Implementing a Comprehensive Disaster Recovery System

May 25, 2016

Rob Gonsalves, Director of Architecture, Avid
Disaster Recovery Overview

- Key concepts for Disaster Recovery
- Metrics for understanding risks
- Configurations for DR systems
- How to setup media enterprise systems for DR
Disaster Recovery Definition

- Disaster recovery is a set of policies, procedures, and systems to enable the continuation of critical business functions.
- Procedures for dealing with disruptions need to be formally documented and verified on a regular basis.
- Personnel need to be trained on how to respond to various types of issues.
## Operational Risks

<table>
<thead>
<tr>
<th>Operational Risks</th>
<th>Example</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware / Software failure</td>
<td>Server crash</td>
<td>Redundant System Components</td>
</tr>
<tr>
<td>Localized outage</td>
<td>Loss of power to a server room</td>
<td>Local System Replication</td>
</tr>
<tr>
<td>Site outage</td>
<td>Hurricane</td>
<td>Regional System Replication</td>
</tr>
</tbody>
</table>
Disaster Recovery Modes

System A is Primary

Planning and Testing

Failover

System A' is Primary

Failback

Deploy

Backup To A'

Backup to A
DR Metrics: RPO and RTO
Active / Passive Configuration

System A

Client → System A

Client → System A

Client → System A

System A' → Sync

System A'
Active / Active Configuration

System A

System A'

Client

Client

Client

Client

Client

Client

Sync

Sync
Shared Active / Active Configuration
Multi-Site Replication Configuration

System A
System B'
System A'
System B
System C'
System A''
System B''
System C

Sync
Sync
Sync
Sync
Sync
Sync
Sync
Sync
Sync

Client
Client
Client
Client
Client
Client
Client
Client
Client
Star Topology
Local Replication

Asset Management

Copy Service

Asset Management

Media Storage

Asset Essence

Asset Essence

Primary Workgroup

Backup Workgroup

Notifications of new assets in watch folder

Asset Metadata
Regional Replication

Asset Management → Sync App → Asset Metadata
Asset Management

Media Storage → Sync App → Asset Essence
Media Storage

Primary Workgroup  |  Backup Workgroup

Nightly incremental backups
## Applications for Synchronizing Files

<table>
<thead>
<tr>
<th>Application</th>
<th>OS Availability</th>
<th>Mirror</th>
<th>Sync</th>
</tr>
</thead>
<tbody>
<tr>
<td>robocopy</td>
<td>Win</td>
<td>✔️</td>
<td>✖️</td>
</tr>
<tr>
<td>rsync</td>
<td>Win, Unix, Mac</td>
<td>✔️</td>
<td>✖️</td>
</tr>
<tr>
<td>Unison</td>
<td>Win, Unix, Mac</td>
<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>
Robocopy Script for Mirroring

echo mirroring system-a to system-a-prime %date% %time%
:start
robocopy \system-a\folder \system-a-prime\folder /e /purge
timeout /T 60 > NUL
goto start
Summary

- Disaster Recovery should be part of every Business Continuity plan.
- Recovery Point and Recovery Time Objectives will help you determine your tolerance to possible data loss and system downtime during a failure.
- Various DR system topologies can be deployed.
- DR solutions are currently available for Media Enterprise Systems, for both local and regional replication.
Questions?