



Objective

Update legacy infrastructure and improve disaster recovery posture on board resource-constrained FPSO vessel

Approach

Petrobras America deployed a data virtualization platform from HPE to optimize data flow

IT Matters

- Cloud economics with enterprise-class protection, data efficiency, performance, and global unified management
- Improved RPOs including off-site protection
- Achieved hourly and nightly off-site backups of all virtual machines, including 800GB file servers, that complete in less than 60 seconds over 2Mbps satellite
- 10x improvement in Recovery Time Objectives (RTOs)
- Inline deduplication, compression and optimization yielding ~700 to 1 data efficiency

Business Matters

- Data center consolidation to save space, power and cooling
- Reduction in CAPEX
- Improved operational efficiency

Petrobras America improves critical infrastructure with HPE SimpliVity

Cloud economics with enterprise-class performance thanks to hyperconvergence



Challenge

Technology refresh, backup and data center consolidation

Petrobras America Inc., which is a part of the Petrobras Group of companies, one of the largest oil and gas groups in the world, is continuously seeking ways to optimize the efficiency of its distributed mission-critical appliances. It had been using six HPE servers, NetApp storage, and VSAT connectivity to host ten VMware® Virtual Machines (VMs). The infrastructure was consuming two full racks on the resource-constrained Floating Production Storage Offloading (FPSO) vessel where power, space, and cooling were premiums. Whilst the existing legacy solution had been satisfactory, it was becoming increasingly obvious that it was not optimized for running virtualized application workloads in remote locations.

The main data center with 200 VMs and the FPSO with 10 VMs both replicated to a disaster recovery (DR) site in Texas. The infrastructure on the FPSO was budgeted for technical refresh. The NetApp appliances used snapshots and tape-based backups for local RPOs. As such, it was acknowledged that there was an opportunity to improve the solution with a new design. The goal of having off-site backups was unachievable because of the ship-to-shore connectivity. Because data recovery and data protection processes were lacking and not delivering acceptable SLAs in terms of RPOs and RTOs, with recovery times taking upwards of several hours to a day, Petrobras America knew it was time for a change.

In the confined environment of the FPSO vessel, space, cooling, and power was extremely restricted. Every time a new app or server was requested, it was a challenge to budget and satisfy the new demands.

Customer at a glance

Hyperconverged Solution

HPE SimpliVity

Also, there were no IT personnel on the vessel which made coordination of day-to-day management difficult and maintenance, or field replacement of components, a problematic challenge. Therefore, in addition to improving the poor recovery-time and availability objectives, a technology refresh of the legacy infrastructure was required.

While improving these issues was a top priority, the infrastructure manager at Petrobras America saw the opportunity to leverage a new solution to reduce annual maintenance and operating expenses. The IT team decided to look for a hyperconverged solution that would reduce hardware footprint, lower power consumption, drastically improve the slow RPO and RTO times, provide off-site app and data protection, and totally overhaul the legacy architecture.

Solution

An introduction to hyperconvergence

Petrobras America attended VMworld 2013 where it first heard the term hyperconvergence and was introduced to HPE SimpliVity.

After evaluating the HPE SimpliVity solution, Petrobras America discovered that its data virtualization platform (DVP) was the solution to its DR and critical infrastructure needs.

Benefit

Cloud economics with enterprise-class protection

Realizing that operations on board its FPSO vessel would benefit from the HPE SimpliVity solution's DVP that optimized data flow, Petrobras America placed the resource-efficient solution on the vessel, and at the DR data center in Texas.

Installation and onboarding was completed within a couple of hours—with all ten VMs on the ship non-disruptively moved over to the HPE SimpliVity solution. The company's two full racks were reduced to one, reducing power and cooling costs. With this unique setup, Petrobras America effectively leveraged the HPE SimpliVity systems to decrease space, complexity and cost while increasing productivity and efficiency.

Petrobras America has been able to fully experience the best of both worlds: cloud economics with enterprise-class protection, data efficiency, performance and global unified management. Not only has it been able to migrate all of its Tier-1 applications onto the HPE SimpliVity hyperconverged solutions with no downtime, but also the IT manager and his team have been able to drastically improve the application RPOs and RTOs from several hours to just a few minutes. The HPE SimpliVity solution dramatically improves the entire DR and backup process.

The HPE SimpliVity solution's ability to deduplicate, compress, and optimize data has eased Petrobras America data center workloads. The unique capability is foundational to enhancing backup and off-site data protection—a pressing concern for a remote FPSO vessel with limited access to IT support. The users have been very satisfied with the performance and response times of the critical applications running on the HPE SimpliVity solution, and the IT team is very satisfied with the availability service levels provided by Hewlett Packard Enterprise.

Because of HPE SimpliVity Global Unified Management, that enables a single administrator to oversee operations from within a single interface, Petrobras America administrators can easily and efficiently deliver remote management on board the FPSO.

Learn more at
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