Azure Site Recovery: Tips from the Trenches

John Joyner
ClearPointe
Agenda

- Azure Site Recovery (ASR)
  - Automation: Test and Perform Failover
  - Modes: A2A, VMware2A, Hyper-V2A, P2A
  - Tips from the trenches
    - Preparing to use ASR in production
    - Scaling out VMware and P2V scenarios
    - ASR limitations such as disk size and delta rate
Any Cloud, Any OS

Site Recovery: The Complete Solution

Site to Azure | Any Cloud | Site to Site

AWS → Cloud (VMware) ← Cloud (VMware) → Physical/VMware to VMware

VMware → Hyper-V → Physical → VMM to VMM

Windows | Any OS | Linux
Discussion of challenges

- Historically computer replication technology expensive / exotic
- Lock-in to specific storage or virtualization
- VM replication: The right answer usually
- VM replication alone is not a DR plan

Focus on: Business objectives and THE DATA
RTO & RPO Review

Recovery time objectives

- The RTO refers to the targeted amount of time determined by the business that is needed to be back up and running after a disaster or disruption happened. The more the application is critical, the lower the RTO should be.

Recovery point objective

- The RPO refers to a point in time that is the acceptable amount of lost data due to the recovery.
1. Conduct a risk assessment for each application, because each can have different requirements. Some applications are more critical than others and would justify the extra cost to architect them for disaster recovery.
2. Use this information to define the RTO and RPO for each application.
3. Design for failure, starting with the application architecture.
4. Implement best practices for high availability, while balancing cost, complexity, and risk.
5. Implement disaster recovery plans and processes.
   a. Consider failures that span the module level all the way to a complete cloud outage;
   b. Establish backup strategies for all reference and transactional data; and
   c. Choose a multi-site disaster recovery architecture.

6. Define a specific owner for disaster recovery processes, automation, and testing. The owner should manage and own the entire process.

7. Document the processes so they are easily repeatable. Although there is one owner, multiple people should be able to understand and follow the processes in an emergency.

8. Train the staff to implement the process.

9. Use regular disaster simulations for both training and validation of the process.
Azure Site Recovery (ASR)

- Simple, automated protection and disaster recovery in the cloud
- Orchestrated disaster recovery as a service (DRaaS)
- Replication and disaster recovery to Azure
- Continuous health monitoring with Site Recovery
Step-by-step Scenarios

Azure to Azure
1. Set up disaster recovery
2. Run a disaster recovery drill
3. Run failover and failback

VMware
1. Prepare Azure
2. Prepare on-premises VMware
3. Set-up disaster recovery
4. Run a disaster recovery drill
5. Run a failover and failback

Hyper-V
1. Prepare Azure
2. Prepare on-premises Hyper-V
3. Set-up disaster recovery for Hyper-V VMs
4. Set-up disaster recovery for Hyper-V VMs managed by System Center VMM
5. Run a disaster recovery drill
6. Run a failover and failback

Migrate to Azure
1. Prepare Azure
2. Migrate on-premises machines or AWS Instances to Azure

Site Recovery Documentation:
https://docs.microsoft.com/en-us/azure/site-recovery/
Capacity Planning


ASRDeploymentPlanner.exe -Operation StartProfiling /?
Recover to Microsoft Azure

DR Orchestration

Microsoft Azure Site Recovery

Extensible Data Channel

Primary Site

Secondary Site
DEMO

Configure VMWare for ASR
Large-scale: VMware & ASR
On-Premises Connection Options
ASR with VMWare & Fail-back
Manually installing the ASR Agent
VMM to VMM

https://docs.microsoft.com/en-us/azure/site-recovery/tutorial-vmm-to-vmm
ASR Recovery Plan High-Level

1. DNS
2. Domain Controllers
3. CA
4. SQL
5. File & Worker
6. WFE
ASR Limitations

- 64 disks per VM (depending on your VM sizing)
- Type of storage choices (Fiber channel passthrough not supported)
- Disk sizes of up to 4095 GB to Azure
- Data change rate > bandwidth & time available
Take the Survey!

Your feedback is important! Please rate the session for a chance to win!
Survey is below session description at http://elus18.expertslive.us
## Related Sessions – Hybrid Cloud

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<td>College Park</td>
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