Nor-Tech
HPC Clusters™

ROC and Roll: The Portable Cluster aids in Recovery-Oriented Computing

This custom built portable cluster is comprised of five nodes, each running Linux on two Xeon CPUs, with 8 GB of memory and four SAS drives in a RAID 0 configuration.

The Challenge

Within the last few decades, the computing industry has expanded exponentially into all aspects of professional life, dramatically affecting how we access and utilize information. However, as more businesses depend on computers to run their day-to-day operations the need for reliability and uptime has also increased. With so much riding on system performance, crashes and other computer-related problems are more costly than ever.

The conventional wisdom to decrease computer failure through increased computer reliance is regarded by many in the industry as something of a paradox. Which is why one group of research collaborators has abandoned the quest for the uncrashable computer altogether and instead focus on recovery-oriented computing (ROC). ROC operates under the philosophy that occasional failure is simply a fact, one that can be dealt with but never entirely solved. And the best response to unavoidable failure is full and rapid recovery. This can be achieved by micro reboots of just the offending modules within the operating system or application instead of relaunching the entire OS.

One development company working on ROC OS technology needed to be able to demonstrate the ultra reliable cluster technology to various interested parties... and they needed it within days.

The Solution

Nor-Tech developed a portable, ruggedized high-performance cluster comprised of five identical nodes, each with two Xeon CPUs, 8GB of memory and four SAS drives in a RAID 0 configuration. Each node was then loaded with a Linux OS. By inducing faults into a node and showing that system integrity was maintained, ROC was effectively demonstrated.

As for that tight deadline, thanks to a well-stocked warehouse and a fast-acting team of Cluster Specialists, the portable cluster rolled off the truck with time to spare.

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