DELL Technologies

Keeping the wonders of nature on display

Reliable, scalable computing power is key to the health of the aquarium and stunning 250-seat Frost Planetarium at the Phillip and Patricia Frost Museum of Science, making Dell EMC iDRAC remote server management essential

FROST SCIENCE

Travel and Leisure

U.S.

Business needs

The Phillip and Patricia Frost Museum of Science (Frost Science) relies on a state-of-the-art IT infrastructure to power its aquarium, planetarium and online and live exhibitions and shows—as well as to support employees while many work from home. The museum's IT staff requires efficient, reliable remote server administration to meet the ongoing challenges.

Solutions at a glance

- Dell EMC PowerEdge R640 servers
- Dell EMC Integrated Dell Remote Access Controller (iDRAC)
- VMware vSphere and vCenter

Business results

- Deploys servers in minutes, rather than days
- Manages everything from basic IT infrastructure to ticketing, building operations and security using one system
- Reduces time and costs compared to manual server administration
- Frees IT staff for new shows and projects such as Frost Science@Home

Deploy servers in **minutes**

All-in-one
server monitoring and management

Decreased
administrative costs

Guests gazing into the three-level aquarium at the Phillip and Patricia Frost Museum of Science, watching live-cam online views of the aquarium's Gulf Stream waters or enjoying the museum's breathtaking planetarium likely aren't aware of the unique IT infrastructure that makes it all possible. Agile computing power is essential for everything from controlling the aquarium's water temperature to streamlining admissions and running business applications.

In the best of times, managing this would be a formidable task for an IT staff. But with the adoption of recent work-from-home plans, Frost Science's small IT team needed intelligent automation to quickly adapt to changing conditions.

Remotely managing a growing infrastructure

Frost Science relies on the Dell EMC Integrated Dell Remote Access Controller (iDRAC) solution running on high-performance Dell EMC PowerEdge servers to automate and simplify remote server management.

"We depend on PowerEdge servers and iDRAC to efficiently monitor the aquarium, upload videos and manage Frost Science@Home livestreaming," says Brooks Weisblat, vice president of technology. "Rather than moving from one physical host to another with a USB drive, iDRAC lets us perform a range of administrative tasks remotely, such as deploying servers, uploading firmware and handling BIOS updates—quickly and easily."

Frost Science has 70 to 80 virtual servers, supported by VMware vSphere and vCenter. iDRAC provides advanced, agent-free local and remote server administration, including intelligent automation that keeps Weisblat's team fully in control over the museum's virtual environment. Key system metrics—from CPU and memory usage to server temperatures—can be continuously monitored, managed, updated and remediated in the background.

"With iDRAC, I simply open multiple browser windows, start the process, handle upgrades or updates, and monitor the progress from anywhere," Weisblat explains. "The virtual console allows me to track how long it's taking to reboot a server or any other process that's underway. We use iDRAC all the time in our main cluster."

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Brooks Weisblat
VP of Technology
Frost Science

iDRAC connects with another museum-wide software platform that helps monitor the health of the museum's systems. "It enables us to centralize all the data in one system and identify potential concerns, before they create issues," Weisblat notes. "On several occasions, the hard drives storing data in a RAID volume for our planetarium shows went bad. iDRAC alerted us so we could quickly replace those drives."

For Frost Science, iDRAC and PowerEdge servers have also been critical for lowering costs in today's challenging economic environment. "iDRAC has made server management much faster and more efficient," states Weisblat. "It definitely saves time that we can devote to value-creating tasks."

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Bringing science to life

Frost Science's mission is to share the power of science, spark wonder and investigation, and fuel future innovation. Ten hosts running on PowerEdge servers monitor the aquarium with its 500,000 gallons of ocean life, museum buildings and business applications—including ticketing and several SQL databases. When they were installed, the Dell servers and storage increased performance by 200–300%, significantly reduced the footprint and dramatically decreased data center costs.

Another cluster of 14 servers powers the graphic-intensive displays in the spectacular planetarium, with its 3-D 16-million-color, 8K projection system for stunning visual adventures. But when those servers were temporarily idled recently by changing business conditions, Frost Science offered them to the Rosetta@home project, which is part of the Berkeley Open Infrastructure for Network Computing (BOINC). BOINC is a volunteer, crowdsourced computing platform that downloads scientific computing jobs to remote computers and runs programs in an effort to advance important research. Frost Science is making the planetarium's PowerEdge R640 Servers with 168 Intel Skylake processors available for the R@h project.

"Being able to efficiently and remotely handle server administration with iDRAC and make the updates we need has been really helpful and made all the difference in getting everything done quickly," Weisblat concludes.

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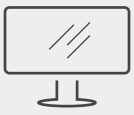
Frost Science



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