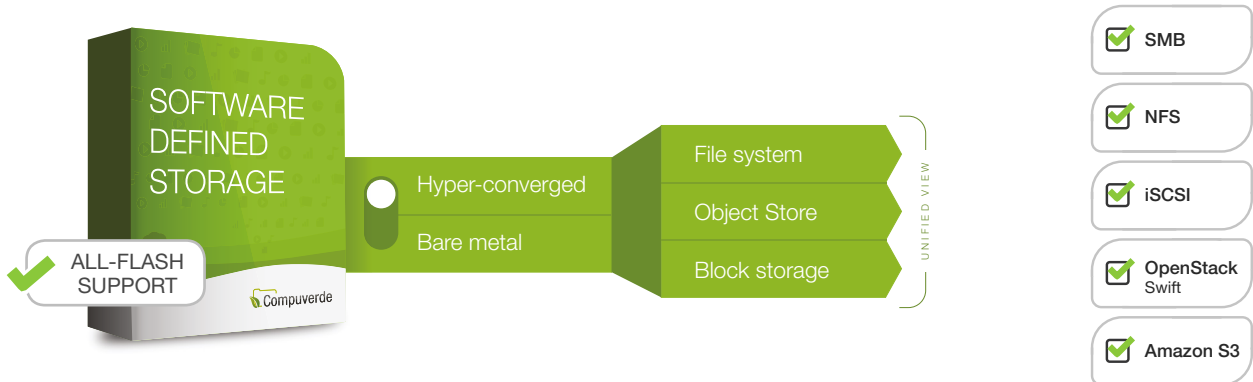


Compuverde Scale-out Storage

File system, block storage and object storage in one package, completely hardware-agnostic and massively scalable by using standardized storage servers as building blocks.



Scale-out NAS

Install on bare-metal servers. Start small, scale-out to hundreds of nodes.

Hyperconverged

Computing and storage in one box. VMware, KVM, Hyper-V and Xen supported.

COMPUTE + STORAGE

Metro Cluster

Get improved redundancy by stretching your cluster to two locations in the same LAN.

Hybrid Cloud

Synchronization between multiple locations for fast Disaster Recovery.

Compuverde Scale-out storage delivers a cost efficient storage with fully featured unified file system on top. Each node in the cluster is a self-sustained server installed with Compuverde vNAS software. The file system spans all nodes in the cluster,

consistently available through any node and through any of the major protocols. This makes for a storage system that is self healing, flexible and fully automated – packed with essential features for flexibility, safety and security.

Protocol Support

SMB	1 / 2.1 / 3.1.1	cross protocol access
NFS	3 / 4.0 / 4.1	

DR

Authentication

- Active Directory
- LDAP
- Kerberos KDC
- NIS
- Local database

File Policies

- Tier
- Snapshots
- Quota
- Encryption
- WORM
- Retention

Multitenancy

Authorization

- ACL
- mode_t
- SID
- UID/GID

Antivirus

Integration



PERFORMANCE



Databases
Database mixture

2.4+
GB/s

800+
databases



Multiple Small Files
Software build workloads

2.0+
GB/s

300+
sw builds



Video Surveillance
36 Mb/s video streams

4.0+
GB/s

800+
streams



Virtual Desktop Infrastructure
High intensity workers

1.5+
GB/s

500+
workers

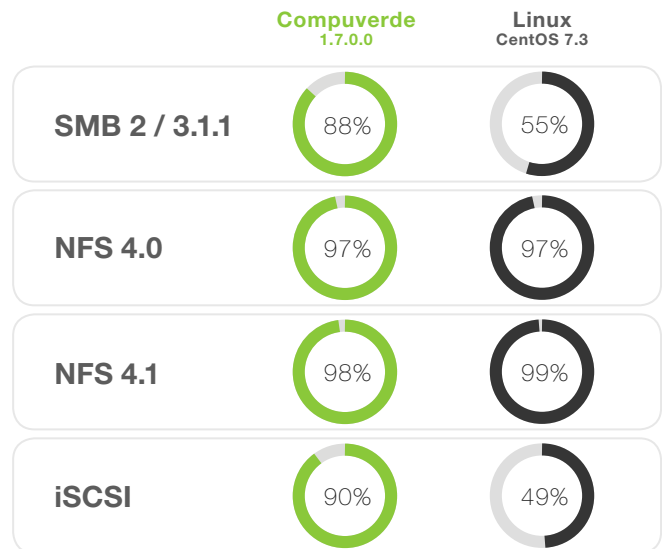
Performance Test Hardware Specifications

