Microsoft Azure

Administrator Associate Training

Evaluate and perform server migration to Azure

Agenda

- What is Azure Site Recovery
- Benefits
- Plan
- Capacity Planning
- Supported Workloads
- Azure Migrate
- Prepare Azure resources for disaster recovery of on-premises machines
- Discover and assess on-premises VMware VMs for migration to Azure
- Hands-On Lab

What is Azure Site Recovery?

What is Azure Site Recovery?

Azure Site Recovery is a disaster recovery and business continuity service that provides two types of functionality:

- **Replication**
  - Replication handles synchronization of designated systems between a primary site that hosts your production workloads and a secondary site that activates if a disaster occurs.
- **Orchestration**
  - Orchestration provides orderly failover and failback between these two locations.

Azure Site Recovery provides support for the following three disaster recovery scenarios, depending on the location of the primary and secondary site:

- Failover and failback between two on-premises sites
- Failover and failback between an on-premises site and an Azure region
- Failover and failback between two Azure regions

In addition, you can use Site Recovery to migrate virtual machines to an Azure region by performing failover only.

This capability is available for Linux and Windows operating system instances running in on-premises locations, in Azure, or in the Amazon Web Services environment.

Azure Site Recovery: Benefits

It provides a number of capabilities that help you reach your business continuity goals.

These capabilities include:

Storage replication	Orchestration of planned failover and failback	Orchestration of unplanned failover and failback	Orchestration of test failover
• Storage replication maintains the synchronization of disks between your production and DR. • Azure Site Recovery Services offer replication frequency in 30 sec/ 15 mnt./ 30 mnt. intervals.	• With planned failover and failback, orchestration delivers an orderly transition process between your production and disaster recovery environments without any data loss.	• Orchestration also allows you to enforce the sequence of individual steps during failover and failback. • However, with unplanned failover and failback, there is a potential for data loss.	• Test failover typically takes place in an isolated network, making it possible to evaluate your disaster recovery approach without affecting the production environment.

Azure Site Recovery: Plan

- To implement orchestrated failover and failback, you need to create a recovery plan.
- A recovery plan identifies protected physical machines and virtual machines, and dictates the order in which Site Recovery performs individual steps during failover and failback.
- Recovery plans support Azure Automation scripts and workflows in addition to manual steps.
- This provides a sufficient level of flexibility for more complex disaster recovery scenarios and also helps you achieve your RTO.
- Consider different sets of criteria in each of the following scenarios:

Replicating Hyper-V VMs to Azure.

Replicating VMware VMs and physical servers to Azure.

Replicating Azure VMs between two Azure regions.

Azure Site Recovery:

Capacity Planning

- Microsoft offers the Azure Site Recovery Capacity Planner, which is available at: https://aka.ms/asr-deployment-planner
- This tool evaluates the existing workloads that you intend to protect, and based on this analysis, it provides recommendations that are required to implement their protection.
- The tool operates in two modes:

Quick Planner

This mode requires you to provide general statistics representing the current capacity and utilization of your production site.

These statistics could include the total number of virtual machines, average number of disks per virtual machine, average size of a virtual machine disk, average disk utilization, total amount of data that needs replication, and average daily data change rate.

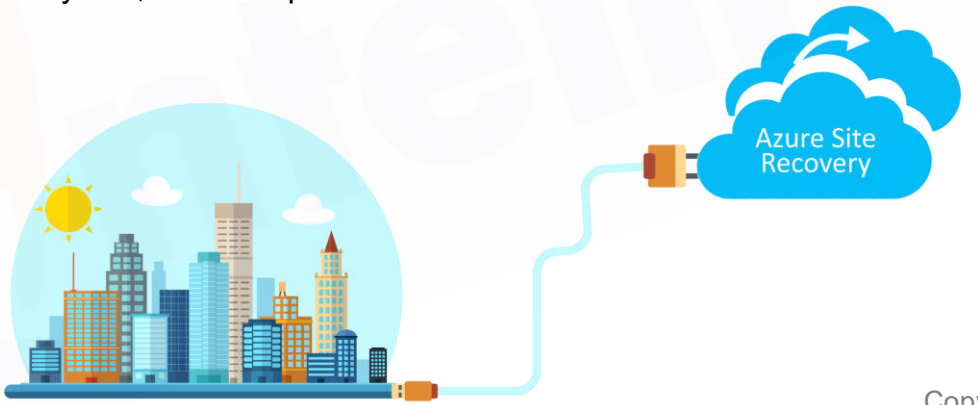
Detailed Planner

This mode requires you to provide capacity and utilization data for each virtual machine that you intend to protect.

