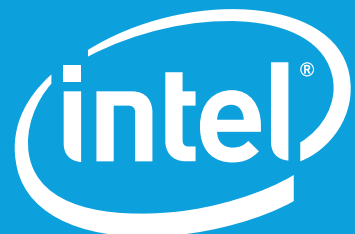


Sesame Workshop consolidates data center and DR on HP BladeSystem

Media powerhouse virtualizes data center with HP ProLiant Server Blades
to ensure performance and reduce footprint by 20%



“One IT challenge at Sesame Workshop is handling video—that’s big data, meaning chunks of data—in an efficient manner. HP delivers the bandwidth, speed, and 99.99% uptime vital to our media production work. We can move masses of data across the HP ProLiant Server Blades without creating a bottleneck, and that is key to our choice of HP.”

Industry:

Nonprofit educational media

Objective

Consolidate and virtualize production data center and disaster recovery (DR) facility for cost-efficient and reliable support of worldwide media production and distribution initiatives

Approach

Virtualize core production and email systems and consolidate on HP ProLiant Server platform

IT Matters

- Reduces data center square footage by 20%
- Establishes one-hour DR SLA for core systems
- Streamlines management of production and DR systems

Business Matters

- Maintains 99.99% uptime for crucial production systems
- Provides bandwidth and speed essential for a media company
- Delivers essential cost efficiencies by reducing IT space and power usage



sesameworkshop.
The nonprofit educational organization behind Sesame Street and so much more

—Shadrach Kisten, Vice President Information Systems, Sesame Workshop

Sesame Workshop was looking to “go green,” virtualize its internal production data center in New York City, and redesign its disaster recovery (DR) facility. The combination of VMware and HP ProLiant Server Blades reduced data center square footage by 20% while ensuring 99.99% uptime for vital media production systems. HP Virtual Connect Flex-10 and HP Integrated Lights-Out (iLO) Management Engine provide flexibility and ease of use for the Sesame Workshop environment.

Producing Big Bird and big data

A photograph or video of a character from the television show *Sesame Street* will generate an instant smile of happy recognition in nearly every corner of the world. Adults and children have been touched, taught, reassured, and entertained for more than 40 years by the creative programming produced by the nonprofit educational organization Sesame Workshop.

The mission of Sesame Workshop is to use the educational power of media to help children everywhere reach their highest potential. Beyond television, Sesame Workshop produces content for every form of media, from books and videos to the latest in interactive technology. Achieving this mission requires a sophisticated mix of high creativity and high technology.

“Sesame Workshop is a global media company, and bandwidth and speed are key as our IT infrastructure supports users across the Sesame Workshop production, distribution, editorial, creative and business teams,” said Shadrach Kisten, vice president information systems, Sesame Workshop.

“We’re dealing with video—big data—and we need to keep a very close eye on cost efficiency. At Sesame Workshop, the letter ‘N’ definitely stands for nonprofit,” Kisten joked, echoing the phrase familiar to viewers of *Sesame Street*.

Sesame Workshop was looking to “go green,” and was virtualizing its internal production data center in New York City. At the same time, the Workshop was planning to redesign its disaster recovery (DR) facility in northern New York. Kisten and his team needed to choose technology which would ensure performance, availability, and efficiency.

Consolidating on HP ProLiant platform

Sesame Workshop is located in New York City, where real estate is expensive and data center space is limited. “Two of my immediate initiatives when I joined Sesame Workshop were to reduce power usage in our data center and expand the virtualization of our environment to reduce the square footage. Combining VMware and HP ProLiant Server Blades fulfilled both of these goals,” Kisten said.

The IT infrastructure in the Sesame Workshop data center now has four HP BladeSystem c7000 Enclosures and a combination of HP ProLiant BL680c Server Blades, HP ProLiant BL660c Gen8 Server Blades, and HP ProLiant BL460c Server Blades, all with Intel® Xeon® processor E5 product family. The HP server blades run SUSE Linux Enterprise Server (SLES) 11, Microsoft® Windows® Server 2008 R2, and VMware ESXi 5.1. HP Virtual Connect Flex-10 10Gb Ethernet Module and HP Integrated Lights-Out (iLO 2 and iLO 3) Management Engine are also vital components of the environment, providing flexibility and streamlined management.

“As we consolidated on the HP ProLiant platform, we migrated some of our last legacy systems from two Oracle Sun Fire V445 servers and one Oracle Sun Fire V240 server running Solaris 9 to an HP ProLiant BL460c Server Blade running SLES 11,” Kisten said. “This helped us reduce costs and virtualize our IBM Cognos Business Intelligence and Adobe® ColdFusion application server systems.”

“Virtualizing the internal production data center helped us cut the square footage by at least 20%,” Kisten stated. “We have one last business application that runs only on Oracle Sun Solaris. In our next upgrade/refresh path, we will be evaluating the move to a consolidated HP virtualized environment.”

99.99% uptime and HP robustness

Productivity tools are key to the mission at Sesame Workshop, specifically the asset management system, which includes video archive and video production. “It’s important that we have excellent uptime because users access this system on an ongoing basis as an essential part of their work. This environment is continually ingesting, encoding, transcoding, and distributing assets,” Kisten said.

“All of our production assets and our asset management, show production and business application systems are hosted in our data center on an HP ProLiant platform. It all runs on HP and provides 99.99% uptime,” Kisten said.

