“When you’re building a bulletproof IT infrastructure, only the best performing storage platform will do. We chose the Hitachi Universal Storage Platform V for its ability to handle pretty much anything we throw at it from a performance, availability and scalability perspective.”

David Shepard
Vice President of Major Accounts
and General Manager
i/o On-Demand

i/o On-Demand

<table>
<thead>
<tr>
<th>INDUSTRY</th>
<th>Services and Information Technology: Managed Infrastructure Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOLUTIONS</td>
<td>Virtualization</td>
</tr>
<tr>
<td>Hardware</td>
<td>Hitachi Universal Storage Platform® V</td>
</tr>
<tr>
<td>Software</td>
<td>Hitachi Dynamic Provisioning, Hitachi Device Manager</td>
</tr>
<tr>
<td>Services</td>
<td>Installation and configuration services provided by Hitachi Data Systems Global Solution Services; upgrades and ongoing services provided by Hitachi TrueNorth Platinum Channel Partner Advanced Systems Group (ASG)</td>
</tr>
</tbody>
</table>
For On Demand Enterprise Data Center Capabilities, i/o On-Demand Deploys Hitachi Universal Storage Platform® V

i/o On-Demand meets the promise of worry free data management for its customers with on demand hosting and virtual data center services. To master consistently high levels of performance, availability and scalability that customers demand, i/o On-Demand designed its IT environment with exceptional technology and redundancy. At the heart of this company’s purpose built facility is the Hitachi Universal Storage Platform® V with industry leading storage virtualization and thin provisioning capabilities.

In the contemporary world of data management, IT shops continually try to meet stringent demands for availability and performance while controlling costs and complexity. i/o On-Demand comes to the rescue with virtual on demand data center solutions that help customers rapidly and efficiently respond to changing requirements while eliminating capital outlay and cumbersome IT environments. Founded on the vision of providing a premiere managed infrastructure that supports any organization, i/o On-Demand has architected a matchless lineup of best-in-class technology as the foundation of its business model.

“Our worldwide customer base ranges from small businesses and startups to large enterprises that use us for their entire production infrastructure and disaster recovery. We believe that all customers, regardless of size or budget, should be able to access the best technology on the market. With progressive capabilities such as virtualization and thin provisioning, we can offer those benefits,” says Vice President of Major Accounts and General Manager of i/o On-Demand, David Shepard.

Building the Data Center from the Ground Up

The i/o On-Demand facility is a top tier data center located in Arizona and designed to endure any nature of disaster. Everything related to the data center is redundant, including power, connectivity, drives, equipment and even generators and ISP providers, to warrant that the entire IT infrastructure can run with highest availability and without failure.

Performance is one of the significant requisites for i/o On-Demand’s success. Avoiding I/O bottlenecks while deploying large scale virtualization is something Shepard sees as a priority, especially for hypervisor software running on servers. “We want to ensure maximum throughput rates, highest quality of service and balanced end-to-end performance capabilities,” he explains.

Availability is the other critical factor in making certain that i/o On-Demand will meet customer expectations. The company has an uptime service level agreement in place that is backed by dollars for failure. “If the infrastructure goes down, it costs my company money and credibility. We won’t let that happen,” Shepard says.

i/o On-Demand has an impressive assortment of top performing servers from Dell, HP and IBM, along with VMware virtualization software and a Cisco enterprise network fabric. According to Shepard, the storage area network is the heartbeat of the company. What makes it all tick is the Hitachi Universal Storage Platform V.

High on Performance with Universal Storage Platform V

“When you’re building a bulletproof IT infrastructure, only the best performing storage platform will do. We chose the Universal Storage Platform V for its ability to handle pretty much anything we throw at it from a performance, availability and scalability perspective,” says Shepard.

The Universal Storage Platform V provides i/o On-Demand with industry leading performance benchmarks, including large scale sequential data movement of more than four million peak cached IOPS, 106GB/sec

"The Universal Storage Platform V with Dynamic Provisioning provides accurate scaling, reporting and performance conditions, so we know exactly what we’ll need as we grow. Consequently, we can embrace highly varied customer requirements."

