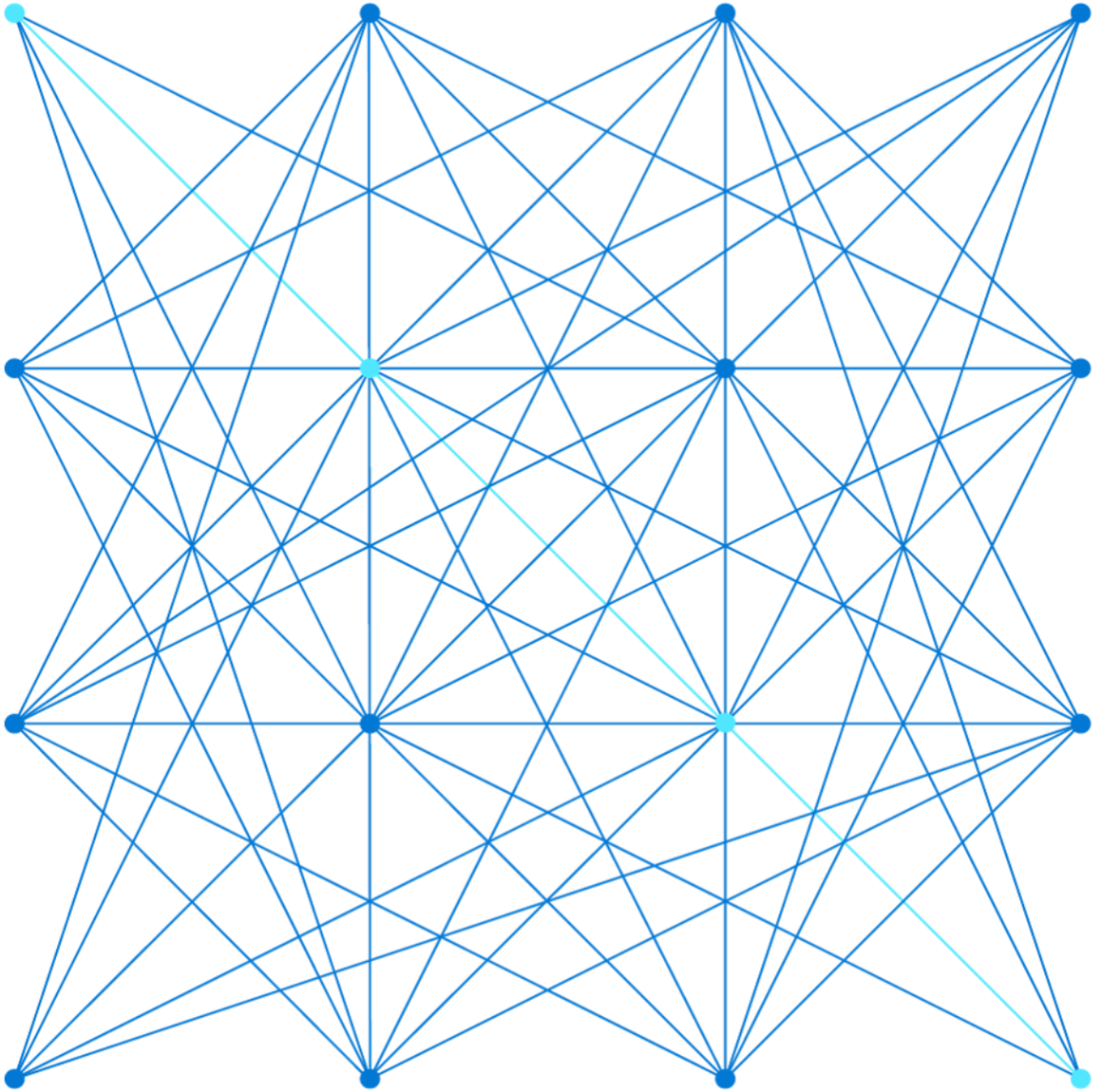
Microsoft Azure

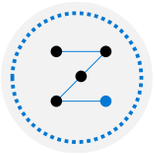
AZ-104

Administer Data Protection



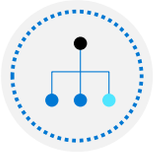
About this course: Course Outline

01: Administer Identity



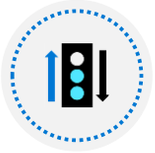
02: Administer Governance and Compliance

03: Administer Azure Resources



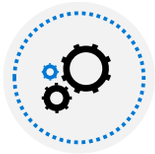
04: Administer Virtual Networking

05: Administer Intersite Connectivity



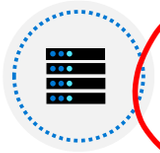
06: Administer Network Traffic Management

