

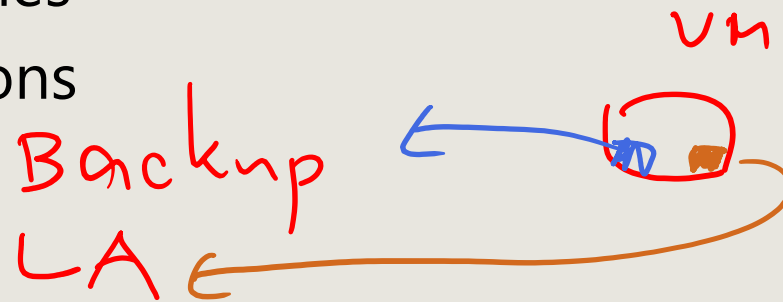
# AZ-104

## Administer Data Protection



# AZ-104 Agenda

- 01: Administer Identity
- 02: Administer Governance and Compliance
- 03: Administer Azure Resources
- 04: Administer Virtual Networking
- 05: Administer Intersite Connectivity
- 06: Administer Network Traffic Management
- 07: Administer Azure Storage
- 08: Administer Azure Virtual Machines
- 09: Administer PaaS Compute Options
- 10: Administer Data Protection
- 11: Administer Monitoring



# Learning Objectives - Administer Data Protection

- Introduction to Azure Backup
- Protect your virtual machines by using Azure Backup
- Lab 10 – Implement Data Protection



# Introduction to Azure Backup

Azure Site Recovery ASR

Replication



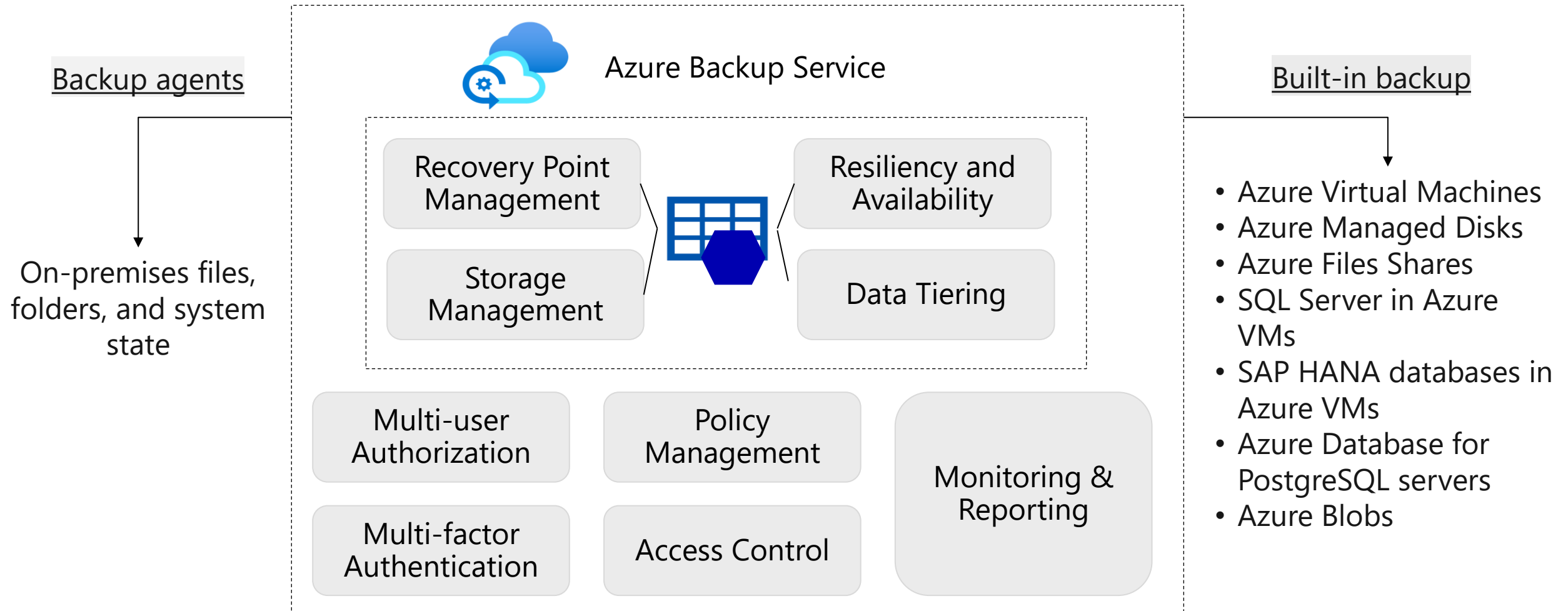
# Learning Objectives – Introduction to Azure Backup

