AZ-104
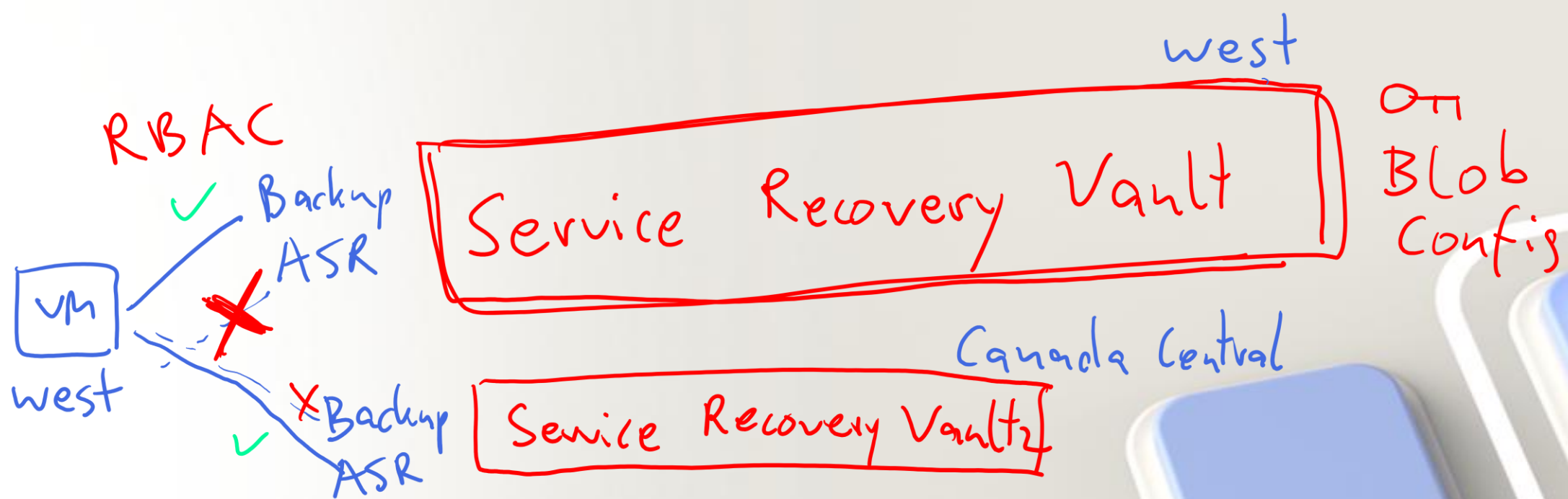
Administer Data Protection

AZ-104 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

11: Administer Monitoring

Learning Objectives - Administer Network Protection

- Introduction to Azure Backup
- Configure Virtual Machine Backups
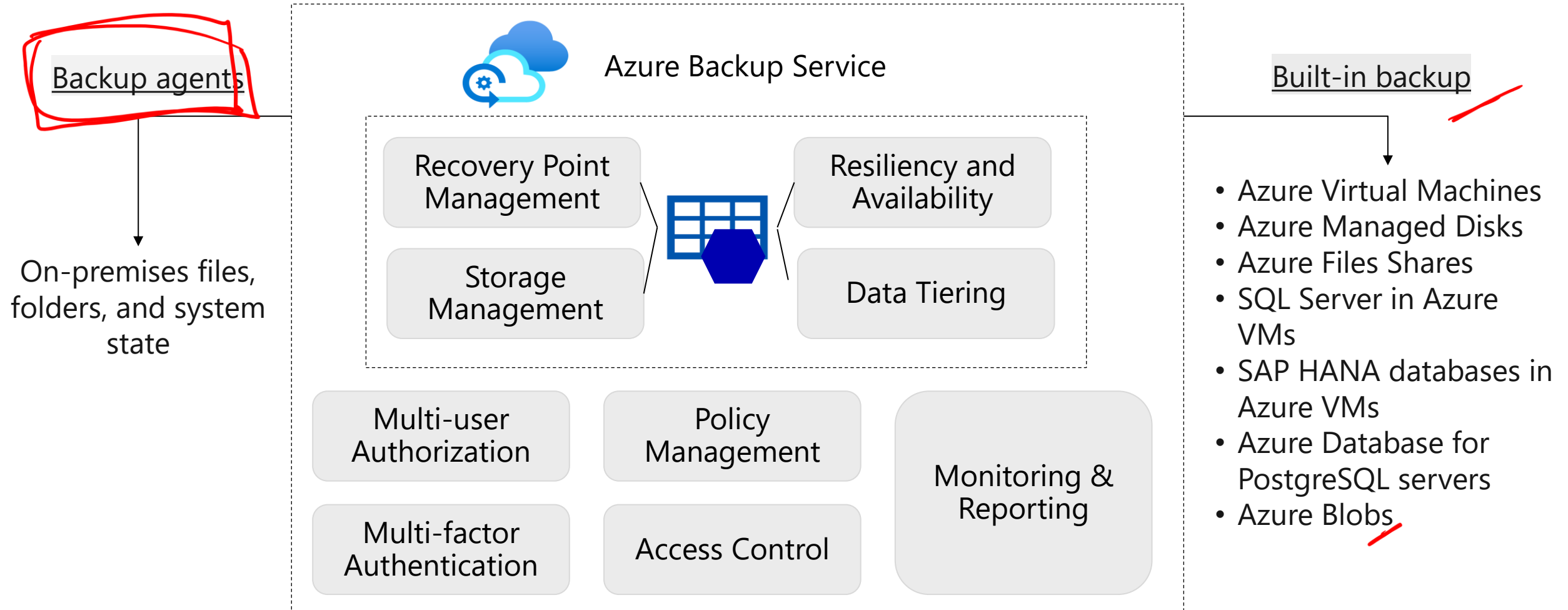- Lab 10 – Implement Data Protection
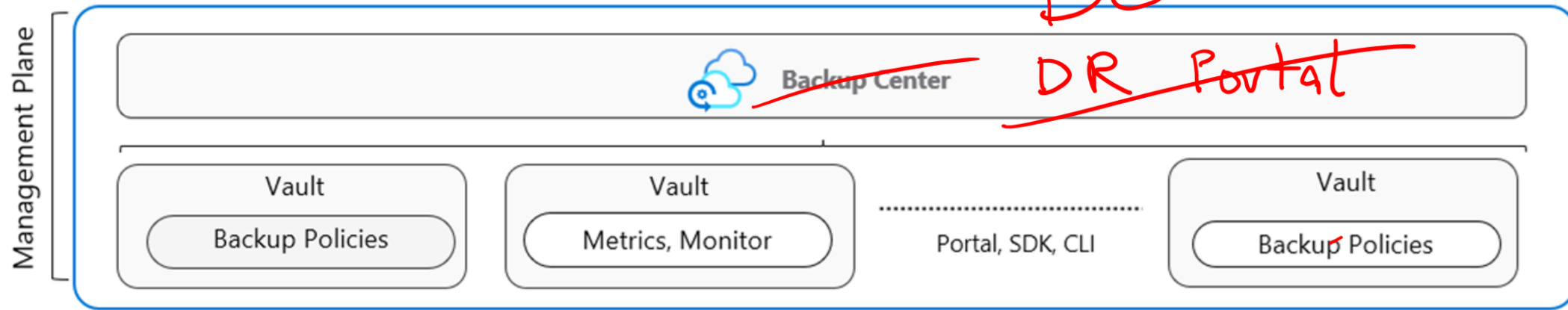
Site Recovery

Introduction to Azure Backup

RBAC

✓ Backup
ASR ✗

Service Recovery Vault — west   Oπ Blob Config

VM west

✗ Backup
✓ ASR

Service Recovery Vault2 — Canada Central

VSS

RSA Keys
Secrets
x.509 pem Cert

Key Vault

What is Azure Backup?

Backup agents

On-premises files, folders, and system state

Azure Backup Service

- Recovery Point Management
- Storage Management
- Resiliency and Availability
- Data Tiering

- Multi-user Authorization
- Multi-factor Authentication
- Policy Management
- Access Control
- Monitoring & Reporting

Built-in backup

- Azure Virtual Machines
- Azure Managed Disks
- Azure Files Shares
- SQL Server in Azure VMs
- SAP HANA databases in Azure VMs
- Azure Database for PostgreSQL servers
- Azure Blobs

How Azure Backup works (vaults and policies)

Handwritten annotations: BC Center, DR Portal

- 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 Backup Center provides a single unified management experience (next slide)