07: Administer Azure Storage



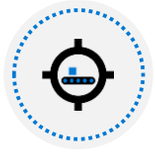
08: Administer Azure Virtual Machines

09: Administer PaaS Compute Options



10: Administer Data Protection

Backup



11: Administer Monitoring

Administer Network Protection Introduction

Configure File and Folder Backups

Configure Virtual Machine Backups

Lab 10 – Implement Data Protection

Configure File and Folder Backups

Configure File and Folder Backups Introduction

Describe Azure Backup Benefits

Implement Azure Backup Center

Setup Recovery Service Vault Backup Options

Demonstration – Backup Azure File Shares

Configure On-premises File and Folder Backups

Manage the Microsoft Azure Recovery Services Agent

Demonstration – Backup Files and Folders

Summary and Resources

Describe Azure Backup Benefits

Azure-based service used to back up and restore data in Microsoft cloud

Automatic Storage Management

Multiple storage options

Unlimited data transfer

Data encryption

Application consistent backup

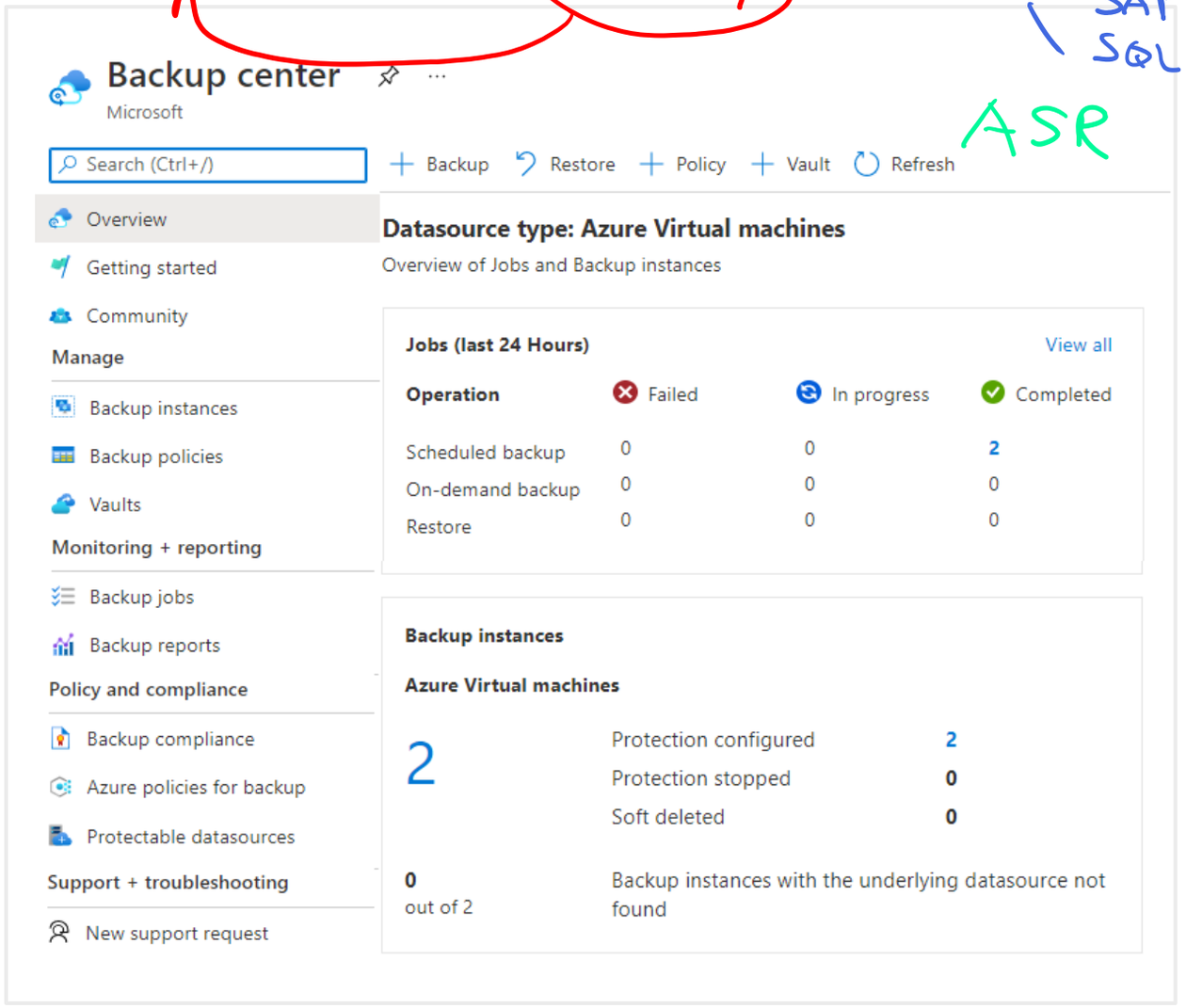
Long-term retention

Implement Azure Backup Center

Single pane of glass to manage backups across a large and distributed Azure environment

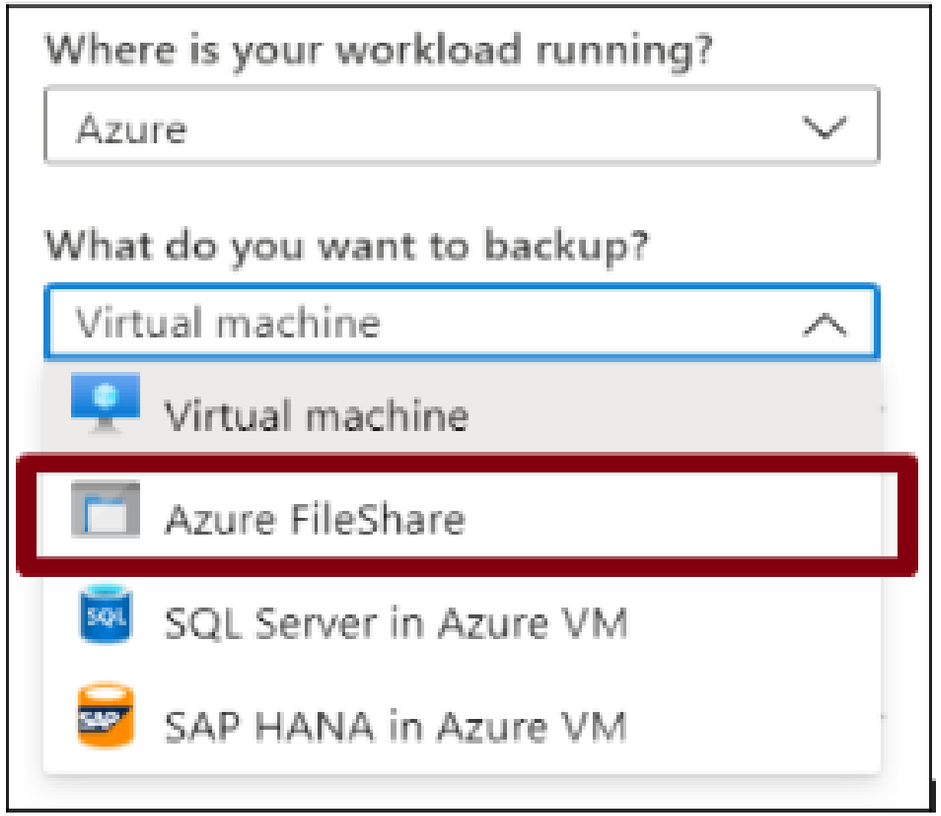
Datasource-centric management focused on what you are backing up

