SUCCESS STORY

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>
> *Gleb Shevtsov*
> *Operational Finance Director*
> *M.Video*

M.Video Increases Efficiency and Accuracy of Business Analytics With Hitachi Unified Compute Platform Select for the SAP HANA Platform

The leading retailer of electronics and domestic appliances in Russia, M.Video is also one of the major European companies in this sector. Established in 1993, the company now employs more than 17,000 people. The chain of M.Video stores offers more than 20,000 different technological items: audio-video and digital operations, small and large domestic electronics, entertainment goods and accessories. The growing company also offers its customers high-class service support under the M.Video brand. These offerings and accomplishments severely taxed the M.Video storage infrastructure. For a solution that would support high-performance, reliability, scalability and business-critical analytics, the company turned to Hitachi Data Systems.

In 2012, the company turned over some 150 million rubles, 20% up on the year before and opened 45 hypermarkets and 16 online stores. As a result of this expansion, regional traffic grew by more than 45% over a period of 6 months and turnover grew by 56%. The company is planning to open around 35 new stores, with the aim of having a presence in most regions of Russia in 2013.

However, to further develop the successful growth of the business, it was essential for M.Video to update a number of processes related to the processing of analytical information. In addition to opening new stores (including online stores) the company was expanding the number of suppliers and commercial matrices. The rapid growth of the M.Video business considerably increased the volume of data that could be stored and processed. Accordingly, the burden on the analytics system grew, which brought with it the risk of failure and had a significant negative impact on the time spent drawing up annual financial statements.

M.Video

INDUSTRY
Retail

SOLUTION
Hitachi Unified Compute Platform Select for the SAP HANA Platform

HARDWARE
Hitachi Virtual Storage Platform, Hitachi NAS Platform, Hitachi Compute Blade 2000, Hitachi Compute Rack 210, Brocade VDX 6720

SOFTWARE
Hitachi Command Suite, Hitachi Compute System Manager

Benefits at a Glance
- Reports produced 100 times faster.
- Maximum productivity.
- Centralized management.

The Challenge: Improve Analytics

The company encountered a number of problems:

- A significant and ever-increasing amount of time was required to generate reports for business analytics (a day or more).
- Executive decision-making was inefficient due to data not being sufficiently up to date and detailed.
- Planning related to the data used for sales, supplies and warehousing was inaccurate and not being sufficiently updated.
- Costing was inadequate for the forecasting model for the movement of goods: Calculations were performed manually using Microsoft® Office, which was linked to significant man-hours, thereby not delivering adequate efficiency and quality checks of the results.

The IT infrastructure of the Oracle-based SAP business warehouse solution caused several problems and gave rise to serious restrictions in the growth of the business. Due to its universal nature, it imposed a restriction on production and did not allow all of the facilities of the Oracle system for operations that have databases to be utilized.

To meet the demands of further production work, the company found it was challenged to increase the speed of generating reports tenfold. It needed to create an essential store of scalability and make sure that the system operates in a stable manner.

The Solution: Migrate to a New Platform

Management of the M.Video retail network determined that an integrated, fully ready solution from a reliable and well-known supplier with experience in the sector was needed. Other requirements included:

- Ease of scaling.
- Disaster-recovery capabilities.
- High-performance, high-access cluster.
- Failover to reserve unit incase of primary unit failure.
- Separate unit for testing and development.

M.Video Chooses Hitachi

A comparative analysis of the proposals submitted from various suppliers showed the

> " Thanks to the conversion to the Hitachi UCP Select Platform for SAP HANA, it was possible to adhere to the time scales proposed by the Board of Directors for the submission of our annual reports, having speeded up the process of drawing up accounts by a factor of 10. Moreover, this conversion will allow us to solve problems with business intelligence (BI) resolution productivity in the years ahead. "
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> *Mikhail Budilov*
> *Head of BI Systems Department*
> *Head of the SAP HANA Implementation Project*
> *M.Video*

solution based on Hitachi Unified Compute Platform Select for the SAP HANA Platform offered had the highest fault tolerance, productivity and opportunities for scaling. Major selling points of the solution included Hitachi Virtual Storage Platform (VSP), which provides corporate, high-end performance and Hitachi NAS Platform (HNAS), which offers a high-performance file cluster.

All of the solution's network components used 10Gb interfaces and were connected to physically separate networks (splitting user and cluster management traffic) to minimize the impact of users on the operation of the cluster. Brocade converged Lossless Ethernet (DCB) switches that provided minimum switching latency in class were used for both user and management networks.

A new analytics platform is a business-critical service for M.Video, and therefore the demands for its fault tolerance are high. No competitor was able to offer a solution on the same level of reliability and productivity, and therefore the final choice was made in favor of HDS. Moreover, HDS confirmed its readiness to deliver the project within the short timeframe M.Video required.

Hitachi Adapts UCP Solution for Business Needs

Hitachi Unified Compute Platform Select for the SAP HANA Platform (UCP Select for SAP HANA) was chosen to create an analytical system for M.Video. It consists of 2 parts:

- **The scale-out clustering solution for SAP HANA.** With scaleout 2+0 (2 active nodes without reserves), this part is designed directly for operation with business analytics. At the present time, the current system is distributed up to configuration 3+1 for a further increase in productivity and reliability. In the event of a fault with the basic nodes, the execution of tasks will automatically be switched to the reserve node.

- **The scale-up solution for SAP HANA.** More economical than scaleout 2+0, this part is intended for development systems and for testing new applications, services and so forth. This solution is not a clustering solution, as an outage in system testing and development is not critical.

