



Data Center Disaster Recovery Planning & Migration

case study

Keys to Success

- Created a master plan based on existing inventory, application down time, infrastructure completion time, and resource availability
- Created a team that defined the best set of solutions for the given environment
- Over 20 years of IT experience encompassing enterprise class technologies.
- A plan that was flexible to change in time and in tasks
- IBM SVC Global Mirror

Overview

Mercedes-Benz USA was faced with many IT challenges when they were evaluating which technology would satisfy the majority of their goals:

- Reduce data center foot print
- Server Virtualization
- High Availability / Redundancy
- Security Compliance (Network & Server)
- Migration of Data Center

Each topic has been a project on its own with other companies. Mercedes wanted to not only satisfy all five goals, but leverage the common work between all five areas to save the company money.

Mercedes turned to Infinium Technologies, Inc. because of their history and vast experience with Server Consolidation and well as Virtualization. Infinium has been a go to partner for many IBM clients seeking expertise in Power7 Virtualization. Mercedes also knew that Infinium had the experience in combining multiple projects under one umbrella. Infinium Technologies, Inc. was able to develop a plan that offered the best options for customer down time as well as satisfying the requirements of all five projects.

Challenges

Reduce Foot Print

Mercedes wanted to reduce the foot print of the existing data center by 75%. This kind of reduction saved in power consumption as well as cooling requirements. This also requires less cable for network and storage connections. Less cables mean less cable management infrastructure and less money spent on throw away hardware. Also more servers could occupy the new free space for future growth. The challenge was to combine like systems into groups for virtualization.

Server Virtualization

Virtualization certainly reduces the foot print but it also reduces the support required for these systems. The biggest issue was to assure the application teams that they would have the same performance as before or better with the reduction in maintenance issues. The other challenge was ensuring each

Products

IBM SVC Global Mirror

IBM DS8000

IBM AIX

IBM VIO

IBM TSM

VMWare ESXi

VMWare vCenter

Windows

IBM Blade Center

IBM HS22/HS22V

IBM Power7

SAP

SQL Server

Oracle

system had the required patches, firmware, and updates to make a smooth transfer.

High Availability / Redundancy

Mercedes had a corporate directive that all production systems must have redundant components separated between two data centers. This required an application to be built out horizontally as well as vertically. Much of the infrastructure was determined by the applications lack of scalability. The challenge was to find technology for a given application for high availability and/or redundancy when the application itself was unable to provide that.

Security

As with any public company, security was a major concern for Mercedes and their applications. Many companies believe in the three tier environment when it comes to web portals, all separated by firewalls and switches. Mercedes needed to move from a single tier to a multi-tiered environment when moving to the new data centers. This type of implementation requires in depth knowledge of the application ports and its communication path to all services. The challenge was to maintain the application communication flow for legacy applications after migration. This meant finding all open ports and defining all services that an application had access to when there was no expert knowledge of that application on staff. Each application had to have definitions in each set of firewalls.

Data Migration

Every server or application required a different approach than the last server or application. This meant that a one technology solution was not the answer for data migration. The challenge was identifying the right migration method that should be used by server or by application. Usually the existing hardware drove the choice but the flexibility of down time also dictated which technology to use.

Solution

Mercedes chose IBM Power as the platform for virtualization and chose Infinium Technologies, Inc. to perform all services related to accomplishing their five goals. Infinium created a master plan based on existing inventory, application down time, infrastructure completion time, and resource availability. A 24x7 schedule was maintained for nearly 3 months for the initial cutover, then a more relaxed schedule of 12x7 went on for 3 more months. At the end, nearly 250 servers were created and or migrated to the new data centers with over 25TB of data.

- **Reduced Foot Print** – IBM Power Enterprise Virtualization using VIO servers was a key technology that enabled the reduction of foot print.
- **Virtualization** – IBM Power Enterprise Virtualization using VIO servers was a key technology that enabled the virtualization of all UNIX technologies.
- **High Availability** – IBM HACMP as well as DB2 HADR were technologies chosen by Mercedes when applications failed to have their own form of redundancy. WebSphere was used heavily in the application

development phase early on because of its built in resiliency and redundancy.

- **Security** – Mercedes used a multi-tiered environment that would prevent unauthorized access to critical data. The data was also backed up using IBM Tivoli Storage Manager.
- **Migration** – IBM San Volume Controller (SVC) and Flashcopy were storage based migration tools used by Infinium to migrate from one data center to another. Host based mirroring was also used for applications that offered little down time.

Infinium designed a plan that was complex and had many dependencies. This detail was required to support any changes that needed to be made. The ability to adjust the plan was essential to the success of the project.

Keys to Success

Team Pride

The key to success was holding every resource accountable to the schedule that was created by a team effort between Infinium and Mercedes. A key to designing a flexible plan is defining the details in the scope of the project, establishing a budget, forming a team, and planning the project. When every resource has a monetary value in a form of a project plan, very few items are ever missed. No one ever wants to be responsible for holding up a \$1,000,000 project. Not that this is the reason people performed, but more like everyone knew they had an active part in the success of the project. Everyone knew that very few companies take on such grand endeavours one or two at a time let alone all five. Team pride was essential to the success of this project.

Trusted Services

Infinium's engineers each have over 20 years of IT experience encompassing enterprise class technologies. Infinium's knowledge and experience prepared Mercedes for the unexpected. No event popped up that Infinium didn't already have an action plan because of their experience. Infinium's trusted engineers are not only good experienced leaders but are also very good listeners. Infinium prides itself on listening to their customers to find the real issues at hand and overcome those challenges and satisfy customer's needs and expectations.

Summary

Infinium has been a go to partner for many IBM clients seeking expertise in Power7 Virtualization. Infinium Technologies, Inc. was able to develop a plan that offered the best options for customer down time as well as satisfying the requirements of all five projects.

The first few months of the project were consumed with the planning the migrations and well as planning net new infrastructure. Mercedes turned to Infinium Technologies, Inc. because of their history and vast experience with Server Consolidation and well as Virtualization. The plan consisted of many high skilled engineers and hours of preparing documentation of the new

Infinium Technologies, Inc.

275 Mars Hill Road
Powder Springs, GA 30127
866-298-6212
404-393-9739 fax
www.infiniumusa.com

Geography

Services Nationwide
Services International, Europe,
Africa, Central America

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environment. Mercedes also knew that Infinium had the experience in combining multiple projects under one umbrella. Mercedes trusted Infinium Technologies, Inc. because of their vision with Project Management, Discovery, Planning and Execution of the well laid out plan. With IBM Power7 technology, Infinium Technologies, Inc. is the go to partner for all services in virtualization and migration.

About Infinium Technologies, Inc.

Infinium Technologies, Inc. is a Georgia based corporation that provides IBM professional services centric to IBM Storage, IBM scalable e-Server products, as well as IBM High Availability, Virtualization and IT Management solutions. Infinium has set themselves apart in the marketplace by delivering professional consulting service focused on implementing and managing the top technical and business solutions available: AIX & Linux, IBM TotalStorage/SAN, SVC, TPC, HACMP/Highly Available Clusters, e-Business, pSeries, xSeries, OpenPower, Blade Servers, Tivoli Storage Manager, WebSphere, Apache, Oracle and SAP.