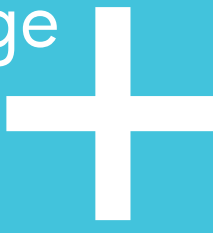


HP creates a resilient, consolidated IT infrastructure with a high-speed optical network in Europe

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IT consolidation that includes the network offers the benefits of reduced cost and reduced risk, as well as an IT infrastructure that is highly available, manageable, and agile.



Solutions for the adaptive enterprise.





For a business to become an Adaptive Enterprise—where business and IT are synchronized to capitalize on change—IT consolidation is one of the key stages, promising greater simplicity, agility, and cost savings. In France, HP consolidated its own IT infrastructure by deploying a high-capacity, high-speed optical network, one of the first of its kind within HP, to link two HP data centers located 84 kilometers apart at Isle d’Abeau and Grenoble. With a new storage area network (SAN) serving both centers, HP manages a highly resilient IT infrastructure that delivers dramatically better network performance at no additional cost.

When HP began consolidating data centers across Europe, IT management faced several challenges. As the data center at Grenoble grew to maximum capacity, the cooling and power systems were strained. High volumes of data were backed up onsite, but stored offsite. Meanwhile, the data center at Isle d’Abeau, a state-of-the-art facility serving both HP internal clients and customers across Europe, was underutilized. The network connection between the two data centers was limited in speed and capacity.

“One option was to expand the Grenoble site, but rather than spending money on bricks and mortar, we found it would be much less expensive to link our two campuses with a high-speed network,” said Patrick De Marcillac, who was HP European Datacenter Manager at the time. “The beauty of the solution is that we ended up with an IT infrastructure that is significantly more flexible and reliable.”

Managing two data centers as one

HP Network Services planned, designed, and implemented the solution, which supports more than 41 terabytes of data and distributed applications running across more than 250 HP ProLiant servers at the two sites. The overloaded E3 and ATM telecom links that had connected the sites were replaced by Gigabit Ethernet over DWDM (dense wavelength division multiplexing), greatly improving response time and delivering 1000 times the throughput at equal cost.

To reduce risk and create redundancy in case of a service disruption, the network has two dark fiber paths, one managed by a service provider, and the other implemented and managed by HP using Cisco's ONS 15540 DWDM optical transport platform. As a Cisco Advanced Technology Program (ATP) partner for optical solutions in EMEA, HP had already successfully implemented the technology for several customers.

HP also re-architected the data centers' storage environments, consolidating many small boxes into several large ones linked in a SAN that extends across the data centers. The use of virtual SAN (VSAN) technology helps confirm problems are isolated and addressed before they impact the network. All business-critical servers were moved to one location—Isle d'Abeau—and the 24x7 support resources were consolidated at that location, too, saving maintenance and support costs.

HP's high-speed network interconnect created immediate benefits in business continuity and high availability. With a SAN and LAN reaching across two sites, HP could put extended clusters in place, replicate data over a long distance, and recover data quickly in case of a disruption.

"This solution made it easy to back-up data across sites, whereas before, we had to transport backup tapes manually from one center to another. With backup capacity and synchronous replication of data between two geographically dispersed data centers, we created a highly disaster tolerant environment," De Marcillac said.

Challenge

- Utilize resources more effectively across data centers as part of HP's European data center consolidation initiative
- Create a robust, disaster-tolerant IT infrastructure to attract additional external customers to HP's Managed Services business in Europe

Solution

- Provide a high-speed link between the two data centers 84 km apart with Cisco dense wavelength division multiplexing (DWDM) optical technology
- Consolidate storage with a storage area network (SAN) and extend it across the two data centers
- Move business-critical servers and 24x7 support staff to one center to reduce support costs and enhance availability
- Create a disaster-tolerant solution for both data centers with a redundant, high-capacity link, enabling synchronous data replication and system clustering between sites

Results

- Offered an unmatched availability per price point for a disaster-tolerant infrastructure
- Created a more agile, manageable, resilient IT infrastructure
- Realized ROI in less than a year
- Reduced total cost of ownership by centralizing network monitoring and management, consolidating maintenance and support, avoiding the expense of data center expansion, implementing a tape-less secure distant backup, and maximizing use of existing resources
- Reduced risks by increasing service levels via enhanced network availability, reliability, and performance
- Enabled HP to expand Managed Services by achieving business continuity for clients' mission-critical applications

The solution also provided plug-and-play flexibility between the two sites. "We could easily move servers between data centers and reconnect them into the extended network. Over one weekend, we moved 199 critical servers from Grenoble to Isle d'Abeau with little disruption. The change was completely transparent to the end user," De Marcillac said.

Cost savings and business opportunities

Using HP's network consolidation solution, the data center saved money in two ways. First, they did not have to build a bigger data center or upgrade existing T3 and ATM telecommunications network services. Now the data center pays about the same fee for the high-speed network service, but with far better performance. This savings, as well as cost efficiencies from centralized monitoring and management and reduction of support staff, offset the investment in new technology in one year.

"Expanding the space would have cost five times more than implementing the high-speed network solution," De Marcillac said. "Instead, we realized a return on our investment (ROI) within the first year."

Now HP is better positioned to expand its Managed Services business in Europe by offering customers a stronger value proposition: higher service-level agreements (SLAs) for availability, security, and business continuity; disaster tolerance for their critical applications across remote sites, and data integrity with synchronous data replication.

"We're very proud of this solution," De Marcillac said. "We spent more on networking and less on walls. We made very good use of existing resources, improved the resilience of HP's operations throughout Europe, and offered more robust management services to our customers."

Learn more about HP Network Services at
www.hp.com/go/networks

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