Using Software-defined Storage to provide a complete BC, DR and DP

Updated March 23, 2015
What are your key assets?
Is Your Data Available, Recoverable, and Protected?
Is Your Data Available, Recoverable, and Protected?

- Natural Disasters
- Security Breaches
- Data Center Outages

Data
- Availability
- Integrity
Unfortunately, Most Organizations are NOT prepared

82% state their IT infrastructure is not fully prepared for a DR incident
Only 27% believe they are fully prepared to ensure continuous availability of ePHI
Only 50% are confident 100% of data can be restored per SLA
56% would need 8 hours + to restore 100% of data

Source: Health IT Outcomes, February 10, 2014
Unfortunately, Most Organizations are NOT prepared

28% have experienced data loss in the past 12 months
Cost of $807,571 per incident due
40% have experienced an unplanned outage in the past 12 months
Cost of $432,000 per incident
Common causes include hardware failure and power loss

Source: Health IT Outcomes, February 10, 2014
Unfortunately, Most Organizations are NOT prepared

19% had a security breach in the last 12 months
58% due to malware and viruses
$810K per incident

Source: Health IT Outcomes, February 10, 2014
What’s the Solution
Ideal Solution

Data

Disaster Recovery

Data Protection

High Availability

Single Management Tool

Copyright © 2014 DataCore Software Corp. – All Rights Reserved
Confidential - Do not copy or distribute
Protect your data with DataCore’s Software-defined Storage (SDS) Platform

DataCore Software defined-Storage Platform

Tier 1

Tier 2

Tier 3

Data Protection

Disaster Recovery

High Availability
Services to Protect Data Availability & Integrity

DataCore SDS Platform

- Asynchronous Replication
- Continuous Data Protection
- Synchronous Mirroring

Tier 1 Tier 2 Tier 3

Storage Pool

Disaster Recovery Data Protection High Availability
Protecting from Natural Disasters

DataCore SDS Platform

Storage Pool

Tier 1

Tier 2

Tier 3

Asynchronous Replication

Continuous Data Protection

Synchronous Mirroring

Disaster Recovery

Data Protection

High Availability

Tier 1 Tier 2 Tier 3
Asynchronous Replication

Update distant copies without impacting local performance

- Ideal for disaster recovery
- Standard IP-based links
- Optimizes bandwidth via compressed, multi-stream transfers & prioritized QoS
- Test readiness non-disruptively

Disaster Recovery  Data Protection  High Availability
Asynchronous Remote Replication

Disaster Recovery
Periodically Test Disaster Recovery Readiness
Advanced Site Recovery

Expedite central site restoration

- Reverses direction of replication from the disaster recovery (DR) site to the primary datacenter
- Universal coverage for heterogeneous scenarios
- Same automated process for virtual & physical systems
- Integrated with VMware SRM
Advanced Site Recovery

Data Protection

Disaster Recovery

High Availability
Protecting from Security Breaches

DataCore SDS Platform

Tier 1
Tier 2
Tier 3

Asynchronous Replication
Continuous Data Protection
Synchronous Mirroring

Disaster Recovery  Data Protection  High Availability
Continuous Data Protection (CDP)
Return to any point-in-time without taking explicit backups

- Restore arbitrary point-in-time within a 14 day period
- Logs and timestamps all I/Os to the selected virtual disks
- No need to quiesce or interrupt applications
- No host agents required
- Easy to enable and revert from
- Create known-good restore points

Disaster Recovery  Data Protection  High Availability
Changed Data is kept for 14 days

Current Data & 14 days of Previous Data

Disaster Recovery  Data Protection  High Availability
Revert to Earlier Data when Needed

Choose time before problem occurred

Known-good point in time markers

CDP

Time-stamped updates

Host

11:09 am

6am  7am  8am  9am  10am  11am

Data Protection
Disaster Recovery
High Availability
Protecting from DataCenter Outages

DataCore SDS Platform

Storage Pool

Tier 1  Tier 2  Tier 3

Asynchronous Replication

Continuous Data Protection

Synchronous Mirroring

Disaster Recovery  Data Protection  High Availability
Synchronous Mirroring
Real-time I/O replication for continuous availability

- Eliminates storage as a single point of failure
- Enhances survivability using physically separate nodes
- Updates distributed copy simultaneously
- Mirrored virtual disks behave as one, multi-ported shared drive
2 Active Copies of Data

- Hosts
- SSV-1
- Array-1
- Path 1
- Virtual Disk
- Mirror Path
- SSV-2
- Array-2
- Path 2

Disaster Recovery
Data Protection
High Availability
Up to 100 KM / 60 M apart

Data Protection
Disaster Recovery
High Availability

Up to 100 km

SYNCHRONOUS MIRRORING
## Cross-device Storage Services

<table>
<thead>
<tr>
<th>Service</th>
<th>Icon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asynchronous Replication</td>
<td>![Cloud Arrow]</td>
</tr>
<tr>
<td>Synchronous Mirroring</td>
<td>![Clock Arrow]</td>
</tr>
<tr>
<td>Virtual SAN</td>
<td>![Wireless]</td>
</tr>
<tr>
<td>Storage Pooling</td>
<td>![Battery]</td>
</tr>
<tr>
<td>Storage Load Balancing</td>
<td>![Battery]</td>
</tr>
<tr>
<td>Random Write Accelerator</td>
<td>![Battery]</td>
</tr>
<tr>
<td>Quality of Service (QoS)</td>
<td>![Battery]</td>
</tr>
<tr>
<td>Centralized Management</td>
<td>![Dashboard]</td>
</tr>
<tr>
<td>Continuous Data Protection</td>
<td>![Cloud Arrow]</td>
</tr>
<tr>
<td>Auto-tiering</td>
<td>![Clock Arrow]</td>
</tr>
<tr>
<td>Thin Provisioning</td>
<td>![Battery]</td>
</tr>
<tr>
<td>Data Migration</td>
<td>![Battery]</td>
</tr>
<tr>
<td>Snapshots</td>
<td>![Battery]</td>
</tr>
<tr>
<td>Adaptive Caching</td>
<td>![Dashboard]</td>
</tr>
<tr>
<td>NAS/SAN (Unified Storage)</td>
<td>![Cloud Arrow]</td>
</tr>
<tr>
<td>Analysis &amp; Reporting</td>
<td>![Dashboard]</td>
</tr>
</tbody>
</table>
Benefits at a Glance

Surveyed DataCore™ Customers Report Up To:

- 100% reduction in storage-related downtime
- 10x performance increase
- 4x capacity utilization
- 90% decrease in time spent on routine storage tasks
- 75% reduction in storage costs

www.techvalidate.com
Proven. Globally.

25,000 + Deployments Worldwide

10,000 + Customers  Founded 1998

Market Segments

Software-defined Storage

Storage Virtualization

• Australia
• Germany
• France
• Japan
• UK
• USA
Thank you