

IceWEB Unveils 16-Core, High Availability Storage Cluster In Single 3U Box

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Test system specifications:

IceWEB 6500 Unified Data Storage System, Active/Active clustered controller
12x 2TB 7200 RPM SAS Disk Drives
600GB SSD Disk Pack
12x 1Gb Ethernet



High availability doesn't have to mean high cost. For mission-critical enterprise applications, high availability is everything. Washington, D.C.-based unified storage manufacturer IceWEB on Tuesday unveiled the 6500 Cluster, a beefier version of the [IceWEB 6000 series](#) product that's designed specifically for such needs at a price that's not completely in the clouds.

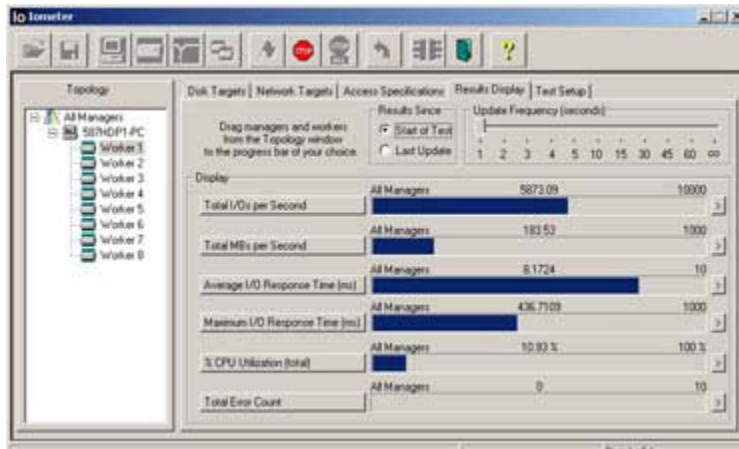
Starting at \$45,000 list, the 6500 Cluster combines two multiprocessor storage nodes in a single 3U dual controller unified disk array that includes software that directs storage traffic to the node that's most available. Each eight-core node has its own networking and power supplies, and can share access to as many as 304, 3.5-inch SSD and SAS drives set up in myriad RAID configurations. In effort to realize optimal system performance, 10Gb and 8Gb are popular upgrade kits available on the IW6500 Appliance.

With a background in geospatial computing, IceWEB CEO John Signorello, is no stranger to systems for effectively processing extremely large, non-structured data files. "One hundred percent of our federal customers are doing those sorts of things," he said.

The goal now, he added, is to attract strong integrators and expand horizontally into health-care and other markets with high-performance processing requirements. Signorello said that to do this, the next 12 months will involve a new technical roadmap. "The key is to build integration, virtualization and VDI opportunities," and to continue to build relations with managed service providers and the VAR channel.



As for system performance, IceWEB has the technical side fairly well wrapped up. The CRN Test Center was given an exclusive preview of IceWEB's new high performance and high availability cluster, and found that it was able to handle all of the traffic we were able to throw at it, and barely seemed to flinch.



To test IceWEB's latest array (which we set up as iSCSI), we fired up a Dell (NSDQ:[Dell](#)) Optiplex 990 test workstation equipped with an Intel (NSDQ:[INTC](#)) Core i7 3.4 GHz dual-core processor running 32-bit Windows 7 Professional on 4 GB of DDR3 memory. Using IOmeter as a benchmark, we employed our standard methodologies to achieve maximum performance by determining the optimal number of outstanding IOs per target to test with.

The IO/t determines how many operations are sent to the transaction queue at one time. The default setting is one, but most hardware will turn in better IO performance when the IO/t is somewhere between 12 and 48, depending on storage hardware and other infrastructure variables.

To find the optimal number, we repeated tests while gradually incrementing the IO/t until performance stops improving. Once we arrived at the optimal IO/t setting for the 6500 Cluster of 48, we used it for all subsequent testing.

Starting with the largest-sized blocks of 32 KB, we observed a maximum throughput of 112 MBps when performing 100 percent read operations, and a maximum one-node throughput performance of 190 MBps when splitting reads and writes 50/50.

Since these numbers were near the maximum theoretical throughput for the single Gigabit Ethernet port on the test workstation, we had reached the maximum capability of the test workstation. When we added a second, the results were similar; the 6500 Cluster was able to service both workstations at extremely high levels of throughput.



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Next we sought to maximize the test unit's transaction processing. Using 50/50 read-to-write operating with 512-byte blocks, we increased the number of workers (again, each with 48 outstanding IOs per target) until the IO/s reached a plateau. The plateau was found at six workers, which together generated a maximum processed transaction load of 71,008 IOps.

Administration of the IceWEB 6500 storage appliance is not for the faint of heart. Several trips to the command line were necessary to configure the unit for our test network and to activate Apache and the unit's browser-based GUI. Once there, several additional steps were necessary to setup and configure the system's storage pools and to provision them as iSCSI.

Copious knowledge of storage and RAID systems is required for this process. Even if the included wizards are deployed, the administrator must still make informed decisions about how and how many drives to allocate. The company says it's hard at work to further develop these interface capabilities, and is planning a major update early next year to simplify the out of the box experience for storage beginners.

Somewhat uniquely, the 6500 Cluster also can act as an iSCSI initiator, and is capable of interacting with other SAN storage systems on a network. This enables it to perform its replication and deduping services on other boxes on the network, regardless of brand. As such, the company is positioning the device to provide core infrastructure for small and medium businesses and for state and local governments.

For companies with an able IT department that are seeking a high-performance, high-availability system with no single point of failure for mission-critical database, e-mail, virtualization or other applications, the CRN Test Center believes that the 6500 Cluster is worthy of strong consideration. IceWEB systems are available through an exclusive distribution agreement with Promark Technologies.

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