Thus, the combination of 2 solutions based on SAP HANA allows M.Video to actually reduce the total cost of ownership (TCO). Both solutions are characterized by the highest speed of operation, which is one of the principal advantages of the SAP HANA platform: complete use of the databases for primary storage. Moreover, the product permits broad scaling of primary storage.

The Hitachi solution enabled flexible formulation of the definitive solution as required by the client. VSP offered broad-based opportunities for scaling, not only in terms of both capacity and productivity, but also with far less energy consumption than a data storage system of the same level. Hitachi Compute Blade 2000 (CB 2000) blade servers offer a standard x86 architecture and have a number of unique properties, including:

- Linear scaling of computing resources realized using SMP technology.

- Broad opportunities for I/O organization (facility for installing standard PCI adapters in blade servers).

- Availability of hardware virtualization.

The rapid operation of the SAP HANA cluster requires high-speed access to files. To provide such access, Hitachi NAS Platform file modules are linked to a high-access cluster. The significant feature of these modules is their architecture, which is designed according to the principle of parallel calculations. The HNAS module consists of a wide range of specialist processors, each of which fulfills a strictly defined function. Thus, it produces simultaneous operation on various tasks,

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"When developing BI solutions, indicators such as 100% data security and the accessibility of the data are of critical importance. M Video has been familiar with Hitachi technology for some time, and so the choice of the Hitachi hardware platform for this project was no coincidence. The platform is based on reliable and high-performance components for the corporate level, which achieve the highest level of fault tolerance and high operating speeds, time after time. Moreover, it is designed in such a way that it allows solutions to be easily scaled to meet the needs of a fast-growing business, providing linear growth in production and volumes without the need to interrupt the operation of the platform for even a short time. This is the optimal basis for future conversions."

Mikhail Budilov
Head of BI Systems Department
Head of the SAP HANA Implementation Project
M.Video

About Brocade

Brocade network solutions help the world's leading organizations to switch smoothly to a world where applications and data are accessed from anywhere. More detailed information on the company and solutions can be found online at: www.brocade.com.

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achieving maximum productivity with minimal delay. This is more effective than the operation of classic architecture with a central processor. For the convenience of management, all controlling software is run on a separate Hitachi Compute Rack 210 (CR 210) server.

The solution uses high-speed converged VDX 6720 switches supplied by Brocade, a Hitachi Technology Partner Program member. These switches have minimal latency, all the ports are wire-speed (not oversubscribed, working at a maximum possible physical transmission speed). Network clients at access level actually demand less bandwidth than the capability of switch ports.

To achieve the best scalability and to allow the network to expand without downtime, a so-called "Ethernet fabric" was created. This Brocade technology compacts the access and aggregation network layers into a single virtual switch (Virtual Cluster Switch or VCS). Similar to Fibre Channel SAN Fabrics, an Ethernet Fabric utilizes all equal cost paths between the switches and dramatically increases fault tolerance and reliability of the network. User traffic is load balanced across possible paths to provide maximum network throughput. Ethernet fabric is managed as a single logical chassis to simplify operations.

Benefits

Record Implementation Time

One feature of this project was its short time scale, which required the whole project team to work together harmoniously and accurately. The project started in September 2012, and the system was transferred to production in January 2013. The entire project took 5 months.

In addition to 3rd-party consultants, internal M.Video specialists worked in conjunction with SAP and HDS consultants to implement the solution. About 20 Hitachi Data Systems specialists from international laboratories were involved in the project. This collaboration allowed the full formation and testing of the new IT infrastructure in just over 1 month from the moment the equipment was supplied.

Business Moves at Turbo Speed

Results of the HDS solution have exceeded M.Video's expectations. Before the system was introduced it took a day on average to create reports and a half-day to fulfill auditing requests. Now, both take a matter of minutes.

The new system has allowed the analytics functions to be expanded. They now include a facility for tracking a specific commodity among all objects of the company over a year and formulating analytics with complex combinations of conditions. Around 100 users from various company departments now work with the system.

Thanks to the creation of a system for forecasting the departure of goods from stock, the work of the logistics department has been optimized. The accuracy of calculations of the number of goods (including in cubic meters) has increased. This has allowed the elimination of costs connected with the inadequacy or downtimes of the freight transport. It also mitigates the risks of losing goods in the event of storage facilities not being able to accept them due to inaccuracy in the initial logistical calculations.

The time required for downloading the data to reports for the movement of goods has been reduced by a factor of 6: from 3 hours to 30 minutes. Downloading data has been speeded up by a factor of 5. The model for forecasting the demands for goods leaving the storage facilities is calculated on this basis, and the speed of delivery based on the model has increased by 35%. As a result, the full calculation of the model at the current time, after the solution was introduced, is carried out 3 times faster: over roughly 3 hours instead of the 10 it took previously.

Reports were produced more than 100 times faster, with additional facilities for detailed planning (for example, on all goods produced by the company over the year).

New analytics facilities allowed the company's staff to increase the effectiveness of their work, particularly those responsible for sales and logistics. Previously, collecting essential analytics data for each item in the retail network took more than 2 days, and required significant effort.

The M.Video company operates in a highly competitive market where the timeliness and accuracy of decisions, client orientation and speed of response to change are fundamental to successful operation. "Thanks to the introduction of SAP HANA based on an HDS solution, we were given an opportunity to manage the business in real time, exploiting the abundance of data from the essential wealth of analytical sections and parameters," noted Operational Finance Director of M.Video, Gleb Shevtsov.

Hitachi Data Systems