



NS

NS needed to perform an efficient, low-risk migration of more than 650 servers to its new hosting partner's data centre. The NS team used PlateSpin® Recon from Novell to measure the existing server workload and plan a consolidation to a virtualised environment on just 60 new physical servers. Using PlateSpin Migrate from Novell, NS completed the migration rapidly and with minimal service disruption.

Overview

NS (Nederlandse Spoorwegen) is responsible for maintaining and developing the entire railway infrastructure of the Netherlands. Transporting more than 1.3 million passengers per day, NS employs 25,000 people and runs 4,800 scheduled services daily between 380 stations.

Challenge

To maintain its position in the Dutch transport industry in the face of increasing privatisation, and to meet the objectives of its Vision 2020 programme, NS needs to be able to develop new services for its customers. The company recognised that this would be impossible without a more flexible IT infrastructure.

“Our data centre in Nieuwegein was completely full—we had 850 servers, many of which were old and unreliable,” said Serge Berserik, IT Architect at NS. “We wanted to consolidate to a virtualised infrastructure that would be managed by a third party—Getronics. Migrating everything to their data centre without significant disruption represented a major challenge.”

NS estimated that attempting the migration using traditional methods might take longer than three months—and cause unacceptable levels of downtime for key services. The organisation can only allow systems to go offline for a few hours overnight.

Solution

The 650 existing servers were 90 percent Windows machines, mostly from Dell; the remainder were running Linux*, or UNIX-based operating systems such as Sun* Solaris* and HP-UX*. For the new infrastructure, NS decided to standardise as far as possible on Dell* PowerEdge* R805 servers, running VMware* ESX Server to support virtual Windows* and Linux environments.

“The key questions were: how many new servers did we need, and what would be the best way to consolidate our existing servers to achieve optimal utilisation of the new hardware,” said Berserik. “Performing a manual analysis of all 650 servers would have been an extremely complex task—PlateSpin Recon made it fast and easy.”

NS at a glance:

Dutch national railways and public transport company

■ Industry:

Transportation

■ Location:

The Netherlands

■ Products and Services:

PlateSpin Recon
PlateSpin Migrate

■ Results:

- Consolidated and virtualised 650 servers (out of 850 total) to just 60 new machines
- Reduced electricity costs by €200,000 per year
- Optimised server utilisation and minimised hardware costs
- Performed large migration with minimal downtime and zero data loss

“Performing a manual analysis of all 850 servers would have been an extremely complex task—PlateSpin Recon made it fast and easy.”

Serge Berserik

IT Architect
NS

“By enabling us to design a highly efficient consolidated infrastructure, PlateSpin Recon has helped us substantially reduce our operational costs—we’ll save €200,000 a year on electricity alone.”

Serge Berserik
IT Architect
NS

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PlateSpin Recon from Novell is a sophisticated workload analysis tool which automatically analyses the utilisation of servers and their resources over a given time period, and uses the results to design optimal consolidation scenarios. NS used the software to measure its current server utilisation over the course of a full month. By tracking utilisation in five-minute increments, instead of recording only peak utilisation, PlateSpin Recon delivered detailed information that helped NS determine how best to perform the consolidation.

“The results of our analysis using PlateSpin Recon were astonishing,” said Berserik. “We discovered that 96 percent of our existing hardware capacity was almost totally unutilised. As a result, we found that we could move our 650 server workloads into virtual environments on just 60 new Dell servers, with no negative effect on performance.”

NS then used PlateSpin Migrate from Novell to perform a phased migration of the existing servers, creating virtual snapshots of each server and transmitting them across a wide area network to the Getronics data centre. Once the virtual server images were in place on the new Dell hardware, the team fired them up on VMware ESX.

“PlateSpin Migrate enabled us to plan exactly how long we would need to take each server offline, so we could plan which migrations to perform each night,” said

Berserik. “We experienced minimal downtime during each migration, so there was little or no disruption to our normal service.”

Results

In reducing the total number of servers by more than 80 percent, NS has already realised significant savings in terms of hardware costs, and will benefit from considerably reduced ongoing maintenance and management costs in the future.

“By enabling us to design a highly efficient consolidated infrastructure, PlateSpin Recon has helped us substantially reduce our operational costs. Our systems are now considerably more energy-efficient,” said Berserik. “This is also an improvement in environmental terms.”

The use of PlateSpin Migrate helped ensure a rapid, low-risk migration that minimised the impact on live services.

“Without PlateSpin Migrate, the migration could have taken as much as three months, which would effectively have made it impossible,” said Berserik. “The ability to plan the migration carefully and perform it quickly and non-disruptively has been absolutely critical for our business. PlateSpin Recon and PlateSpin Migrate helped us complete this major virtualisation project quickly and at low risk. The hardware, software and energy savings will mean a significant payback for the business.”



For More Information:

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