8x SuperMicro SuperChassis 24 slot

- 2x** 2.0 GHz Intel® Xeon™ E5-2620
- 1x** 256 GB DDR3
- 2x** Intel® P3700 400 GB NVMe
- 24x** 900 GB SAS 10K (HBA)
- 2+1 Erasure Coding**
- 2x** Intel® X520 10 GbE dual NIC

PROTOCOL COMPATIBILITY

Tight integration between protocols and the virtual file system, as no third party software or open source is used in the solution.



- SMB 2&3 Protocol Family Test Suite Version 2.0.66.0 developed by Microsoft
- pyNFS version October 20, 2015, developed by CITI
- LibiSCSI version 1.18.0 update November 8, 2017

TECHNICAL SPECIFICATIONS

Key Features

Access Protocols	<ul style="list-style-type: none"> SMB (1 / 2.0 / 2.1 / 3) NFS (3 / 4.0 / 4.1) iSCSI (with MPIO) OpenStack Swift + Cinder Amazon S3 NNTP back end storage
All-Flash	Yes
Tiering	Yes
Multi-tenancy	Yes (multiple file systems)
Network	Multiple NICs, Virtual IP, VLAN
Bonding / Link Aggregation	<ul style="list-style-type: none"> Round Robin Active/Backup XOR Broadcast LACP Adaptive Transmit Load Balancing Adaptive Load Balancing
Rolling upgrade	Yes
Cache support	NVMe / SSD / RAM
Cache mode	<ul style="list-style-type: none"> Read/Write Write Only
Mirrored write cache	On / Off
RAM write cache	On / Off
Authentication	<ul style="list-style-type: none"> Active Directory LDAP Kerberos KDC NIS Local database

Management Features

Management tool	<ul style="list-style-type: none"> Configuration Performance Health Alerts Logging
API	<ul style="list-style-type: none"> REST API Usage statistics
Logging	<ul style="list-style-type: none"> Remote syslog (rsyslog) SNMP v2c
Alarms	<ul style="list-style-type: none"> SNMP E-mail
OpenStack Cinder	Yes

Files and Folders

File Policy	At Folder level:												
Filters	<ul style="list-style-type: none"> Pattern (ex: *.jpg) Age (days/weeks/months/years) 												
Actions	<ul style="list-style-type: none"> Change file coding Change tier Data encryption Retention (remove files after set time) WORM (write once read many) 												
Snapshot Policy	At folder level:												
Schedule	<ul style="list-style-type: none"> Automated: Every hour/day/week Manual 												
Snapshots retained	Up to 253 (circular overwriting)												
Quota Policy	Folder or domain size limit												
Antivirus Support	Yes												
File coding													
Copies	3 or 5 copies												
Erasure coding	<table border="0"> <tr> <td>2+1</td> <td>2+2</td> <td>3+1</td> <td>3+2</td> <td>4+1</td> <td>4+2</td> </tr> <tr> <td>5+1</td> <td>5+2</td> <td>6+1</td> <td>6+2</td> <td>8+1</td> <td>8+2</td> </tr> </table>	2+1	2+2	3+1	3+2	4+1	4+2	5+1	5+2	6+1	6+2	8+1	8+2
2+1	2+2	3+1	3+2	4+1	4+2								
5+1	5+2	6+1	6+2	8+1	8+2								

Cluster features

Scalability	<ul style="list-style-type: none"> Linear, by adding new nodes 100+ billion files (exabytes of data)
Elasticity	Runtime change of cluster size
Self-healing	Yes (Automatic)
Automatic detection	<ul style="list-style-type: none"> Node failure Disk failure Data inconsistency
Healing mode	Prioritized automatic repair
Availability	> 99.999 %
Data addressing	<ul style="list-style-type: none"> File system Block Objects
Encryption	Data at rest: AES 256 bit XTS - one key for each file system

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