servers, which are rack-mounted servers that offer high rack density and tightly integrated design. They are based on modern and reliable electronic components and a balanced architecture, ensuring a high-performance, reliable solution. The ProLiant DL980 Servers and ProLiant DL580 Servers are deployed in smaller MTS locations to run the FORIS OSS/BSS applications.

Increasing IT efficiency and ROI

The project of migrating its business-critical systems from legacy RISC servers to Intel x86 servers is underscored by the superior implementation done by the MTS IT team. The solution has been working faultlessly in a staged deployment for three years. Upon completion of each of step, MTS employees took the new system operation training courses, and HPE technical support has worked closely with MTS to support the server implementations.

The results are a solid ROI for the migration project and greater efficiency of the new solution compared to the legacy RISC platforms. MTS has also preserved the high performance and reliability parameters it had come to expect from its costly, proprietary server infrastructure. The experience and expertise gained during the project are now being leveraged as MTS finalizes its migration to Intel x86 Linux servers, which is planned for completion soon.

"Despite the challenges we had to face, the project is being implemented within the initial approved budget. The project has fully met our expectations and investments," says Dmitry Khomchenko, CIO of MTS.

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