Efficient, Dynamic and Agile Storage: Managed Storage Solutions Prove Their Worth in the Automotive Industry

For many years now, the BMW Group and Hitachi Data Systems (HDS) have been working together successfully to operate the storage infrastructure for a storage area network (SAN). The BMW Group obtains its storage capacity via a storage-on-demand (SOD) model. HDS operates and is completely responsible for the SAN of this premium manufacturer with approximately 3PB of storage. These operations present no small challenge, with around 105,000 employees in the BMW Group accessing numerous standard automotive applications and over 1,000 physical servers.

In phase II of the “Global Storage” concept, using managed storage services from HDS, the processing center was to be transformed into a data center with maximum flexibility and dynamics as well as efficiency. Information and the benefits of information therefore became even more important than before – a paradigm that had a strong foundation in the plans of the BMW Group and HDS even before the term “big data” was coined. In addition to the transformation, the focus was on greater standardization and automation in the provision of storage along with achieving further process improvements.

The Solution: Storage on Demand, With Hitachi Virtual Storage Platform (VSP) as the Central System

The BMW Group had defined specifications based on extensive analyses. Using these prerequisites as a basis, HDS began to plan the future SAN architecture. The cornerstone would be the enterprise storage solution from HDS: Hitachi Virtual Storage Platform. “Amongst other things, our design resulted in the BMW Group saving approximately 2/3 of their costs for cooling and energy consumption alone by using the VSP as the central SAN system,” says Michael Groener, who manages the project for Hitachi Data Systems. “The savings were achieved through the enhanced energy efficiency of VSP, as well as the consolidation to fewer systems with greater capacity. Thanks to this consolidation, the SAN infrastructure also requires up to 380 square meters less valuable space in the processing center.”

Once it had been demonstrated that the VSP enterprise storage platform was the right system for the future storage operation of the BMW Group, the teams from BMW Group and HDS

BMW

INDUSTRY
Automotive

SOLUTION
Enterprise Platform, Storage Management, Storage on Demand

HARDWARE
Hitachi Virtual Storage Platform

SOFTWARE
Hitachi Basic Operating System, Hitachi Tuning Manager, Hitachi Tiered Storage Manager, Hitachi TrueCopy, Hitachi Dynamic Link Manager, Hitachi Command Suite

SERVICES
Installation, migration and management services provided by Hitachi Data Systems Global Services

Niels Svenningsen
Senior Vice President and General Manager
Europe, Middle East and Africa (EMEA)
Hitachi Data Systems

“Technology is a secondary issue, because storage is not an end in itself for our customers. The issue is more about employees using their applications, suppliers being able to access data, etc. Therefore, at system level, it is particularly important that the storage is a central component of the IT system architecture that supports the application architecture. This is precisely what HDS guarantees.”

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began the final design of the SOD model. They estimated the storage capacity that would need to be installed, as well as a certain percentage growth over a period of 4 years. Using these parameters, HDS calculated a price for each storage unit installed.

“In the end, the only thing that counts with this type of concept is that HDS delivers the agreed service under given sustainability prerequisites,” explains Senior Vice President and General Manager for EMEA at Hitachi Data Systems, Niels Svenningsen. “The cooperation with the BMW Group proves the success of this approach; our client has complete faith in us.

Niels Svenningsen  
Senior Vice President and General Manager EMEA  
Hitachi Data Systems

The Result: Reliable and Efficient Storage Operation

Using VSP as the cornerstone for the SAN environment of the BMW Group is paying off. Supplemented by the operating software and other relevant components, an IT infrastructure was created that fulfills all of the requirements of the BMW Group. The connection of all locations with high data protection and availability go without saying, as does a high degree of flexibility: HDS provides additional storage capacity without interruption as part of the agreed service level agreements (SLAs).

“No one is satisfied with simple fulfillment of an obligation: neither us, nor our customer,” declares Groener, explaining the successful cooperation with his customer to date. Hitachi Data Systems and the BMW Group complement each other perfectly in
the interaction of the company storage. “An example: The SLAs contain provisions that state that in the event of a hard drive failure, HDS must solve the problem within a specified time. In a stress test, we met these requirements in half the allotted time.”

No concept of this nature works without precise reporting. To monitor the SLAs, Hitachi Data Systems reports to the BMW Group on a monthly basis. Furthermore, HDS employees are constantly onsite, enabling discussions and adjustments at short notice. An operational team at HDS supports the employees who monitor and control the storage landscape at the BMW Group. “The collaboration on-site is further proof of our cooperative and close relationship with our customer,” adds Groener. The related monitoring also offers a technical overview of the systems. The capacity consumed is calculated based on these reports. Together, the BMW Group and HDS also analyze trends in order to enable the correct balance between capacity, performance, and costs to be maintained going forward.

In Pursuit of Perfection

“Strive for perfection in everything that you do. Take the best that exists and make it better. When it does not exist, design it. Accept nothing that is almost right or good enough.”

Sir Frederick Henry Royce
Co-founder of Rolls-Royce
A brand of the BMW Group
Conclusion

With the successful implementation of the "Global Storage II" phase, the BMW Group and HDS have fulfilled all agreed objectives, with many partial objectives or specifications being achieved far beyond the target. As a result, the storage environment at the BMW Group is dynamic and consumption-oriented. HDS takes responsibility for the successful operation of the storage solution and thus removes the burden from the IT team at the BMW Group, leaving them free to plan and optimize strategic IT development. In the future, for example, there will be a stronger focus on joint operation of the entire storage solution. With the Virtual Storage Platform enterprise storage solution and the storage-on-demand concept, the BMW Group is now perfectly equipped for future IT scenarios.

Sustainability Is an Obligation

It was almost a matter of course that during the new project, HDS had to continue to demonstrate its capability as a sustainable provider. This means that even during an SOD concept, the entire storage value creation chain of HDS must meet all relevant requirements. These requirements range from environmental friendliness through the entire product life cycle to maintaining human rights in the group and with suppliers. Because the vast majority of components are manufactured by Hitachi, Ltd., HDS was able to furnish all proof easily and verifiably.

For more information, see the Hitachi report on Corporate Social Responsibility. The report is available for download at http://www.hitachi.com/csr/.