Communication within the organization and with external partners is key to the efforts at Sesame Workshop, and the Microsoft Exchange system also runs on HP. “Before I joined the organization, there was a discussion of moving our email to a software-as-a-service environment. The robustness of the HP infrastructure led to a decision to maintain an internal email system on HP,” Kisten stated.

Flexibility and bandwidth with HP Virtual Connect

In the past, masses of cabling were data center icons, and Sesame Workshop was no exception. “The cabling was all over the place, and it was a mess,” Kisten said. “HP Virtual Connect Flex-10 gives us the ability to limit the number of cables and also to optimize the available bandwidth. That added bandwidth makes HP very attractive as a base to virtualize.”

“Using HP Virtual Connect Flex-10, I can take 50 or so physical machines and virtualize onto one HP ProLiant BL460c or HP ProLiant BL680c Server Blade,” Kisten stated. “HP does not limit our connectivity, and HP technology gives us the flexibility to increase memory and CPU on the fly without any major disruption to production.

“HP also provides investment protection, because HP is well aligned with the industry,” Kisten said. “For example, over time, the infrastructure changes, and you go from 10 Gigabit Ethernet to higher bandwidth technologies. HP goes toe-to-toe with other technology vendor’s changes, so HP does not become the bottleneck of the infrastructure. Sometimes HP is way ahead of the game, and HP Virtual Connect Flex-10 is an example: the ability to consolidate a lot of this connectivity with less cabling and better bandwidth is essential to us.”

DR space savings and a one-hour SLA

Sesame Workshop was redesigning its DR facility infrastructure to implement a one-hour service-level agreement (SLA) for recovery. “Our two core systems, the file system for our production users and the mail system, had an SLA of 48 hours, and one mission was to cut that to one hour. We also went from standby to live. As in our production data center, the power of virtual machines in combination with the HP ProLiant platform is the enabling architecture,” Kisten said.

“With our business continuity planning (BCP) scope, we are live on a fully replicated DR environment for our email, file services and essential business applications at a remote facility with an infrastructure that combines an HP BladeSystem c7000 Enclosure and ProLiant Server Blades with VMware,” Kisten stated.

The HP technology in the DR center is not a one-to-one match with the production data center because Sesame Workshop was able to harness the power of the HP ProLiant 680c Server Blades, according to Kisten.

“Clearly we wanted as many virtual machines as possible in as little space as possible. Some of the applications were not considered essential for the one-hour SLA, so that reduced the volume somewhat, but four production chassis are consolidated into one in our DR environment,” Kisten said.

“The consolidation in our DR environment was possible because of the HP ProLiant BL680c Server Blade,” Kisten stated. “The CPU and memory capacity of the BL680c helped us build a very robust, reliable, redundant virtual environment.”

Ease of use and remote administration are vital

Because Sesame Workshop is a nonprofit with a lean IT staff, the ease of use and remote management that HP technologies provide are vital. “I can take an engineer who is new to Sesame Workshop and get them up to speed on the HP chassis and hardware in less than two weeks,” said Kisten. “Our staff consists of more generalists than specialists, so management ease, with HP Integrated Lights-Out (iLO), for example, is a major advantage for us in production and DR.”

HP iLO remote management is especially important to the operations of the Sesame Workshop DR site. “DR has to be maintained 24/7 because we have ongoing replication, so without HP iLO, we would need to staff that,” Kisten noted. “That staffing, plus a remote workstation at the DR site, would increase the monthly cost, and HP iLO eliminates those added budget lines.”

Prepared for exponential growth

“HP has been very reliable, and HP management software and ease of use are really essential for us,” Kisten said.

Looking ahead, Sesame Workshop plans to continue its strategic partnership with HP. “HP is cutting edge when it comes to fulfilling the need to transmit large amounts of data rapidly. We’re a media company, so we work with a lot of video, and HP provides the ability to move masses of data across the HP chassis without a logjam,” Kisten said.

“Ultimately, the beauty of the HP BladeSystem is that it’s so scalable, and the chassis will allow us to grow exponentially without comprising bandwidth or speed,” Kisten concluded.

About Sesame Workshop

Customer at a glance:

Applications

- Core data production and disaster recovery systems for media production leader

Hardware

- HP ProLiant BL680c Server Blade with Intel® Xeon® processor E5 product family
- HP ProLiant BL660c Gen8 Server Blade with Intel Xeon processor E5 product family
- HP ProLiant BL460c Server Blade with Intel Xeon processor E5 product family
- HP BladeSystem c7000 Enclosure
- HP Virtual Connect Flex-10 10Gb Ethernet Module

Software

- HP Integrated Lights-Out (iLO 2 and iLO 3)
- VMware ESXi 5.1
- SUSE Linux Enterprise Server (SLES) 11 SP1 and SP2
- Microsoft Windows Server 2008 R2
- Microsoft Exchange

Sesame Workshop is the nonprofit educational organization that revolutionized children's television programming with the landmark *Sesame Street*. The Workshop produces local *Sesame Street* programs, seen in over 150 countries, and other acclaimed shows including *The Electric Company*, to help bridge the literacy gap. Beyond television, the Workshop produces content for multiple media platforms on a wide range of issues including literacy, health and resilience. Initiatives meet specific needs to help young children and families develop critical skills, acquire healthy habits and build emotional strength to prepare them for lifelong learning.

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