

SFD6

Nimble

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Adaptive flash

Real-time / analytics / High-performance computing  
Performance Intensive  
mainstream applications  
cheap and deep

Decouple performance from spindle speed  
Scale up, deep, out, intelligently

High write IOPS on a 7.2K spindle using CASL

4 nodes is currently the QAed scale limit  
Data is protected through RAID on each of the nodes

Nimble offers scale up and out  
You can theoretically start with the CS2xx and go up and add more nodes

Snapshots and replication  
CommVault can manage snapshots

Replication is snapshot-based, asynchronous

InfoSight - Cloud-based Management  
There's a lot of telemetry coming in from customer systems, analysed in real-time  
Proactive wellness - flag things before they turn into problems  
Storage management SaaS offering  
Community learning - glean best practices from this (e.g. Universities running VDI).  
Data is anonymised and shared with the community.

Every customer has access to this portal

\*Rod Bagg - VP Customer Support

InfoSight Demos

"Maintain a maniacal focus on providing the industry's most enviable customer support"  
- not just a CS mission  
- monitor, assess, evolve as necessary

94% deployed arrays connect back

Why can't vendors proactively monitor customer systems for insights?  
Can vendors predict and prevent problems before they occur?

Median support case length currently 40 minutes

#### Telemetry

- between 12 and 70m sensors per array, daily
- data collected every 5 minutes and on-demand

#### Analysis and Automation

- systems modelling
- correlations, trending and projection

#### Benefits:

storage mgmt SaaS offering

- monitoring and alerting
- visualisation, cap planning, perf mgmt

#### Proactive wellness

- vast majority of cases opened by nimble
- secure, on-demand system access

"Leveraging pervasive network connectivity and big data analytics to automate support and enable cloud-based management"

Use HP Vertica as the analytics engine (<http://www.vertica.com>)

#### UI Demo

- Blacklist safeguards and dynamic software update paths
- Proactive install base analysis
- Capacity projections and performance correlation analysis
- Single pane of glass jump point to array UI

Maintenance releases every 6 weeks, Major releases every 12 - 18 months, Minor releases about every 6 mtgs (2.1 - 2.2)

\*David Adamson - The Sizing Problem

Use InfoSight as a sizing differentiator

#### Sizing CPU

Applications have distinct IO signatures

Distinct working set sizes - the largest factor determining cache need

#### From Data to Models to Predictive Tools

to perform sizings

- develop app-specific mathematical models to extrapolate from real-world workload data
- and make use of the deviation from that model to quantify uncertainty in our predictions

needs of several separate apps combined in to one histogram of expected need

Different model tiers provide flexibility

- sizing based on several known variables
- or sizing based on fewer variables

sizing interface lets the user explore their options

Sizing Tool (Beta)

Gim Mahasintunan, Principal Engineer

@gim\_m

Demo of pre-release per VM monitoring

Agent runs on the nimble array, not required on ESXi host or VMs - talks to vCenter

Demo scenario - troubleshooting a noisy neighbour

View Host, Storage, Virtual Disks, Related VMs

You can see what VMs sit on what datastores and where the VMDKs live

\*Gavin Cohen - Marketing Director

Utility-based on-premises storage on demand offering

charged out at cents/GB /per month

Post-paid service. InfoSight used to generate invoices. Charged on per GB / per month stored, not transferred.

InfoSight also used to monitor when they need more capacity or more performance. They pre-ship when customers are about to exceed their buffer.

Competitors - designed to streamline the procurement process, Nimble have designed it to be a utility (pay based o usage can go up or down)

Base 12-month contract (40TB), and month by month. 4 performance levels - priced differently (controllers, ratio of flash to HDD, etc)

If someone's offering this better, cheaper and faster - the customer will move on

\*Mike McLaughlin - Technical Marketing

Managing nimble storage through cloud frameworks - UCS Director or OpenStack

\*Wen - does the OpenStack demo