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

Learning Recap – Introduction to Azure Backup

Check your knowledge questions and additional study

- Introduction to Azure Backup

Configure Virtual Machine Backups

Explore options to protect virtual machine data

VSS

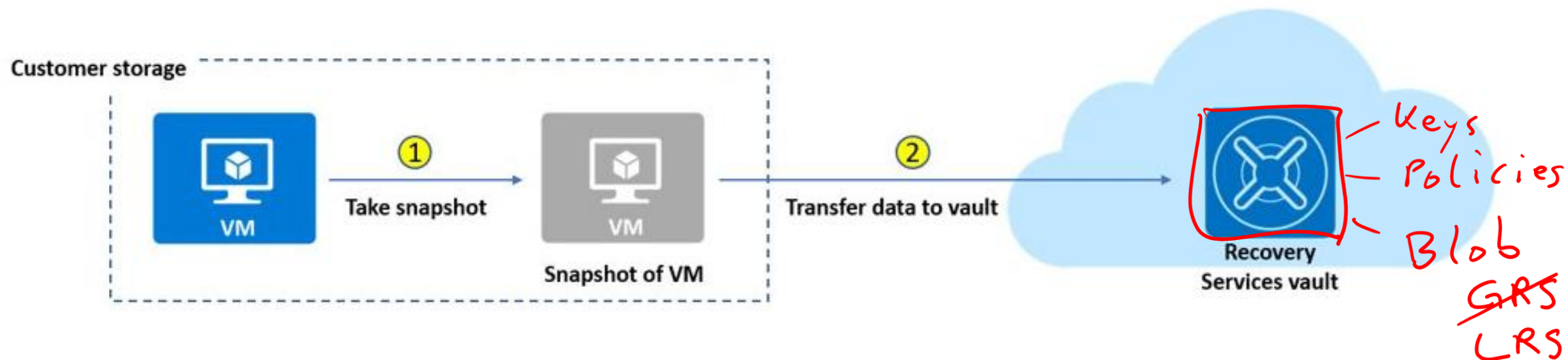| Snapshots	Azure Backup	Azure Site Recovery
Managed snapshots provide a quick and simple option for backing up VMs that use Managed Disks	Azure Backup supports application-consistent backups for both Windows and Linux VMs	Azure Site Recovery protects your VMs from a major disaster scenario when a whole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

Create virtual machine snapshots in Azure Backup

Customer storage

VM → **Take snapshot** ① → VM / Snapshot of VM → **Transfer data to vault** ② → Recovery Services vault

(handwritten annotations: Keys, Policies, Blob, GRS, LRS)

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

Windows only MARS Agent

Azure Workloads	On-Premises Workloads

Backup Virtual Machines

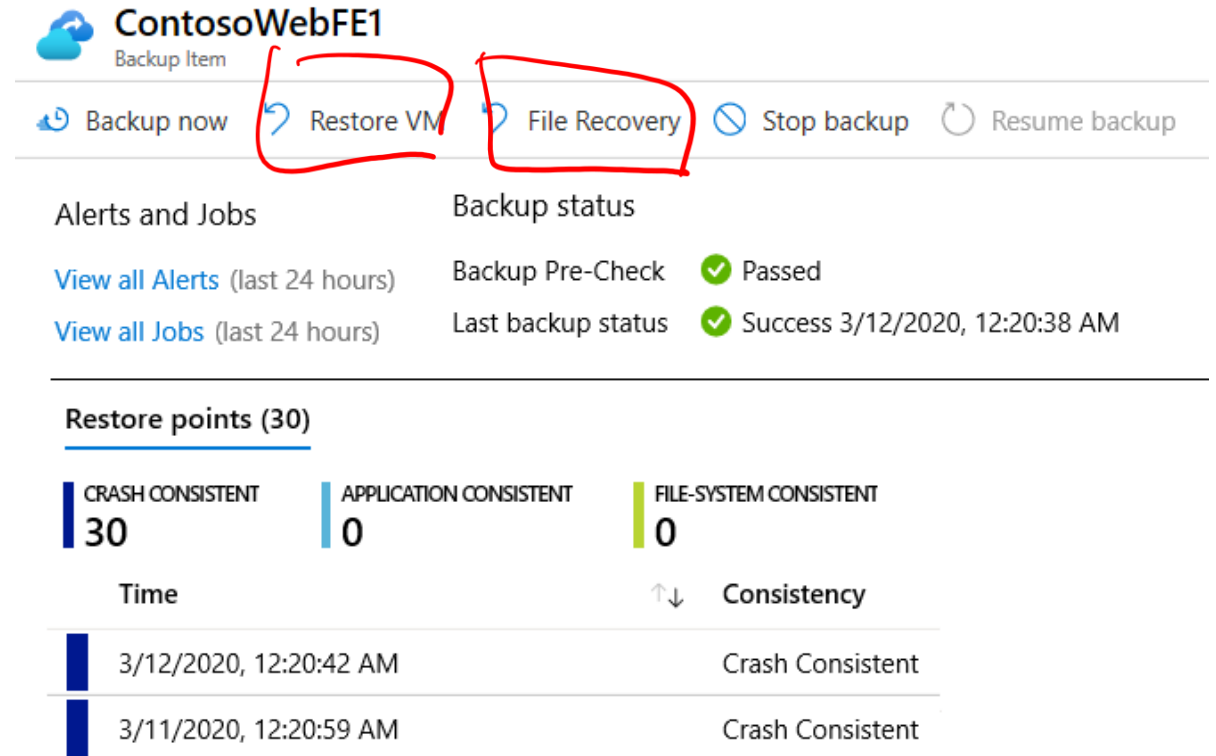| Create a recovery services vault ①	Use the Portal to define the backup ②	Backup the virtual machine ③
Use a Recovery Services Vault in the region where you are performing your Virtual Machine backups and choose a replication strategy for Vault	Take snapshots (recovery points) of your data at defined 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