Connected experiences with native integrations that enables management at scale

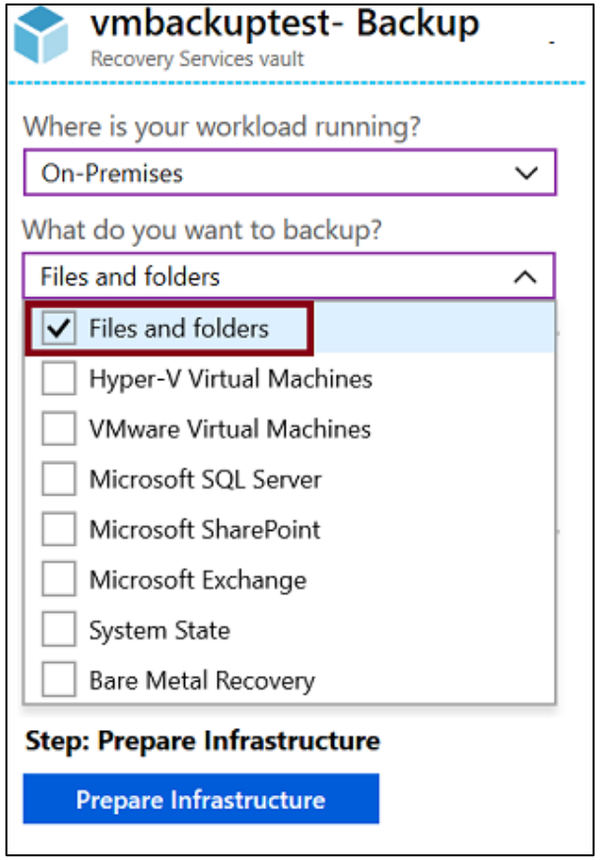


Setup Recovery Services Vault Backup Options - Files

Azure Workloads



On-Premises Workloads



Demonstration – Backup Azure File Shares

Configure a storage account with file share

Create a Recovery Services vault

Configure file share backup

Verify the file share backup

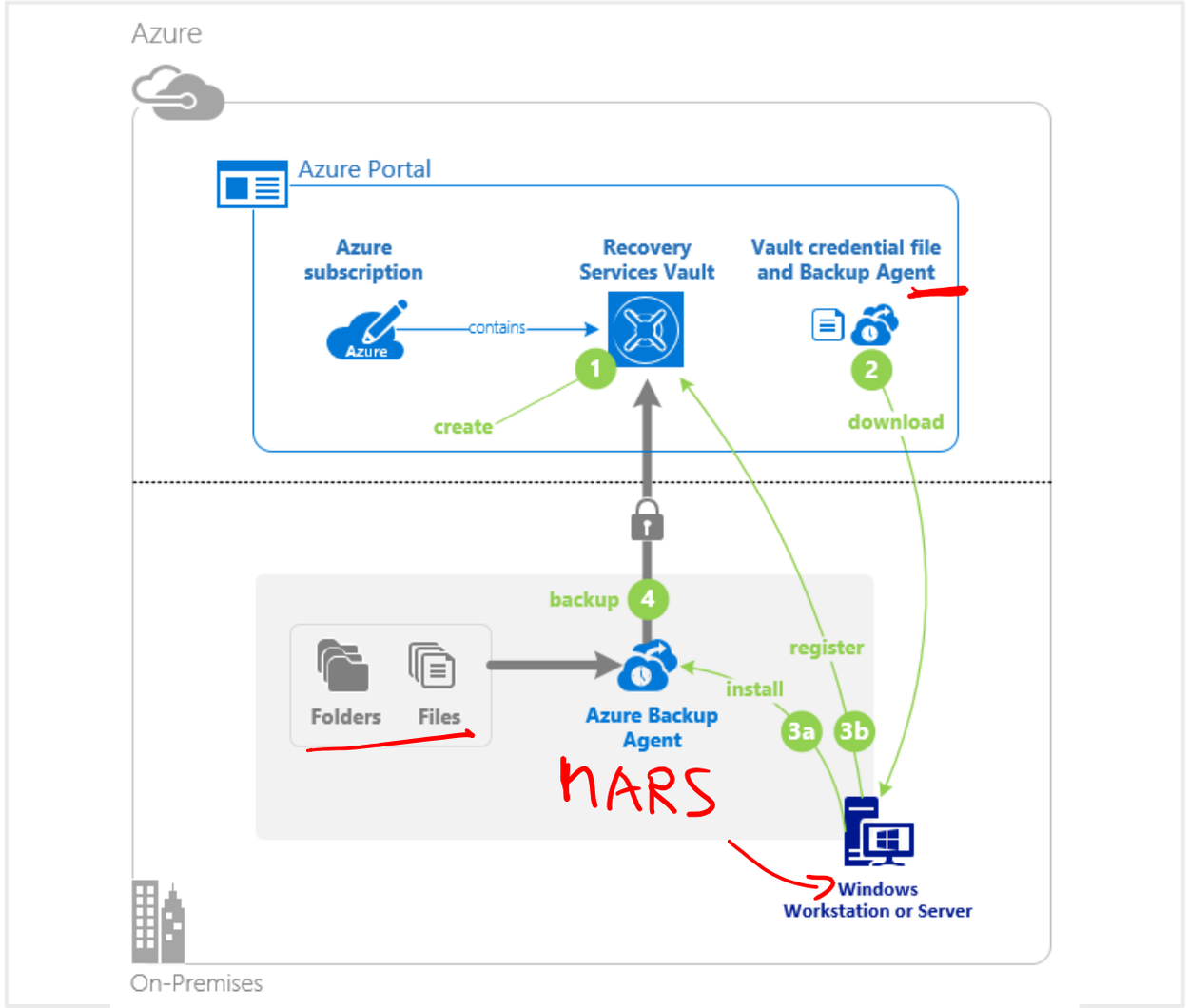
Configure On-Premises File and Folder Backup