This data could include the number of processors, memory allocation, number of network adapters, number of disks, total storage, disk utilization, and the operating system that is running in the virtual machine.

Azure Site Recovery: Supported Workloads

- Azure Site Recovery can integrate with Windows server applications (Exchange Server, Database Servers, SharePoint, SQL Server, Microsoft Dynamics CRM)
- Third-party server software from vendors such as Oracle, SAP, IBM, and Red Hat.
- This integration considerably simplifies building recovery plans, which protect the systems that host these products.
- Similarly, you can configure servers that host core infrastructure components, such as AD DS or DNS, to replicate from a primary site to a secondary site, either on-premises or in Azure.



Azure Site Recovery: Migrate

You can deploy Site Recovery to replication on-premises VMs and physical servers, and to migrate them.

When you replicate, you configure on-premises machines to replicate on a regular basis to Azure.

- Then when an outage occurs, you fail the machines over from the on-premises site to Azure, and access them from there.
- When the on-premises site is available again, you fail back from Azure.

When you use Site Recovery for migration, you replicate on-premises machines to Azure.

- Then you fail them over from your on-premises site to Azure, and finish up the migration process. There's no failback involved.

Azure Site Recovery: Migrate

Using Azure Site Recovery, you can:

Migrate on-premises Hyper-V VMs, VMware VMs, and physical servers to Azure.

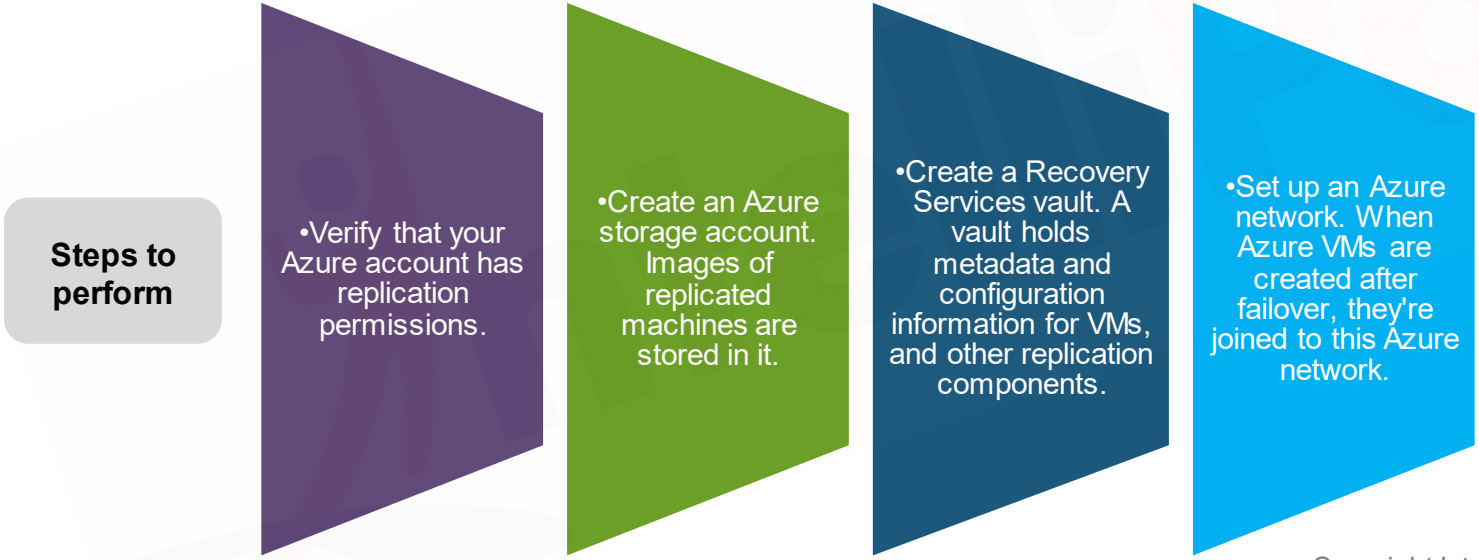
After the migration, workloads running on the on-premises machines will be running on Azure VMs.