David Shepard  
Vice President of Major Accounts and General Manager  
i/o On-Demand
aggregate internal bandwidth and automated I/O workload balancing. The highest levels of application availability translate to millisecond response times to support more users, more data and more efficiency.

The Hitachi Data Systems Global Solution Services team configured the Universal Storage Platform V for i/o On-Demand with both Fibre Channel and SATA tiers and 16TB of usable storage. “We have tons of flexibility and an incredible ease of administration. We are well positioned for seamlessly growing the company and being able to morph as customer needs dictate,” says Shepard.

Providing outstanding power and cooling benefits, the Universal Storage Platform V includes an enterprise-class virtualization layer located within the controller. Using 4Gb/sec Fibre Channel connectivity from directors to disks and 32GB of cache, the Hitachi Universal Storage Platform V is able to orchestrate universal replication and increased performance of existing storage assets.

A Thin Line between Physical and Virtual Storage

The Universal Storage Platform V delivers virtualized storage capacity of 247PB and more than 57,000 virtual ports through Hitachi Dynamic Provisioning software. Supported on RAID-6 volumes, the Hitachi thin provisioning software allows physical storage to be transparently placed into a centralized virtual storage pool and assigned to an application without being physically mapped until used. When the application requires additional capacity, the storage system proactively alerts administrators and automatically allocates the space from the virtual pool.

“With Dynamic Provisioning, we’re able to increase performance of both Fibre Channel and SATA drives and dynamically apportion space to customers as they grow, thereby removing their need to overpurchase disk space. They save money and frustration. We have the flexibility and cost efficiency to run an overabundance of heterogeneous applications, databases and workloads concurrently on a single storage controller — plus, an inherent ease of use even as the environment grows. Dynamic Provisioning gives us that comprehensive balanced performance needed to truly provide on demand IT infrastructure to our wide range of customers,” Shepard details.

i/o On-Demand IT Infrastructure Breeds Best of Benefits

With the steady beat of the Universal Storage Platform V in place, i/o On-Demand has realized extensive benefits to its customer delivery model. The on demand data center is teeming with cost-efficiencies, performance and availability accolades. As a result, some of the company’s service level agreements are able to include objectives of 100 percent availability of network, servers and storage.1

“The Hitachi solution gives us extraordinary business agility. The Universal Storage Platform V with Dynamic Provisioning provides accurate scaling, reporting and performance conditions, so we know exactly what we’ll need as we grow. Consequently, we can embrace highly varied customer requirements,” Shepard says.

i/o On-Demand strives to minimize the company’s environmental footprint and boasts a 62 to 1 ratio of improvement in space and power utilization over typical IT facilities. The Hitachi Universal Storage Platform V contributes to the eco-friendly goals with built-in thin provisioning for energy efficient advantages.

Shepard also gives high marks to Hitachi Data Systems service and support. “When we were first determining the best fit for a SAN, Hitachi Data Systems came to the table prepared, much more so than other vendors, with support and knowledge and a spirit of teamwork. In fact, Hitachi displaced our incumbent vendor. We have also been working with Advanced Systems Group, a Hitachi TrueNorth Platinum Channel Partner, on upgrades and ongoing services. The whole experience has been a pleasurable one,” he says.

1http://www.iodatacenters.com/ondemand.php

About Advanced Systems Group (ASG)

With world class vendor certified technical and engineering support, Advanced Systems Group offers design, implementation and consulting services for open systems computing. Specializing in advanced server and virtualization solutions, and migration and disaster recovery services, ASG is headquartered in Denver, Colorado, with regional offices throughout the United States. By strategically partnering with leaders in the technology field, ASG remains in the forefront of a progressive IT market. As a Hitachi TrueNorth Platinum Channel Partner, ASG is able tailor storage networking solutions to fit even the most complex computing challenges and budget requirements.

For more information, please visit www.virtual.com.