1. Create the recovery services vault

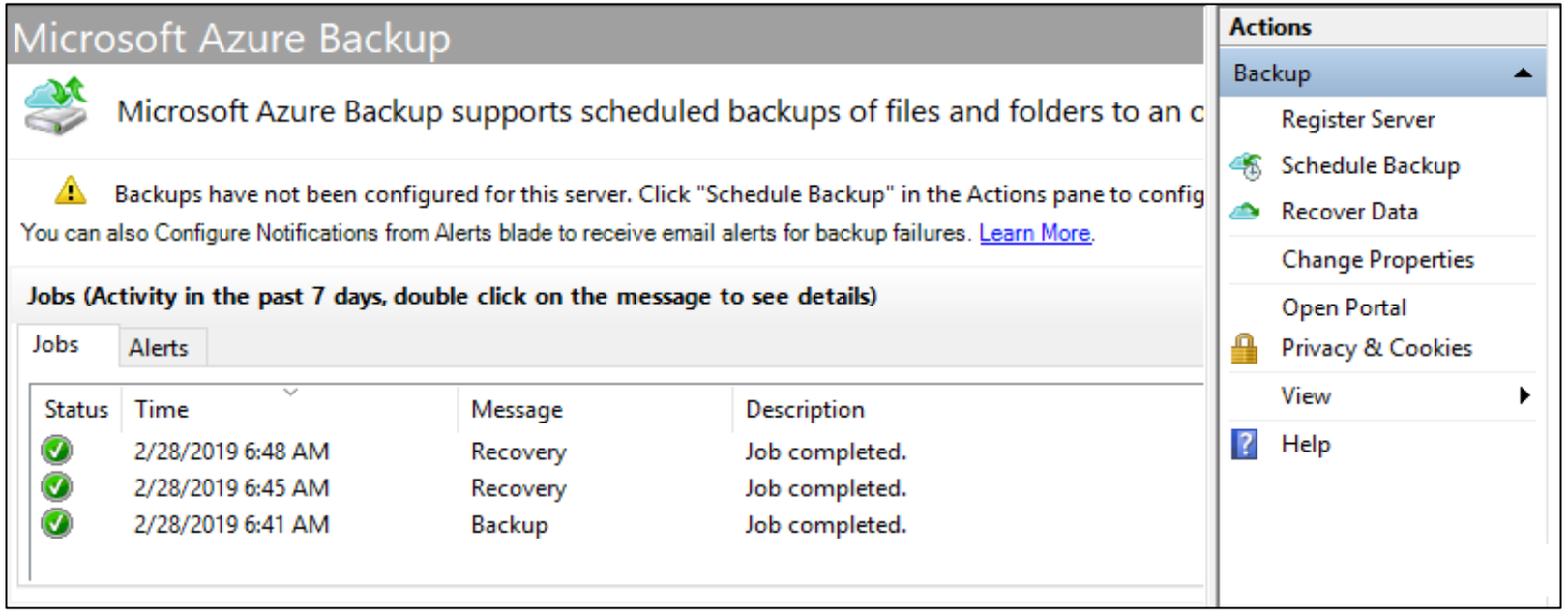
2. Download the agent and credential file

3. Install and register agent

4. Configure the backup



Manage the Microsoft Azure Recovery Services Agent



Backup or recover files and folders on physical or virtual Windows OS (VMs can be on-premises or in Azure)

No separate backup server required

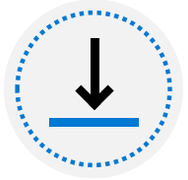
Not application aware; file, folder, and volume-level restore only

No support for Linux

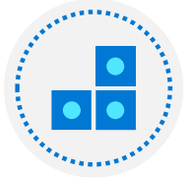
Demonstration – Backup Files and Folders

Create a Recovery Services vault

Configure the vault

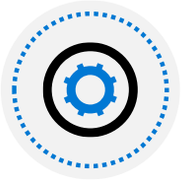


Install and register the agent



Create the backup policy

Backup files and folders



Explore the recover settings

Explore the backup properties

Delete your backup schedule

Summary and Resources – Configure File and Folder Backups

Knowledge Check Questions

Microsoft Learn Modules (docs.microsoft.com/Learn)

Introduction to Azure Backup

Configure Virtual Machine Backups

Configure Virtual Machine Backups Introduction


Protect Virtual Machine Data


Create Virtual Machine Snapshots


Setup Recovery Services Vault Backup Options


Backup Virtual Machines


Restore Virtual Machines


Demonstration – Virtual Machine Backups


Implement Azure Backup Server


Compare Backup Options


Manage Soft Delete

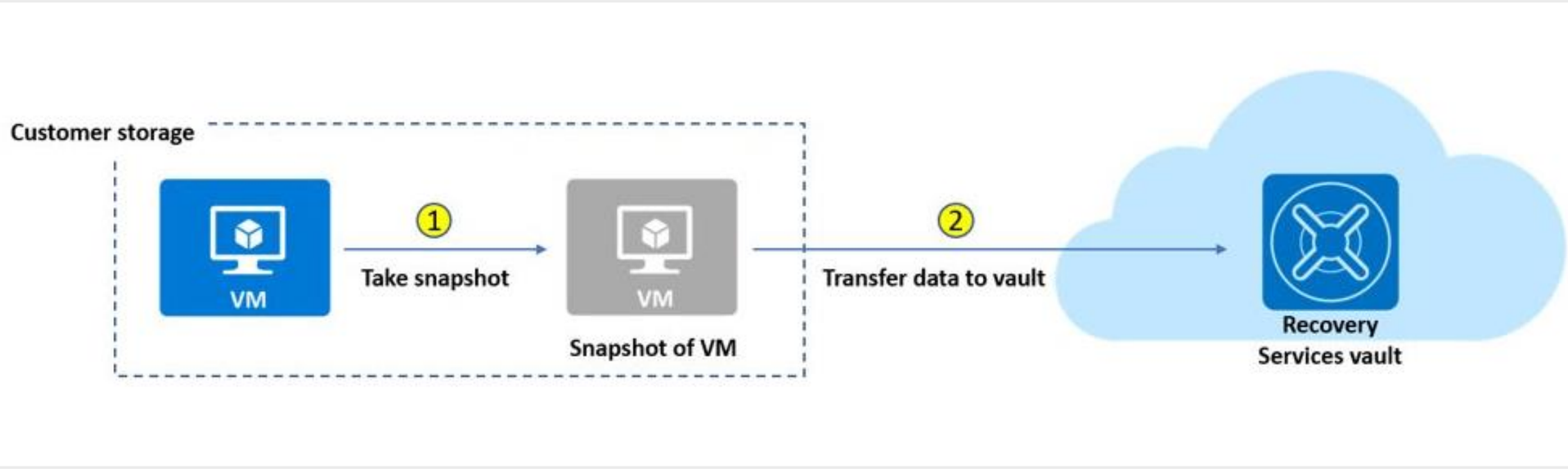

Implement Azure Site Recovery


Summary and Resources

Protect Virtual Machine Data

Snapshots	Azure backup	Azure Site Recovery
Managed snapshots provide a quick and simple option for backing up VMs that use Managed Disks	Azure Backup supports application-consistent backups for both Windows and Linux VMs	Azure Site Recovery protects your VMs from a major disaster scenario when a whole region experiences an outage

