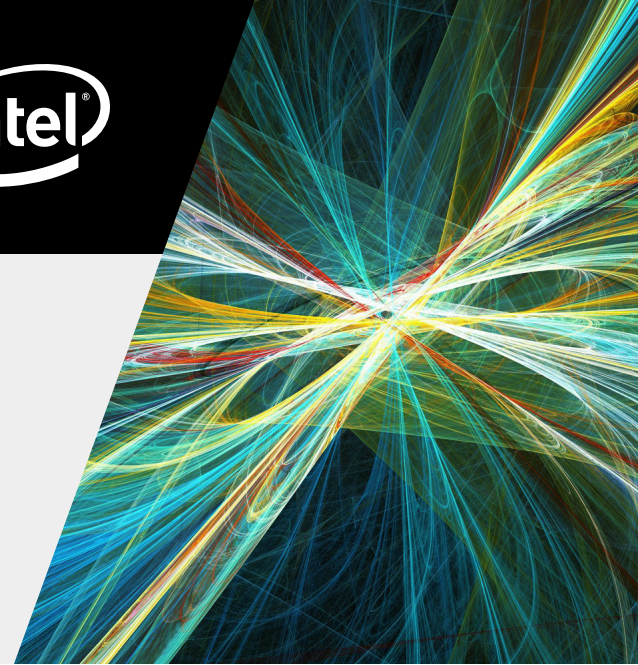# DELL EMC

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# SHOWCASING NATURE FOR A MILLION VISITORS

The Phillip and Patricia Frost Museum of Science creates an extremely efficient technology infrastructure to run its new world-class facility, increasing IT performance by up to 300 percent

## FROST SCIENCE

Nonprofit | United States

## Business needs

When the museum moved to a new building, it had to design an IT environment that could handle the expected increase in the number of visitors. Reliably and for years to come, it also needed to support the many applications involved in managing exhibits, visitor services, facilities and business operations.

## Solutions at a glance

- Data Center
  - Dell EMC PowerEdge rack server
  - Dell Storage SC9000 array controller

## Business results

- Achieves 83% server hardware reduction through virtualization

- Cuts power costs by 58%

- Enables launching new servers within minutes, not days

- Serves triple the number of museum visitors without additional IT staff

- Increases IT service performance by up to 300%

- Delivers technology services without interruption

"*We can serve three times the attendance without additional IT resources by running on a Dell EMC infrastructure.*"

Brooks Weisblat
Vice President of Technology,
Phillip and Patricia Frost Museum of Science

When the Phillip and Patricia Frost Museum of Science moved into a new, state-of-the-art facility in downtown Miami, it sought to enable an excellent visitor experience in its programs and the aquarium, planetarium and temporary exhibits. Solutions from Dell EMC play a key role in the museum's infrastructure. Brooks Weisblat, VP of technology at Frost Science says, "The museum brings science to life, and its hands-on and virtual displays are enabled by advanced technology from Dell EMC."

## Virtualization reduces server hardware by 83%

The museum had always used Dell EMC PowerEdge servers and, in a conventional installation, would have required 60 more to meet the needs of the project. By virtualizing with PowerEdge and VMware, Frost Science gained the same computing power with just 10 Dell EMC PowerEdge servers. The museum runs its aquariums, the planetarium, and all services and operations on an extremely efficient server infrastructure.

The servers connect to a Dell EMC SC9000 array controller on the museum's storage area network. "The all-flash Dell SC9000 provides us with incredible speed, reliability and reduction in heat, compared to a traditional hard drive array," says Weisblat. "We chose the SC9000 because of its cost-effective performance and intelligent data reduction capabilities. It also gives us plenty of headroom to expand in the future, both within a single array and in federated array clusters." The SC9000 is also configured for full redundancy and also enables proactive monitoring that keeps the Dell team appraised of any issues. As Weisblat recently experienced, "Before I knew something was wrong, Dell contacted me and had parts to us in two hours."

The virtualized infrastructure powers systems for managing the website, facility, security, ticketing, exhibit content, reporting and finance. It also helps Frost Science manage its habitats and its fragile environments, for instance, by controlling aquarium temperatures.

## Serving visitors and department with 300% more efficient IT

The museum realizes outstanding efficiencies and cost savings with its Dell EMC solutions. IT staff uses the integrated Dell Remote Access Controller (iDRAC), which is embedded in every PowerEdge server to deploy, update, monitor and maintain servers. "We now can spin up new servers in just a few minutes instead of several days, using templates," says Weisblat. "Staff also can remotely monitor and troubleshoot our entire infrastructure with the Dell EMC iDRAC."

Overall increases in the speed of deploying IT services make it easier for IT to implement and support new exhibits and sync technology with changing building requirements. Weisblat adds, "Our IT performance increased by as much as 300 percent with Dell EMC technology. This allows us to meet the needs of the various departments very quickly. Before, it could require days to fulfill service requests."

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>
> **Brooks Weisblat**
> Vice President of Technology,
> Phillip and Patricia Frost Museum of Science

**DELL**EMC

In addition, power costs are down by 58 percent. Weisblat says, "We reduced our electricity billing from approximately $60,000 a year to just $25,000 by using Dell EMC."

With Frost Science expecting a million visitors in its first year, the museum's technology easily supports attendance levels that far surpass initial expectations. "We can serve three times the attendance without additional IT resources by running on a Dell EMC infrastructure," Weisblat states.

## Hurricane-strength data protection

The PowerEdge servers also provide redundancy at the collocated backup site in Atlanta. Weisblat says, "PowerEdge servers are very easy to use, set up and configure, and they deliver excellent performance." Backing up the virtualized machines to a PowerEdge rack server onsite and to another one in Atlanta maintains uptime for the museum's IT services and applications under almost any circumstances.

Weisblat describes how the museum weathered a dramatic weather event: "A recent hurricane knocked out power to Miami. We initiated our backup plan and ran our entire operations out of Atlanta. When the storm hit, all our data and transactions were safe, and our website was up and taking orders for the summer travel season even as we were evacuating. When we returned, we just migrated all the workloads and the data back."

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