PACIFIC DISASTER CENTER

Vexata Customer Profile

ESSENTIALS

INDUSTRY
Disaster Mitigation and Risk Analytics

BUSINESS CHALLENGES
Needed to improve performance of real-time disaster risk reduction (DRR) analytics without change to computing infrastructure and software applications

SOLUTIONS
Vexata VX-100F

Customer Overview

Pacific Disaster Center (PDC Global) strives to prevent hazards from becoming disasters, and disasters from becoming crises. Their work supports disaster resilient communities around the globe. PDC harnesses advances in data collection and observation systems, impact modeling and risk assessment, visualization, and information and communication systems to integrate information, create insight, and empower decision makers, disaster management professionals, and the public. PDC supports disaster mitigation, preparedness, response, and recovery efforts worldwide by developing collaborative partnerships and utilizing state of the art technology with applied sciences to understand and act upon potential risks and hazards.

PDC Global uses information, science, and technology to enable effective evidence-based decision making and to promote disaster risk reduction (DRR) concepts and strategies. PDC also conducts advanced risk assessments that integrate hazard exposure with socio-economic factors to better estimate the impact on populations and then mitigate them. PDC was experiencing performance bottlenecks that were impacting their GIS (geographic information system) and visualization responsiveness and support of their global partnerships. PDC diagnosed the performance issues and determined that the storage array throughput was one of the root causes. They surveyed the market and contacted Vexata to evaluate their data center architecture and propose a configuration that would address the issues and provide sufficient headroom for future growth into advanced analytics and machine learning.

"Timing is everything when responding to a disaster. It is so important that the information and analysis we provide are accurate, and that it can be rapidly disseminated and readily used by a decision maker when it is truly needed."
- Ray Shirkhodai, PDC Executive Director

Business Challenges

PDC utilizes a variety of mapping engines and services, including Esri's powerful GIS spatial data analytics technology to unlock the full potential of data and improve operational results and decision-making processes. The PDC system employs advanced data collection and analytics across a broad range of mapping interfaces, observation systems, global telemetry, buoys, sensors, and other devices which is presented in real-time via their DisasterAWARE™ web interface. The storage system performance was not scaling to meet their needs which was impacting PDC's ability to serve their live maps to remotely located clients. PDC required a solution that would support their real-time disaster risk reduction (DRR) analytics without requiring changes to their server infrastructure, VMware, or software applications.

Vexata Delivers

The Vexata team identified the root cause of the performance bottlenecks within the storage stack of PDC's storage array architecture and proposed replacing the 3 existing storage systems with a single VX-100F deployed with 4 Enterprise Storage Modules (ESMs) and 30 TB of initial capacity. The performance impact was immediate as the Vexata design delivered over 4 times the performance without any change to the existing servers, software licenses, or network infrastructure. With the storage bottleneck eliminated, the Vexata VX-100F system was able to saturate PDC's existing Fibre Channel SAN, which is now being evaluated for an upgrade to take full advantage of the Vexata storage performance.
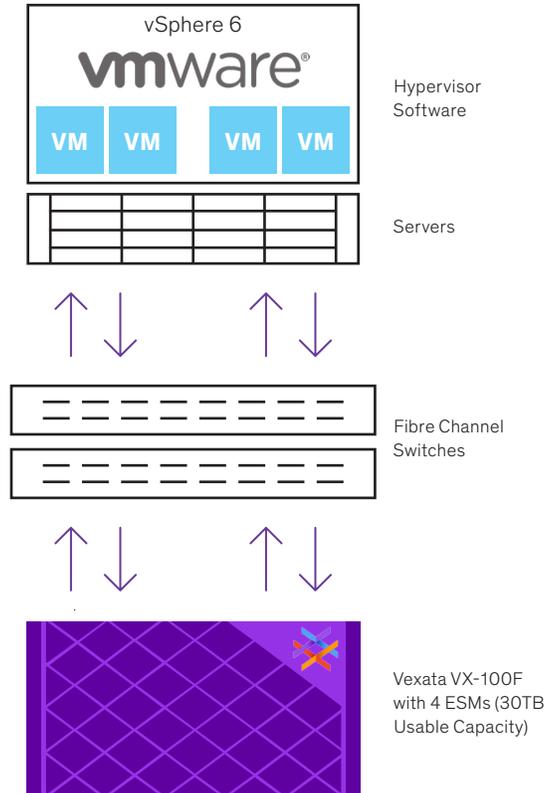
Results

- The Vexata VX-100F delivered an immediate 400% performance improvement using their existing network and computing infrastructure.
- Vexata consolidated 3 arrays onto a single VX-100F system, reducing the footprint by 50% from 12U to 6U, while using only 25% (4 of 16) of the available chassis slots, providing ample room for future growth.
- Storage bottleneck was removed exposing network infrastructure performance issues.
- PDC is upgrading the Fibre Channel and backend Gigabit Ethernet network to further expand performance available with Vexata.
- PDC is utilizing additional performance headroom to pursue new strategic initiatives.

"At Pacific Disaster Center, we are all very pleased with the Vexata product and customer service and look forward to a long-lasting relationship ahead."
- Ray Shirkhodai, PDC Executive Director

Vexata PDC Deployment

vSphere 6 — Hypervisor Software

Servers

Fibre Channel Switches

Vexata VX-100F with 4 ESMs (30TB Usable Capacity)

About Vexata:

Vexata, a StorCentric Company, was founded on the premise that every business is challenged to deliver cognitive, data-intensive applications, Vexata delivers 10 performance AND efficiency improvements at a fraction of the cost of existing all-flash storage solutions. Learn more at www.vexata.com

Vexata is now offered by Nexsan. sales@nexsan.com