- What is Azure Backup?
- How Azure Backup works
- Use the Azure Business Continuity Center
- Demonstration – Backup Azure File Shares
- Learning Recap

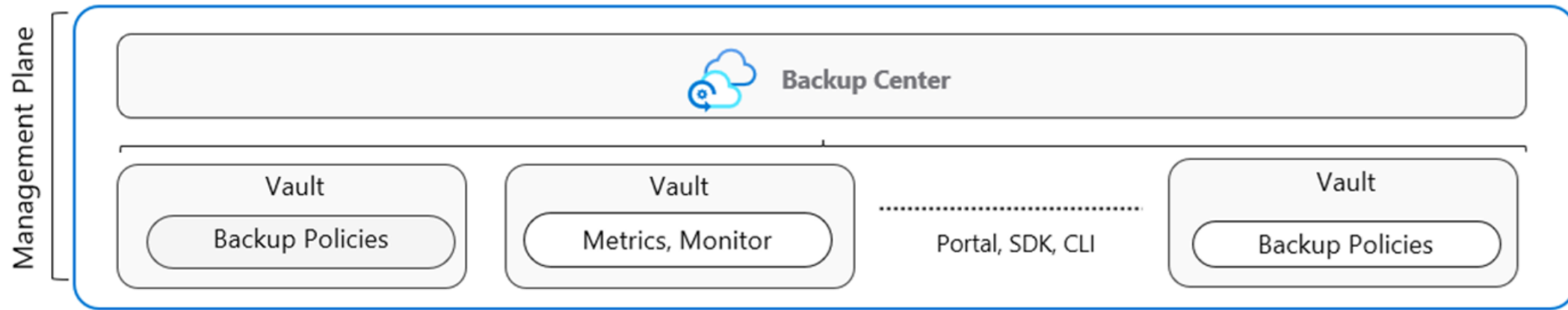
Monitor and maintain Azure resources (10–15%): Implement backup and recovery

- Create a Recovery Services vault
- Create an Azure Backup vault
- Create and configure a backup policy
- Configure and interpret reports and alerts for backups

