

# AMSTERDAM AIRPORT SCHIPHOL

**LOCATION:** THE NETHERLANDS | **INDUSTRY:** TRAVEL

**Amsterdam Airport Schiphol achieves 100% uptime and exceeds SLAs for six consecutive years**



### BUSINESS CHALLENGE

Amsterdam Airport Schiphol is a Netherlands-based international airport located twenty minutes and approximately nine miles south-west of the center of Amsterdam. The airport started operating in 1916, and was initially used as a local airbase for the military. It has regularly appeared in Europe's top five airports list in terms of traffic and number of flights, as the airport serves almost 50 million passengers per year, and ranks as the 6th largest in terms of international traffic.

Amsterdam Airport Schiphol operates a complete, fully automated power plant comprised of gas engines, chillers and boilers,

managed by a control system designed to reduce energy costs associated with heating and cooling terminal buildings and gates. The airport has a 99.8 percent uptime service level requirement (SLA) for its luggage department specifically, to stabilize terminal temperatures year round, and to generate backup power during winter months, when it leverages cooling towers to capture outside air to cool its electrical rooms.

The airport's Johnson Control building automation system was nearly a decade old, and needed to be replaced with a highly available supervisory control and data acquisition (SCADA) system that ensured redundancy. The airport initially replaced it with Dell servers running VMware VSA (now an end-of-life solution), but the solution ultimately didn't meet the airport's strict requirements for high availability, fault tolerance and fast recovery following a failure.

The Airport issued a design and construct request

*During system testing and automatic reboots, SvSAN recovers and starts synchronizing immediately, and in just 20 minutes, everything is fully fault tolerant again with no manual intervention.*

**Bart de Goeij**, Asset Management/Maintenance & Operations



for information to several local vendors, focusing on finding an updated, redundant control system with the ability to recover in five minutes or less without manual intervention.

Netherlands-based Engie, a value-added reseller focused on selling energy savings solutions that reduce costs, reviewed and advised Amsterdam Airport Schiphol with recommendations to update their infrastructure. To address the Airport's high availability requirements and to ensure compatibility with the SCADA, SQL and web servers, Engie presented a virtualized, two-server solution with StorMagic SvSAN.

## SOLUTION

Today, Amsterdam Airport utilizes two Dell PE520 servers with StorMagic SvSAN. Firmware and hardware upgrades are conducted during live production, and the systems have experienced no errors or downtime in more than six years, and counting.

The two servers running the applications for the control systems are located in separate electrical rooms within the same building for redundancy. Some of the functions running on the SvSAN clusters include I/O data for pump controllers, industrial equipment at the airport and some web servers for remote monitoring of the systems. More than 70 users access and analyze the data being generated by the control solution.

# “ 100% UPTIME ”

*We've experienced 100% system uptime for six years and counting. We're saving time, energy and costs with SvSAN.*

By implementing SvSAN, availability has improved significantly. In the event of a system malfunction, during the reboot and testing process, the virtual machines remain 100 percent available and the clients recover within one minute. After recovery, SvSAN starts synchronizing immediately and resumes full functionality on the affected server in less than 20 minutes.

## WHY STORMAGIC

Amsterdam Airport Schiphol chose StorMagic SvSAN for several reasons, including:

- High Availability.** The Airport has experienced 100 percent uptime for six years and counting. They are exceeding their 99.8% SLAs, thus avoiding fines and penalties associated with downtime.
- Energy Efficient.** The software-defined solution is a perfect fit for the green practices conducted across Amsterdam Airport, as SvSAN requires much less power and cooling resources than traditional, physical SANs.
- Exceptional Support.** StorMagic's unique, proactive support staff has impressed Amsterdam Airport during routine reboots and upgrades.

### Server Configuration (Per Server)

<b>SvSAN License</b>	SvSAN 2TB Gold
<b>Hardware</b>	Dell PE520
<b>CPU</b>	Two CPU sockets with six cores per CPU
<b>Memory</b>	32GB
<b>Storage</b>	Six RAID-10 disks with 900GB capacity each; two RAID-1 disks with 300GB capacity each (2.4TB total capacity)
<b>Networking</b>	10Gbit, direct connect
<b>Hypervisor</b>	VMware vSphere v5.5, Enterprise Plus Edition
<b>Applications</b>	Control system for airport backup power facility
<b>Data Protection</b>	Application-level backups conducted regularly

