Azure Site Recovery: a quick service overview.

By Olga Papadimitriou – Business Development Officer

Today, every organization must implement a business continuity and disaster recovery (BCDR) strategy that maintains data secure and apps and workloads available during scheduled and unforeseen outages.

Azure Recovery Services strengthens a BCDR strategy as follows:

- **Site Recovery service**: By keeping business apps and workloads functioning during disruptions, site recovery contributes to business continuity. Workloads operating on physical and virtual machines (VMs) are replicated from a primary site to a backup location during site recovery. You fail over to a backup location and access apps from there if your first site experiences an outage. You can fail back to the primary location once it has resumed operations.
- **Backup service**: Business data is protected and recoverable thanks to the Azure Backup service.

Site Recovery can oversee replication for:

- Azure VMs replicating between Azure regions.
- On-premises VMs, Azure Stack VMs, and physical servers.

Azure Site Recovery features

- **Simple BCDR solution.** With a single location in the Azure portal, you can set up and manage replication, failover, and failback.
- **Azure VM replication.** Set up disaster recovery of Azure VMs from a primary region to a secondary region.
- **VMware VM replication.** Replicate VMware VMs to Azure with the use of the improved Azure Site Recovery replication appliance. That offers better security and resilience than the configuration server.
- **On-premises VM replication.** Replicate on-premises VMs and physical servers to Azure, or to a secondary on-premises datacentre. The cost and complexity of maintaining a secondary datacentre is eliminated with replication to Azure.

- **Workload replication.** Replicate workload running on supported Azure VMs, on-premises Hyper-V and VMware VMs, and Windows/Linux physical servers.
- **Data resilience.** Replication is orchestrated by Site Recovery without application data being intercepted. When replicate to Azure, data is stored in the resilient Azure storage. When there is a failover, Azure VMs are created based on the replicated data.
- **RTO and RPO targets.** Azure keeps recovery time objectives (RTO) and recovery point objectives (RPO) within business limits. Continuous replication is provided by Site Recovery for Azure VMs and VMware VMs as well as replication frequency as low as 30 seconds for Hyper-V. RTO can be further reduced by integration with Azure Traffic Manager.
- **Keep apps consistent over failover.** Replicate with the use of recovery points with application-consistent snapshots that capture disk data, all data in memory, and all transactions in process.
- **Testing without disruption.** Run disaster recovery drills easily while replication is running without any interference.
- **Flexible failovers.** Run zero-data-loss scheduled failovers for anticipated outages. Or, depending on the frequency of replication, unplanned failovers with little data loss for unforeseen catastrophes. If your primary site becomes unavailable again, you can easily fail back to it.
- **Customized recovery plans.** The failover and recovery of multi-tier applications operating on different VMs may be tailored and organized using recovery plans. In a recovery plan, you may optionally include scripts and manual operations when grouping computers together. Azure automation runbooks may be connected with recovery plans.
- **BCDR integration.** Other BCDR technologies are integrated with Site Recovery. With native support for SQL Server Always On and the ability to control the failover of availability groups, Site Recovery, for instance, may be used to safeguard the SQL Server backend of corporate operations.
- **Azure automation integration.** Production-ready, application-specific scripts are available in a robust Azure Automation library and may be downloaded to use with Site Recovery.
- **Network integration.** Azure and Site Recovery provide integrations for managing application networks. For instance, to set up load balancers, reserve IP addresses, and use Azure Traffic Manager for smooth network transitions.

What you can replicate with Azure Site Recovery.

Replication scenarios:

- Replicate Azure VMs from one Azure region to another.
- Replicate on-premises VMware VMs, Hyper-V VMs, physical servers (Windows and Linux), Azure Stack VMs to Azure.
- Replicate AWS Windows instances to Azure.
- Replicate on-premises VMware VMs, Hyper-V VMs managed by System Center VMM, and physical servers to a secondary site.

Regions: You can review the supported regions **here**.

Replicated machines. You can review the replication requirements in the following links:

- **Azure VM** replication
- **on-premises VMware VMs and physical servers**
- **on-premises Hyper-V VMs**
- **Workloads.** Replicate any workload running on a machine that's supported for replication. And, the Site Recovery team did app-specific tests for a **number of apps.**

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