# What is Azure Backup?



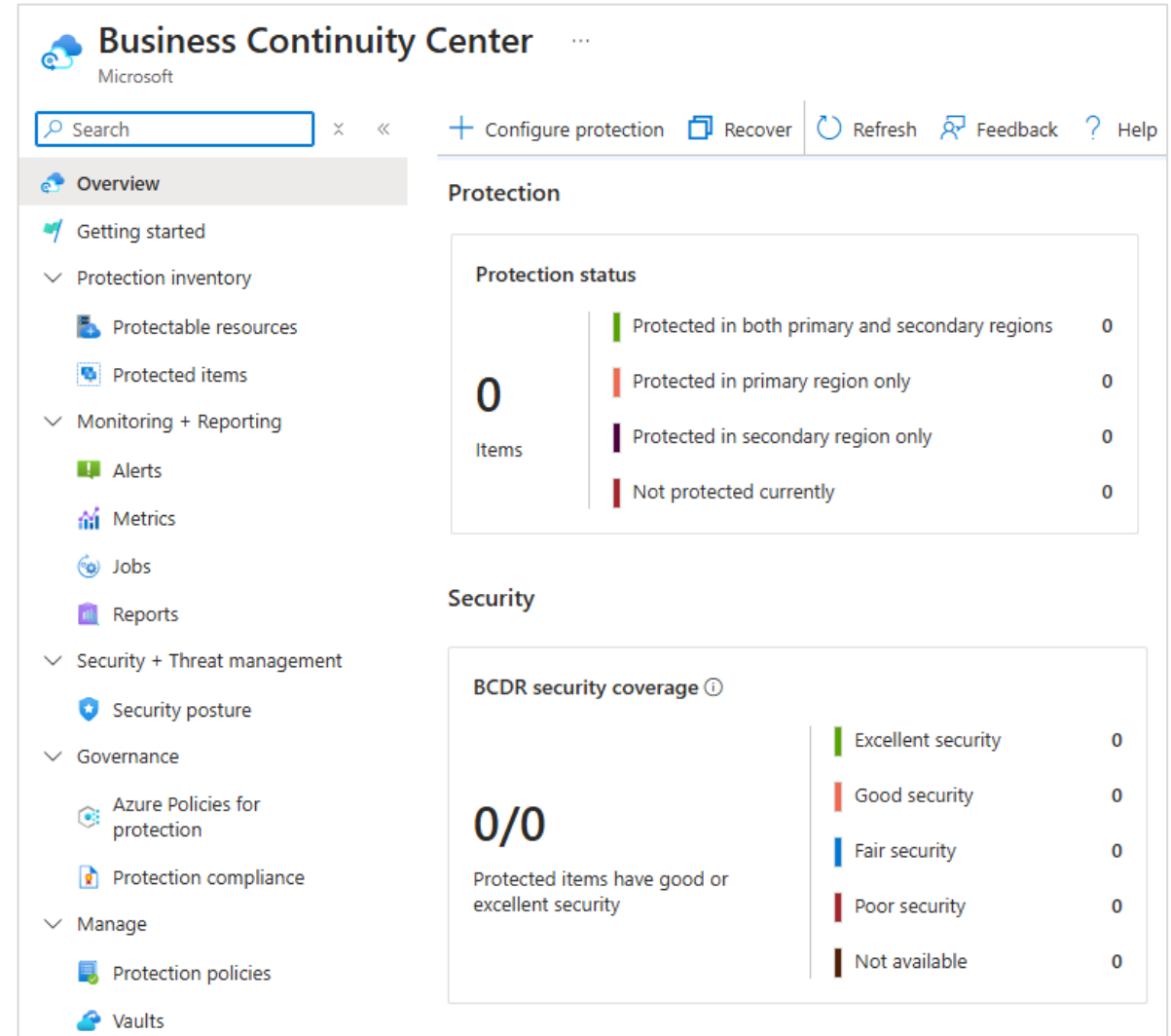
# How Azure Backup works (vaults and policies)



- Vaults store backup copies, recovery points, and backup policies
- Two types of vaults: Backup vault and Recovery Service vault
- Backup Policies define the data source, storage vault, and backup schedule
- The Business Continuity Center provides a single unified management experience (next slide)

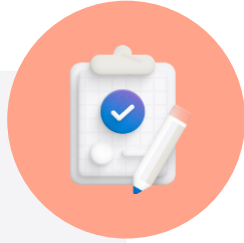
# Use the Azure Business Continuity Center

- Single pane of glass to manage BCDR protection
- Action center to protect Azure, Hybrid, and Edge environments
- At-scale unified monitoring capabilities across the solutions
- Evaluates your current configuration and proactively notifies you of any gaps
- View compliance against the applied policies





# Learning Recap – Introduction to Azure Backup



## Reference modules

- [Introduction to Azure Backup](#)

Check your  
knowledge  
questions and  
additional  
study

# Protect your virtual machines by using Azure Backup



# Learning Objectives – Protect your virtual machines with Azure Backup

- Explore options to protect virtual machine data
- Create virtual machine snapshots in Azure Backup
- Setup Recovery Services Vault backup options
- Backup Virtual Machines
- Restore Virtual Machines
- Demonstration – Virtual Machine Backups
- Manage soft delete (optional)
- Implement Azure Site Recovery
- Learning Recap

Monitor and maintain Azure resources (10–15%): Implement backup and recovery

- Perform backup and restore operations by using Azure Backup
- Configure Azure Site Recovery for Azure resources
- Perform a failover to a secondary region by using Site Recovery

# Explore options to protect virtual machine data

## Snapshots

Managed snapshots provide a quick and simple option for backing up VMs that use Managed Disks

