

Case study

Global Relay's data center of the future—today



Collaborating with HP, Global Relay builds a state-of-the-art, eco-friendly facility that delivers lightning-fast processing

Industry

Business Services

Objective

Accommodate explosive growth in demand for SaaS email and message archiving services; maximize profitability; support eco-friendly corporate objectives

Approach

Build new, state-of-the-art data center featuring technology that is eco-friendly, highly-scalable, and cost-efficient

IT matters

- Attached storage, top-of-rack network topology enable remote SaaS customers to receive query responses in seconds
- Network, server, storage architecture easily accommodated initial data conversion project at rate of 10 terabytes/day
- Preconfigured hardware reduced implementation times by 3 weeks
- Converged Infrastructure components eliminated potential integration issues

Business matters

- Company positioned to meet growth targets and customer commitments for additional capacity and SaaS solution performance
- Eco-friendly data center features also reduce operational costs by 50%
- Integrated Lights-Out reduces onsite staffing requirements from 6 to 8 people around-the-clock to 2 to 3 during business hours only
- Manageable financing streamlined capitalization, freed upper management to focus on facility design and construction



“HP’s support services—from presales, to design, to validation—were key to the success of this project. HP was ready to troubleshoot any time we had concerns. They are supportive throughout the project lifecycle.”

—Duff Reid, COO, Global Relay

When Global Relay—the leader in email and message archiving—decided to build a \$24 million, eco-friendly data center, it turned to HP as its technology, services, and financing partner. The two companies subsequently collaborated to select the server, storage, and network solutions that would meet Global Relay’s business and technology objectives. HP’s on-site support and pre-configured hardware ensured Global Relay would meet its aggressive timeline—and HP Financial Services helped streamline the data center capitalization.



A data center like no other

When Global Relay was founded in 1999, corporations were just beginning to grasp the importance of email archiving.

That was then. Today, businesses, particularly in highly-regulated industries like finance and healthcare, know they must retain copies of their email, instant messages and other electronic communications. They also know their retention processes must meet high standards for security, availability and governance.

As a result, Global Relay—which pioneered software-as-a-service (SaaS) email and instant message archiving—is a well-established leader in the field. The company serves over 17,500 corporations globally, and maintains offices in New York, Chicago, Vancouver, London, and Singapore. Twenty-two of the world's top 25 banks are Global Relay customers.

Global Relay's success is based in part on the high caliber of its SaaS solutions, which help companies with a range of 'big data' processes including compliance archiving, e-discovery, mobile messaging, and collaboration. Another crucial factor driving Global Relay's leadership, however, is its scalable infrastructure. And today, that infrastructure includes a new, 24,000-square-foot green data center featuring state-of-the-art business technology by HP.

Servers that work with an eco-friendly design

With a compelling portfolio of archiving solutions, Global Relay has done an impressive job of winning customers: the company has doubled in size, year after year, many times in its 15-year history. Accommodating that growth is central to Global Relay's corporate strategy—and given that the company is accustomed to embracing innovation, it's also no surprise that its most recent data center, located in the company's home city of Vancouver, leverages a number of cutting-edge technologies.

Many of the new, 4-megawatt data center's technologies are designed to ensure the facility is eco-friendly. Its flywheel UPS (Uninterruptible Power Supply) eliminates the need for toxic lead/acid battery systems, for instance, and the facility runs on hydro-electric

power from local waterways—an energy source that doesn't create greenhouse gasses.

Another eco-friendly feature of the data center is its cooling technology. "Conventional data centers use enormous amounts of electricity to keep servers cool," explains Warren Roy, Global Relay's CEO and one of the company's co-founders. "We decided to leverage evaporative cooling for our new facility, a design strategy that would cut our energy usage by half."

"Global Relay has doubled in size, year after year, many times in its 15-year history. To keep up with that kind of growth requires a very sound technology strategy—something that HP helps us achieve."

— Warren Roy, CEO, Global Relay

With these data center design elements in mind, Global Relay turned to HP to help it with its servers, storage, and network architecture. "We've been an HP customer since our founding," Roy says. "With the new data center, we looked to HP to provide design guidance as well as the systems themselves."

Global Relay requires three classes of hardware: one for processing and data conversion, a second tier for medium-term storage, and a third for mass storage. For its new data center, the company chose HP ProLiant BL460c Gen8 Server Blades for the first tier, and HP ProLiant DL360e/DL380e and DL360p/DL380p Gen8 Servers for the second. "Because we're using evaporative cooling, we need equipment that can tolerate a certain amount of temperature fluctuation," explains Duff Reid, COO, Global Relay. "HP helped us select servers that give us that capability."

The data center houses approximately 5,000 servers on 200 racks. It is also equipped with HP Storage D6000 Modular Disk Systems, which in turn feature 70 4-terabyte serial ATA (SATA) drives. This third tier hardware enables Global Relay to cost-effectively store customers' data over many years.

Network technology supports lightning-fast performance

While supporting the data center's environmental design constraints was important, it was by no means Global Relay's only design objective. The company's data centers must also support lightning-fast performance. "Our customers must have fast online access to their data," Roy says. "They expect to be able to query and recover any email or instant message stored on our systems within a couple of seconds."

This, from a data center that houses petabytes' worth of data.

One way Global Relay delivers this performance is by using attached storage (a mix of solid state, and large and small form factor SATA drives) for its first and second tier systems.