Migrate Azure VMs between Azure regions.

Migrate AWS Windows instances to Azure VMs.

Prepare Azure resources for disaster recovery of on-premises machines

Azure Site Recovery contributes to your **business continuity and disaster recovery (BCDR)** strategy by keeping your business apps up and running during planned and unplanned outages. **Site Recovery** manages and **orchestrates disaster recovery** of on-premises machines and **Azure virtual machines (VMs)**, including **replication**, **failover**, and **recovery**.



Discover and assess on-premises VMware VMs for migration to Azure

The Azure Migrate services assesses on-premises workloads for migration to Azure.

Prerequisites

VMware:

The VMs that you plan to migrate must be managed by vCenter Server running version 5.5, 6.0, or 6.5. Additionally, you need one ESXi host running version 5.5 or higher to deploy the collector VM.

vCenter Server account:

You need a read-only account to access the vCenter Server. Azure Migrate uses this account to discover the on-premises VMs.

Permissions:

On the vCenter Server, you need permissions to create a VM by importing a file in .OVA format.

Discover and assess on-premises VMware VMs for migration to Azure

The Azure Migrate services assesses on-premises workloads for migration to Azure.

Steps to perform

- Verify that your Azure account has replication permissions.
- Create an Azure storage account. Images of replicated machines are stored in it.
- Create a Recovery Services vault. A vault holds metadata and configuration information for VMs, and other replication components.
- Set up an Azure network. When Azure VMs are created after failover, they're joined to this Azure network.

Hands-On

Hands-On

- ❑ Create Site Recovery Services
- ❑ Enable Replication between 2 regions for VM
- ❑ Perform the Failover & Failback

QUIZ

Quiz 1

Azure site recovery is_____?

A	a disaster recovery and business continuity service that provides replication and orchestration
B	a site recovery service which provides automation in your service
C	a service which helps only in fault tolerance of your service
D	a service used only to recover from the disaster

Answer 1

Azure site recovery is_____?

A	a disaster recovery and business continuity service that provides replication and orchestration
B	a site recovery service which provides automation in your service
C	a service which helps only in fault tolerance of your service
D	a service used only to recover from the disaster

Quiz 2

Does Site Recovery encrypt replication?

A Yes

B No

Answer 2

Does Site Recovery encrypt replication?

A Yes

B No

Quiz 3

Capacity Planner helps in _____?

A	evaluating the capacity of your cloud storage and provide you stats and prediction based on your usage.
B	evaluating your server usage and do the fault tolerance
C	evaluating the existing workloads that you intend to protect, and based on this analysis, it provides recommendations that are required to implement the protection.
D	evaluating the amount of workload and allot the storage according to the required need.

Answer 3

Capacity Planner helps in _____?

A	evaluating the capacity of your cloud storage and provide you stats and prediction based on your usage.
B	evaluating your server usage and do the fault tolerance
C	evaluating the existing workloads that you intend to protect, and based on this analysis, it provides recommendations that are required to implement the protection.
D	evaluating the amount of workload and allot the storage according to the required need.

Quiz 4

Azure Site Recovery can integrate with?

A. Exchange Servers

B. Database Servers

C. Microsoft Dynamics CRM

D. All of the above

Answer 4

Azure Site Recovery can integrate with?

A	Exchange Servers
B	Database Servers
C	Microsoft Dynamics CRM
D	All of the above

Quiz 5

Can you Migrate Azure VMs between Azure Regions?

A	Yes
B	No

Answer 5

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Can you Migrate Azure VMs between Azure Regions?

A	Yes
B	No

Quiz 6

The VMs that you plan to migrate must be managed by vCenter Server running version of?

A	5.5
B	6.0
C	6.5
D	All of the above

Answer 6

The VMs that you plan to migrate must be managed by vCenter Server running version of?

A	5.5
B	6.0
C	6.5
D	All of the above

Answer 7

Why does Azure Migrate uses the vCenter Server Account?

A	To migrate on-premise servers to Azure cloud
B	To migrate on cloud database to on-premise servers
C	To discover the on-premise VMs
D	To discover the regions where your VMs are being deployed

Quiz 7

Why does Azure Migrate uses the vCenter Server Account?

A	To migrate on-premise servers to Azure cloud
B	To migrate on cloud database to on-premise servers
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D	To discover the regions where your VMs are being deployed

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