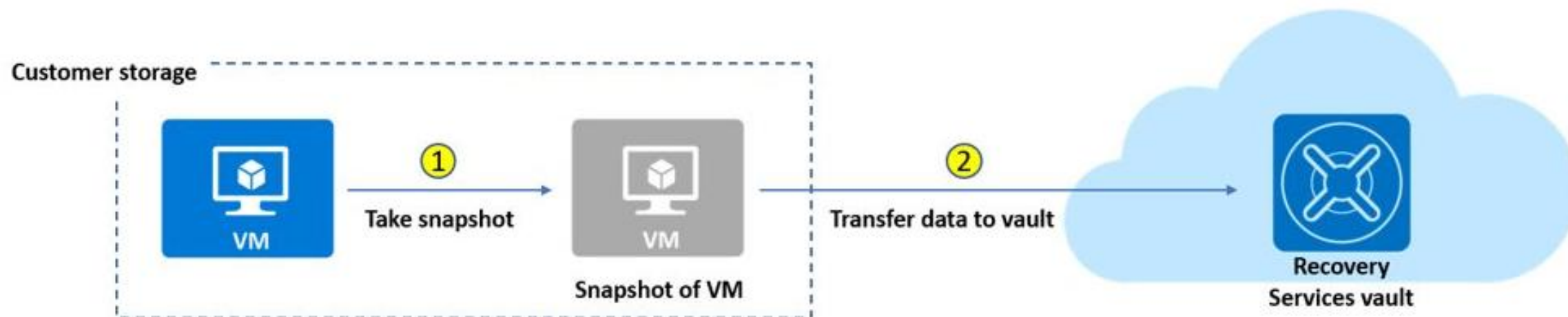
## Azure Backup

Azure Backup supports application-consistent backups for both Windows and Linux VMs

## Azure Site Recovery

Azure Site Recovery protects your VMs from a major disaster scenario when a whole region experiences an outage

# Create virtual machine snapshots in Azure Backup



Use snapshots taken as part of a backup job


Reduces recovery wait times – don't wait for data transfer to the vault to finish

Configure Instant Restore retention (standard or enhanced)

# Set up Azure Recovery Services vault backup options

Multiple servers can be protected using the same Recovery Services vault

## Azure Workloads

 vault135 | Backup ☆


Recovery Services vault

Where is your workload running?


Azure


▼


What do you want to backup?


 Virtual machine

▼


 Virtual machine

 Azure file share

 SQL Server in Azure VM

 SAP HANA in Azure VM

## On-Premises Workloads

 vmbackuptest - Backup

Recovery Services vault

Where is your workload running?

On-Premises

▼

What do you want to backup?

4 selected

^

☐ Files and folders

☒ Hyper-V Virtual Machines

☒ VMware Virtual Machines

☐ Microsoft SQL Server

☐ Microsoft SharePoint

☐ Microsoft Exchange

☒ System State

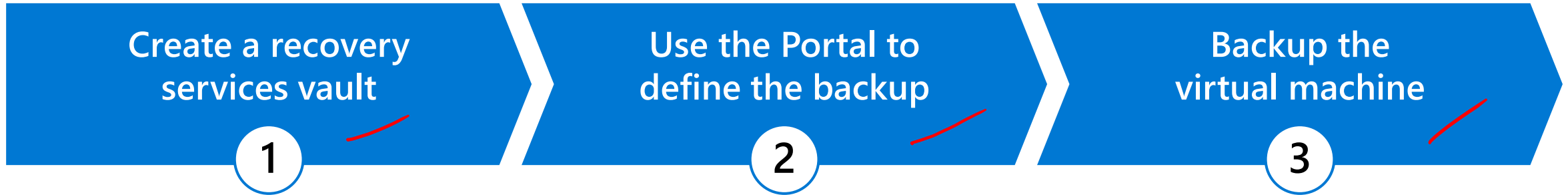
☒ Bare Metal Recovery

Step: Prepare Infrastructure

Prepare Infrastructure

MARS

# Backup Virtual Machines



Use a Recovery Services Vault in the region where you are performing your Virtual Machine backups and choose a replication strategy for Vault


Take snapshots (recovery points) of your data at defined intervals. These snapshots are stored in recovery services vaults






For the Backup extension to work, the Azure VM Agent must be installed on the Azure virtual machine

# Restore Virtual Machines



Once you trigger the restore operation, the Backup service creates a job for tracking the restore operation

