Bright Computing

Industrial Manufacturer Consolidates Servers Into Mega Data Centers To Reduce Cost

CASE STUDY

This major manufacturer uses Bright Cluster Manager to consolidate their servers into Mega Data Centers, reducing cost and boosting server utilization.

The Customer

A major industrial manufacturer makes extensive use of IT to assist in engineering products for international markets. IT facilitates all engineering phases of product lifecycle management which includes conception, design, prototyping, production, testing, support, and ultimately phase out. The company evolved globally distributed concentrations of expertise based on business demands and the availability of skilled scientists and engineers.

The Challenge

IT evolved in concert with engineering resulting in the proliferation of some 13,000 servers that were distributed amongst multiple departments spanning multiple geographies. In the absence of corporate practices and standards, servers were administered on an ad hoc basis with insufficient maintenance being the norm, potentially exposing them to security vulnerabilities.

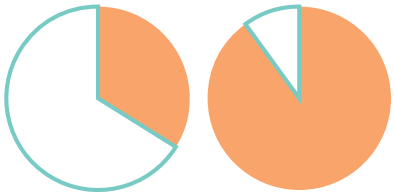
> "Using Bright Cluster Manager, we were able to cut the number of servers we need in half, and keep them nearly fully utilized at all times."

The Solution

The company decided to tackle its problem by implementing an IT consolidation strategy to deliver technical computing to engineering departments in a way that was much more cost effective and consistent. The first step was to design and build a small number of globally distributed mega datacenters to provide the right balance of IT consolidation and service.

Each mega datacenter featured the latest in hardware from a top-tier vendor, and included coprocessors (e.g., the Intel Xeon Phi) or accelerators (e.g., NVIDIA GPGPUs) as needs dictated. To avoid vendor lock-in, the company required a cross-platform, datacenter-wide management solution.

They selected Bright Cluster Manager because it could provision, monitor, manage, and report on all aspects of servers including power and environmentals, ancillary hardware components, the Linux operating environment, and the various engineering application stacks. Critical to the selection of Bright was its ability to seamlessly integrate with the company's existing standards for security, storage, and workload management.



Utilization tripled to 90%

The Results

The results achieved through server consolidation have exceeded the company's expectations:

- Number of servers reduced from 13,000 to 6,500
- Utilization tripled to 90% (on average)

Bright Cluster Manager seamlessly provisions, monitors, manages and reports on multiple types of servers, including those with GPUs and coprocessors. Its introduction simultaneously allows for extremely efficient (e.g., FLOPS/$, FLOPS/W and FLOPS/rack) and effective (e.g., workload throughput) improvements that can be readily visualized using Bright's monitoring capabilities.The company's scientists and engineers routinely report that they are receiving consistently better service than was possible when they managed their own servers.

The consolidated resources available to them in the mega datacenters allow the company to scale its applications to levels that were previously unachievable. By exploiting parallelism in their applications at significant scale, scientists and engineers are able to reduce the time required to obtain high-quality results, and explore problems that had previously been out of computational reach.

Bright's Cluster Management GUI provides a consolidated single-pane-of-glass view into the organization's mega datacenters, and allows a sysadmins to scale their efforts with the greatest of ease.

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