Create Virtual Machine Snapshots



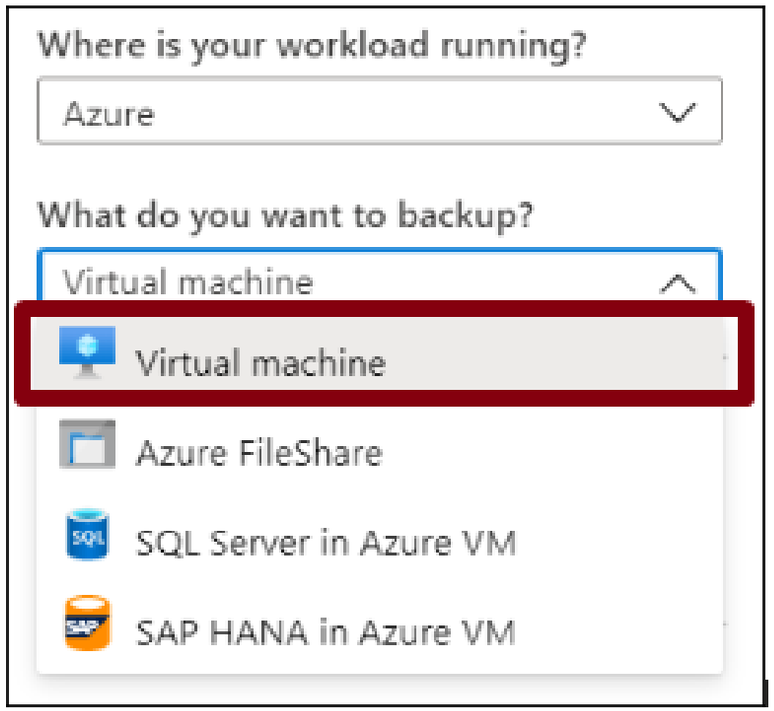
Use snapshots taken as part of a backup job

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

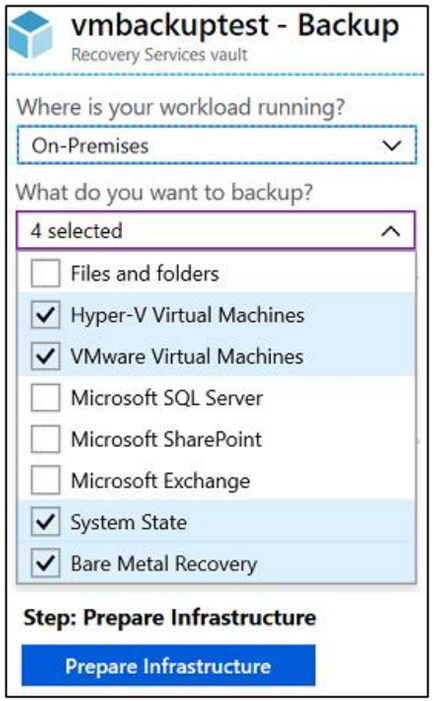
Configure Instant Restore retention (1 to 5 days)