The Backup service also creates and temporarily displays notifications, so you monitor how the backup is proceeding

 **ContosoWebFE1**  
Backup Item

 Backup now  Restore VM  File Recovery  Stop backup  Resume backup

Alerts and Jobs  
[View all Alerts](#) (last 24 hours)  
[View all Jobs](#) (last 24 hours)

Backup status  
Backup Pre-Check  Passed  
Last backup status  Success 3/12/2020, 12:20:38 AM

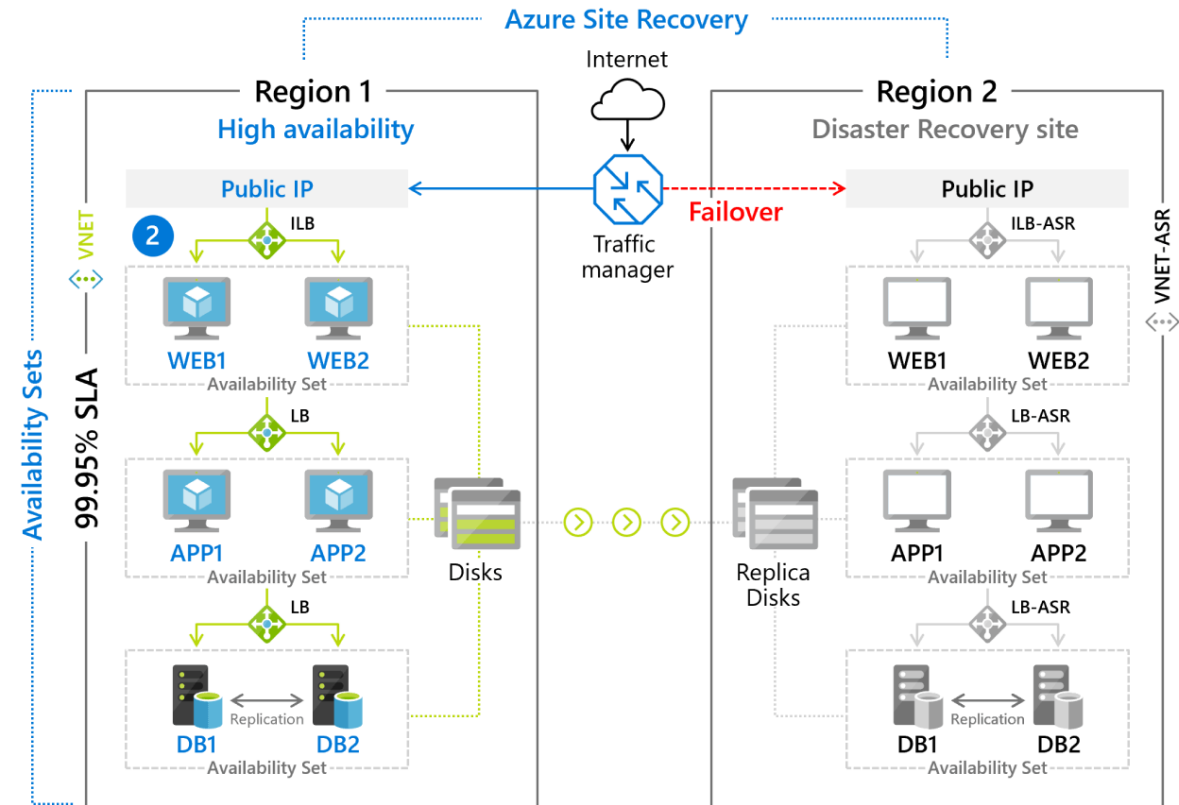
**Restore points (30)**

CRASH CONSISTENT	APPLICATION CONSISTENT	FILE-SYSTEM CONSISTENT
30	0	0
Time	Consistency	
	↑↓	
3/12/2020, 12:20:42 AM	Crash Consistent	
3/11/2020, 12:20:59 AM	Crash Consistent	

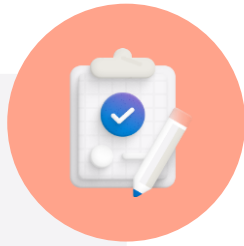


# Implement Azure Site Recovery

- Manages the orchestration of disaster recovery
- Replicates workloads continuously from a primary location or region to a secondary location
- Failover to shift to the secondary location; failback to return to the primary location



