Compuverde
A unified storage solution
UNIFIED STORAGE

SOFTWARE DEFINED STORAGE

- Hyper-converged
- Bare metal

File system
Object Store
Block storage

- SMB
- NFS
- iSCSI
- OpenStack Swift
- Amazon S3
SCALE-OUT STORAGE

Single name space

Protocol

Cache

Virtual file system

Self-contained storage

SERVER #1

SERVER #2

SERVER #3

PROTOCOL LAYER

VIRTUAL FILE SYSTEM

STORAGE

SMB

NFS

iSCSI

OpenStack Swift

Amazon S3
CACHE
LINEAR SCALING – INCREASING BOTH CAPACITY AND PERFORMANCE

Setup starts with four nodes

Linear scaling up to hundreds of nodes

Exabytes / Trillion files

Capacity

100,000+ IOPS

Performance
SEPARATED MODE
PROVIDING FULL SOFTWARE STACK

- PROTOCOLS / VM / HYPERVERSORS
- CACHE / GATEWAY
- STORAGE (OBJECT STORE)
EASY TO USE AND MANAGE

1. Unconfigured servers + Compuverde software
2. Name the servers
3. Connect to a network
4. Run server wizards
5. Run cluster wizard
6. Setup is complete
PERFORMANCE

Actual IOPS

(More is better)

Requested IOPS

540,000 IOPS

Tests conducted with the benchmark software SPECsfs 2008 on 16 servers.

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>2 x Intel Xeon E5-2620 (2.0 GHz)</td>
</tr>
<tr>
<td>Memory</td>
<td>256 GB</td>
</tr>
<tr>
<td>Cache</td>
<td>2 x 400 GB Flash</td>
</tr>
<tr>
<td>Data disks</td>
<td>24 x 900 GB SAS 10K (JBOD)</td>
</tr>
<tr>
<td>Network</td>
<td>10 GbE (1500 MTU)</td>
</tr>
<tr>
<td>Feature</td>
<td>Compuverde 1.3.140</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>SMB 2.0 / 2.1 / 3.0 / 3.0.2</td>
<td>81%</td>
</tr>
<tr>
<td>NFS 4.0</td>
<td>97%</td>
</tr>
<tr>
<td>NFS 4.1</td>
<td>98%</td>
</tr>
<tr>
<td>iSCSI</td>
<td>82%</td>
</tr>
</tbody>
</table>

SMB 2 & 3 Protocol Family Test Suite 2015 (Version 1.0.2508.0 developed by Microsoft)  
pyNFS version October 20, 2015 (Developed by CITI)  
LibiSCSI (Version 1.15.0)
Hybrid cloud solution
Unified view between cloud and private datacenter