Setup Recovery Services Vault Backup Options - VMs

Azure Workloads

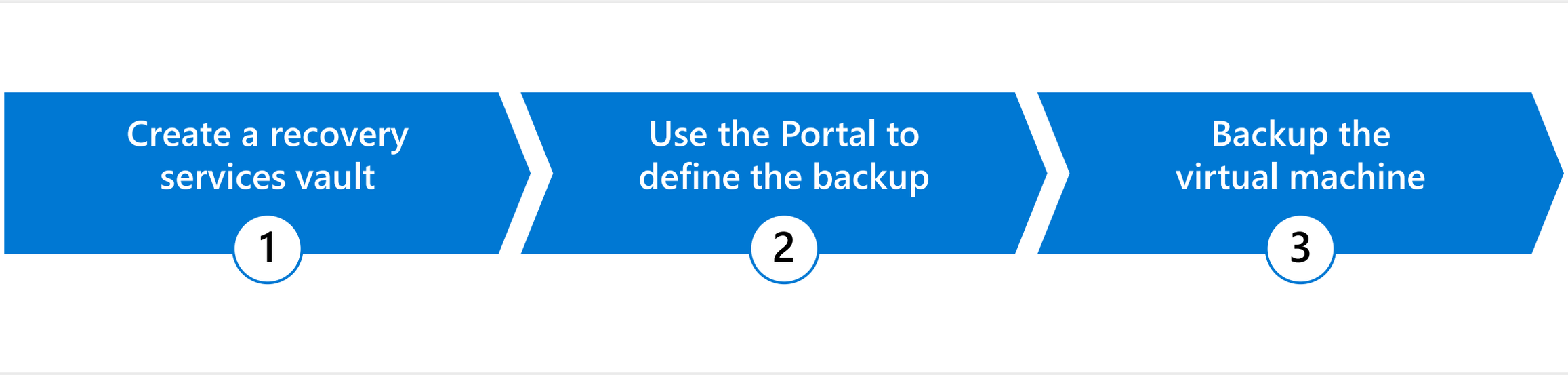


On-Premises Workloads



✓ Multiple servers can be protected using the same Recovery Services vault

Backup Virtual Machines



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

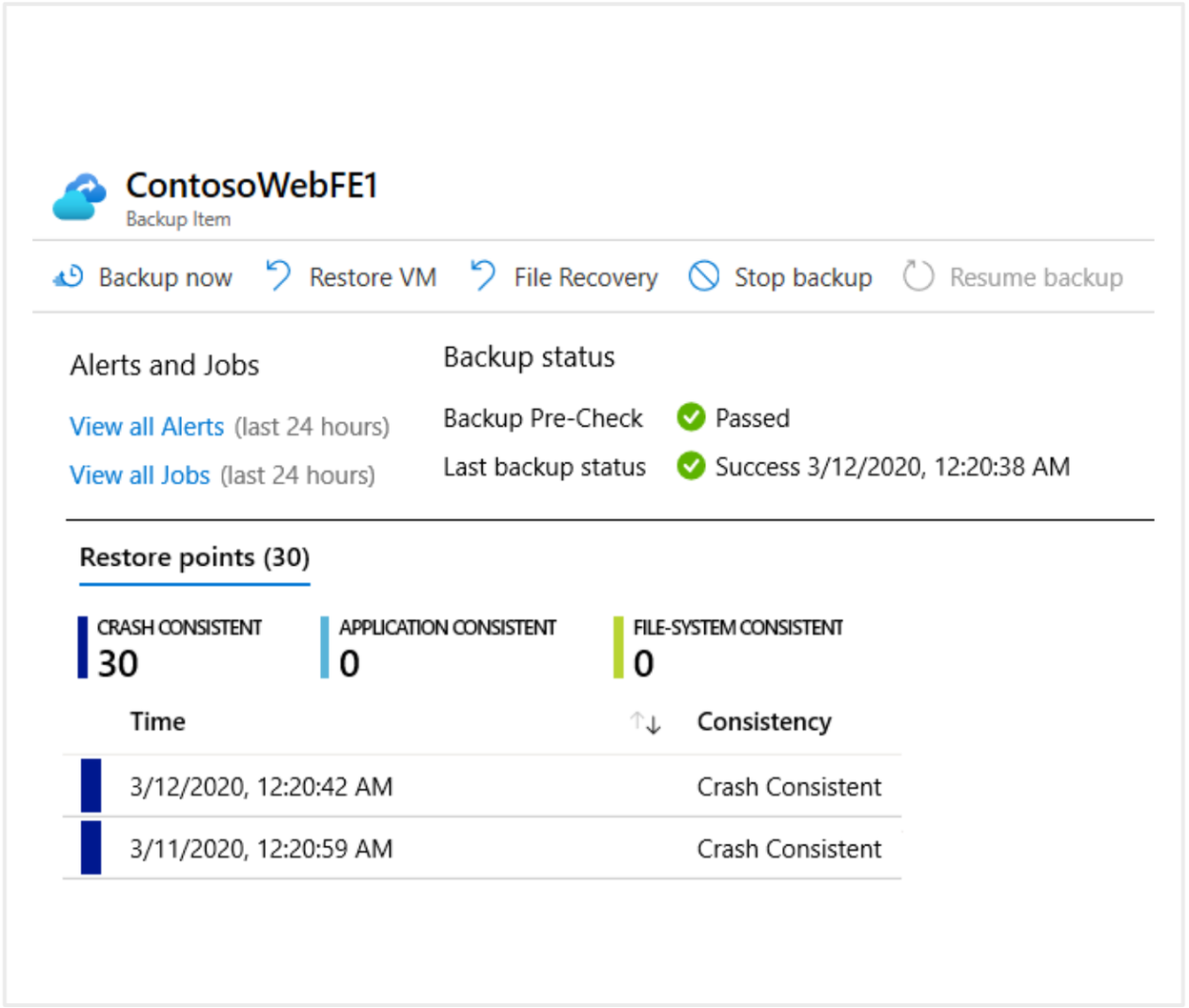
2. Take snapshots (recovery points) of your data at defined intervals. These snapshots are stored in recovery services vaults

3. 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

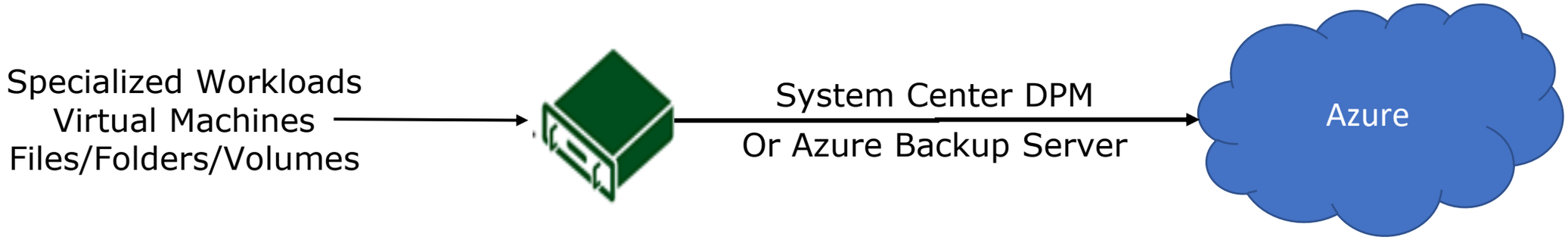


Demonstration – Virtual Machine Backups

Enable a backup on a virtual machine

Start a backup job and monitor the progress

Implement Azure Backup Server



App-aware backups, file/folder/volume backups, and machine state backups (bare-metal, system state)

Each machine runs the DPM/MABS protection agent, and the MARS agent runs on the MABS/DPM

Flexibility and granular scheduling options

Manage backups for multiple machines in a protection group

Compare Backup Options

Component	Benefits	Limits	Protects	Backup Storage
Azure Backup (MARS) agent	• Backup files and folders on physical or virtual Windows OS • No separate backup server required	• Backup 3x per day • Not application aware • File, folder, and volume-level restore only • No support for Linux	• Files • Folders	• Recovery services vault
Azure Backup Server (MABS)	• App aware snapshots • Full flex for when to backups • Recovery granularity • Linux support on Hyper-V and VMware VMs • Backup and restore VMware VMs • Doesn't require a System Center license	• Cannot backup Oracle workloads • Always requires live Azure subscription • No support for tape backup	• Files • Folders • Volumes • VMs • Applications • Workloads	• Recovery services vault • Locally attached disk