The new data center also takes advantage of a cutting-edge network architecture. "The new data center is 100% fiber to the rack," Reid says. "This allows us to form virtual 80 gigabit pipes to each of our switches, ensuring we deliver very high processing speed throughout the facility." The network also leverages HP networking solutions, including HP 10500 Series Enterprise Core Switches. "HP designed a network topology that uses top-of-rack switches," Reid explains. "This topology lets us distribute large volumes of data between racks as we process it."

With pre-configured hardware, "all we had to do was rack them"

In addition to technology and design services, HP also helped Global Relay's data center project in other ways—including providing hands-on resources to help the company build and deploy its data center hardware.

That assistance was crucial, Roy explains, because Global Relay needed the new facility's capacity to execute on its roadmap and meet commitments made to some of its larger customers. For one such customer, a global bank: "We'd committed to migrating 100s of terabytes of legacy data to our archive, as well as delivering real-time cloud archiving and search for 45,000 end user email accounts within a strict timeline," says Roy. "To fulfill that promise, we needed to bring our new data

center online, on time. Delaying was not an option."

As it happens, the hardware Global Relay selected draws from HP's Converged Infrastructure (CI) portfolio. HP CI systems are designed with integration as a key objective. Global Relay, therefore, never faced the kind of integration issues that might otherwise have bogged down its implementation.

In addition, Global Relay took advantage of HP Factory Express, a service through which HP preconfigures hardware before delivery. "HP Factory Express played a huge role," explains COO Reid. "Every single HP server came to us with its RAM, hard drives, and NIC [network interface controller] cards already installed. All we had to do was rack them."

"Technology today is more complicated than it's ever been. That's why we partner with HP: to reduce the risks of making these kinds of capital investments."

— Warren Roy, CEO, Global Relay

Using HP Factory Express was a departure for Global Relay, Reid adds. "Historically, we've always built our own equipment, but the logistics in this case would have been overwhelming. We trimmed at least three weeks off our implementation timeline by having HP do configuration for us."

Reid also speaks highly of HP's order-to-completion processes. "HP delivered every single component in the timeframe they specified," he says. "And everything—every single piece of equipment, from the switches to the servers—worked as designed. We went live six weeks after taking delivery of our first racks with no major conflicts between any of the systems."

On-site support, plus access to senior leadership

In addition to HP Factory Express, HP support resources also played a crucial role in the implementation. "HP provided second level support on an accelerated basis during the implementation," notes John Bugliarisi, associate director, Operations, Global Relay. "This was critically important to our debugging and configuration work." All told, around a

Customer at a glance

Hardware

- HP BladeSystem
- HP ProLiant BL460c Gen8 Server Blades
- HP Virtual Connect Flex-10/10D
- HP ProLiant DL360e/DL380e and DL360p/DL380p Gen8 Servers
- HP Storage D6000 Modular Disk Systems
- HP 10500 Series Enterprise Core Switches
- HP 5900AF-48XGT Switches
- HP 2620-48 Switches

Software

- HP Integrated Lights-Out (iLO) technology
- Solaris 10
- CentOS 6

HP services

- HP Networking Professional Services
- HP Financial Services
- HP Factory Express Services

dozen HP consultants participated in weekly project management meetings as Global Relay readied the data center for launch. In addition, two full time network consultants provided on-site validation and certification services.

“It all comes down to people. With HP, we have the undivided attention of HP’s senior leadership.”

—Warren Roy, CEO, Global Relay

“HP has consistently given us access to its senior leadership,” adds Roy. “From the start, we had HP’s full assurance that they were going to back this project. Given how visible it was and how much our customers were relying on us to deliver, we were very appreciative of HP’s commitment.”

Financing services, transparent to purchasing

Another way HP assisted Global Relay was not with technology, but with financing. The new data center facility was a \$24 million capital investment by Global Relay before equipment—so along with the architecture and technology planning, Global Relay also had to figure out how to fund the hardware required to run its cloud services in the new data center.

Global Relay turned to HP Financial Services. HP put together a four-year lease financing package for a portion of the data center’s HP hardware. At the end of the four years, Global Relay will own the HP equipment. “HP Financial Services made the process streamlined and workable,” Roy says. “They worked closely with HP’s technology team which enabled HP financing to be transparent with the HP purchasing process. They also used our HP hardware as security, which made it easier for us to finance it.”

This, in turn, ensured that Global Relay could focus on the data center project itself, instead

of the equipment financing. “Financing a project like this can be complicated,” notes Roy. “But with our new data center, HP Financial Services helped make that work more manageable.”

Integrated Lights-Out keeps overhead costs in check

With Global Relay’s new data center now operational, the company will continue to reap the benefits of HP technology. The company will leverage HP Integrated Lights-Out (iLO) technology, for example, to minimize its administrative overhead costs. “Because this new data center is 100% HP, it’s a 100% iLO deployment,” Reid explains. “We can troubleshoot hardware and perform software installation remotely, so we don’t need to staff the facility with a full operations team on a 24-hour basis.” Instead of needing 6 to 8 employees on-site around the clock, the facility requires only 2 to 3 people, and during non-business hours they can work on an on-call basis.

Because the hardware is standardized, Global Relay can add more in a controlled fashion as its capacity requirements grow.

And the servers and storage meet the company’s performance requirements. “One of our first tasks was to migrate over 150 terabytes of customer data from a data center in Europe,” says Reid. “We had to convert around 10 terabytes of data per day into our standard format. We were able to do so quickly, and we didn’t even come close to utilizing our full network capacity.”

“HP is the only company I am aware of that can provide all the components required for an infrastructure like ours,” concludes CEO Roy. “With this new data center, HP put a solution in place that works. They stood behind it with excellent professional support services. We decided a long time ago that partnering with HP was critical to our long term success—and our experience bears that out.”

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