# Learning Recap – Protect your virtual machines by using Azure Backup



Check your  
knowledge  
questions and  
additional  
study

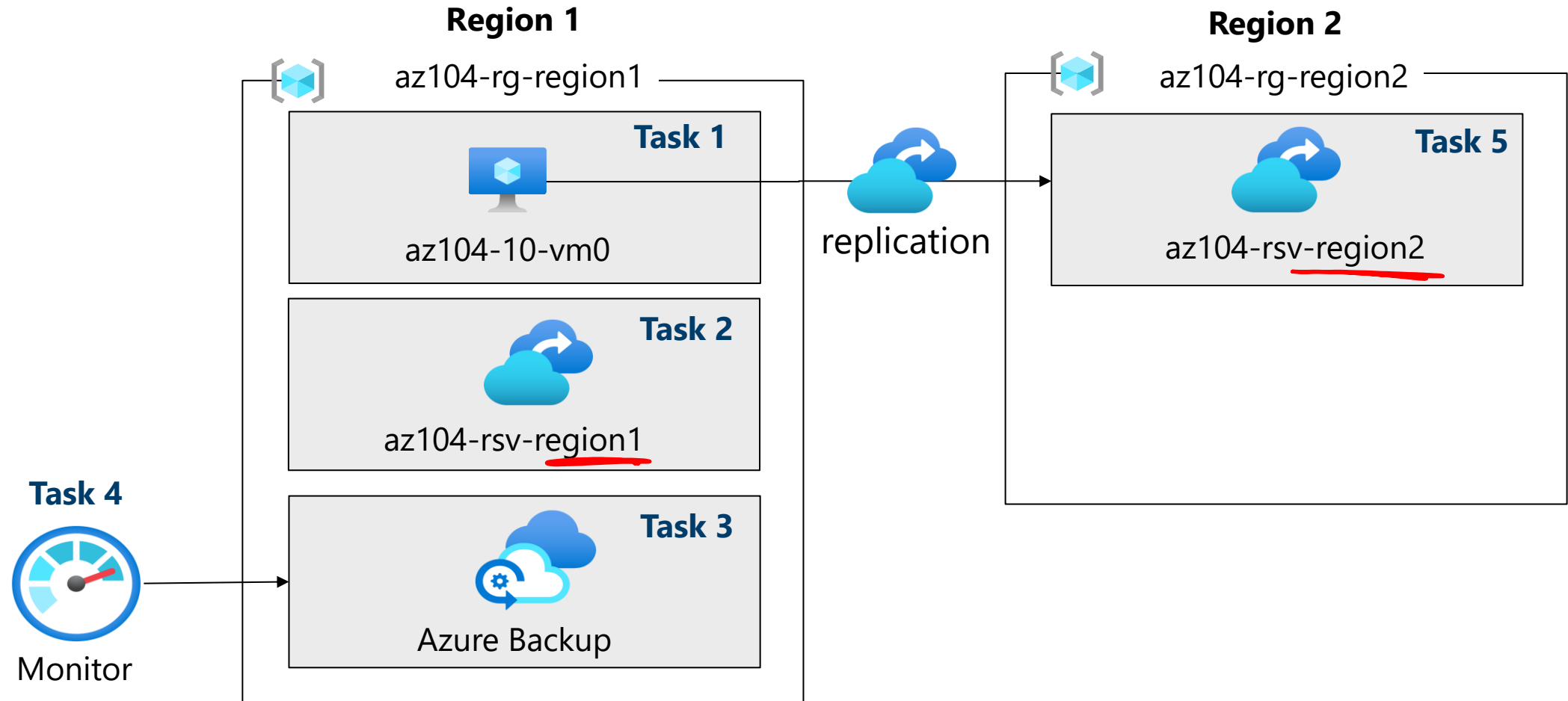
## Reference modules

- [Protect your virtual machines by using Azure Backup](#)
- [Monitor workload protection in Azure Backup](#)
- [Implement hybrid backup and recovery with Windows Server IaaS](#)

# Lab – Implement Data Protection



# Lab 10 – Architecture diagram



# End of presentation