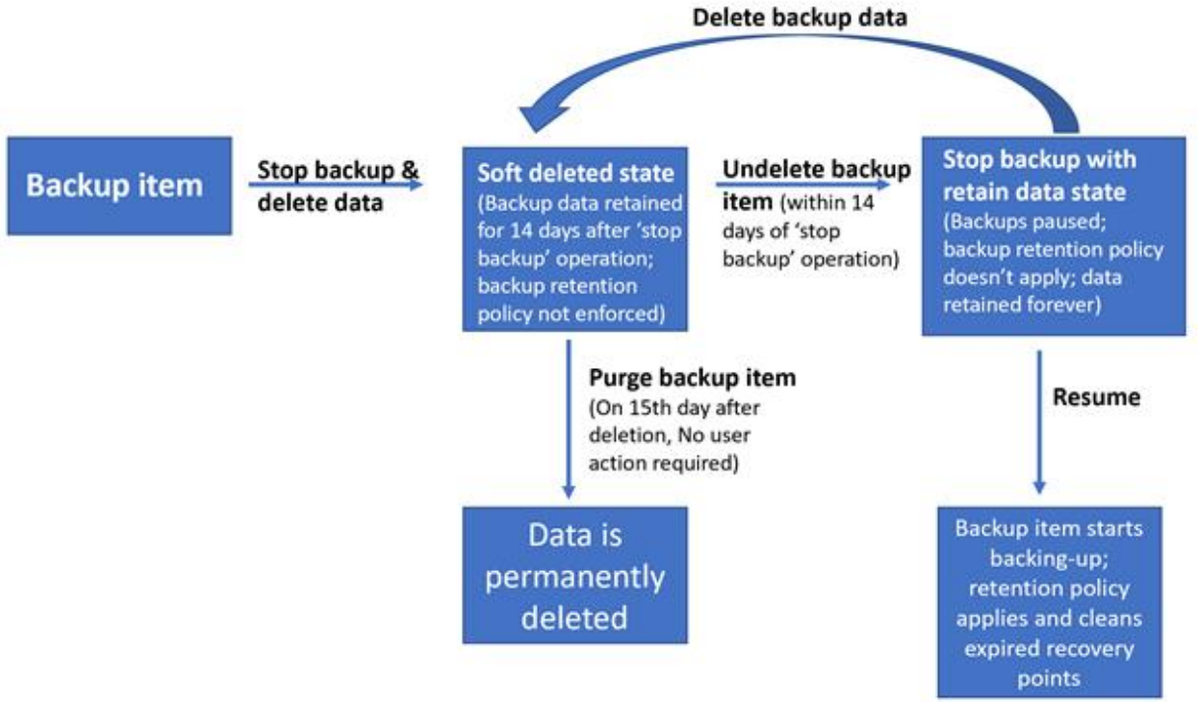
Manage Soft Delete

Backup data is retained for 14 additional days

Recover soft deleted backup items using an ‘Undelete’ operation

Also available for storage account containers and file shares

Natively built-in for all the recovery services vaults



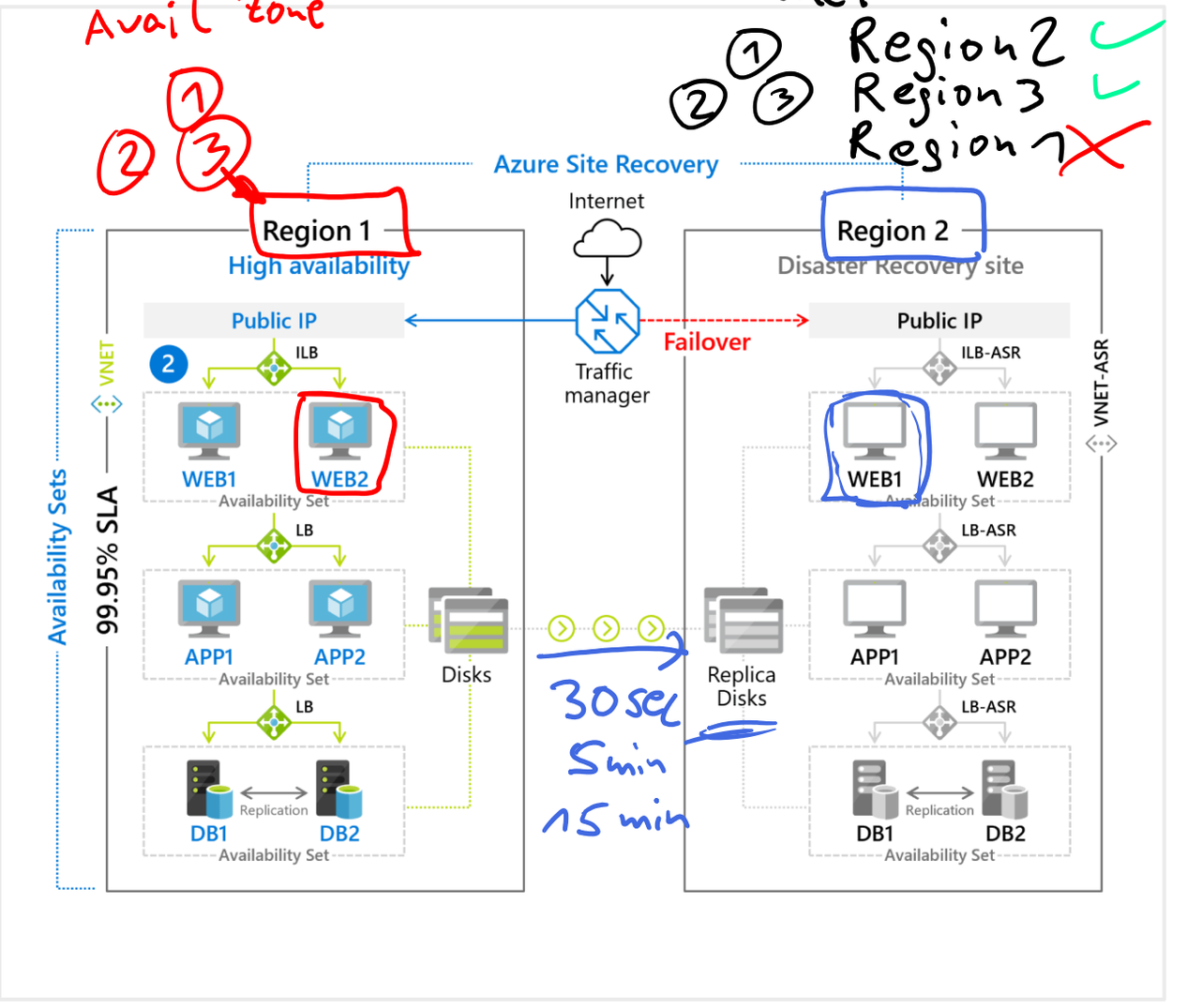
Implement Azure Site Recovery

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



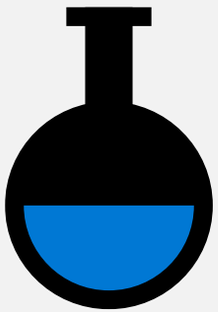
Summary and Resources – Configure Virtual Machine Backups

Knowledge Check Questions

Microsoft Learn Modules (docs.microsoft.com/Learn)

- Introduction to Azure Backup
- Protect your virtual machines by using Azure Backup
- Implement hybrid backup and recovery with Windows Server IaaS
- Protect your Azure infrastructure with Azure Site Recovery

Lab 10 – Implement Data Protection



Lab 10 – Backup virtual machines

Lab scenario

You have been tasked with evaluating the use of Azure Recovery Services for backup and restore of files hosted on Azure virtual machines and on-premises computers. In addition, you want to identify methods of protecting data stored in the Recovery Services vault from accidental or malicious data loss

Objectives

Task 1:
Provision the lab environment

Task 2:
Create a Recovery Services vault

Task 3:
Implement Azure virtual machine-level backup

Task 4:
Implement File and Folder backup

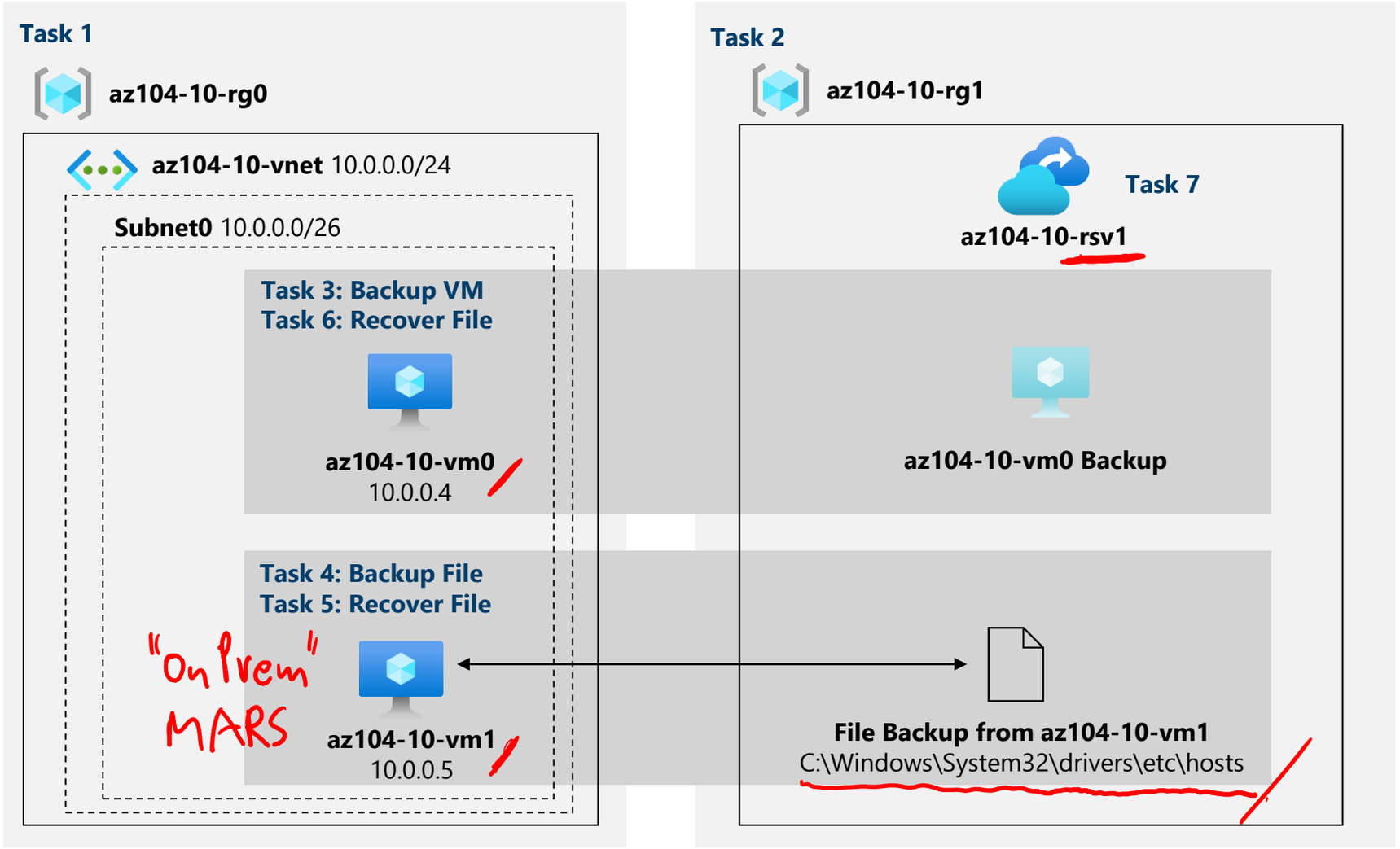
Task 5:
Perform file recovery by using Azure Recovery Services agent

Task 6:
Perform file recovery by using Azure virtual machine snapshots

Task 7:
Review the Azure Recovery Services soft delete functionality

Next slide for an architecture diagram

Lab 10 – Architecture diagram



End of presentation