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
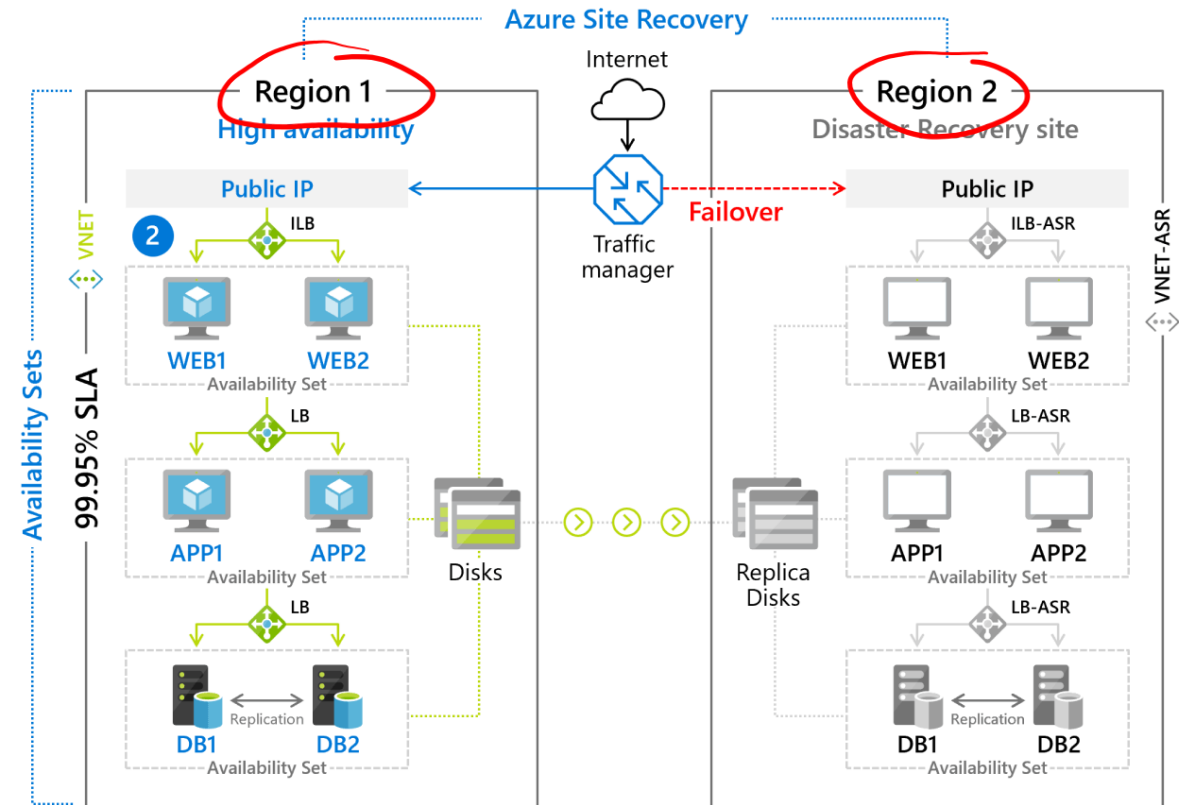
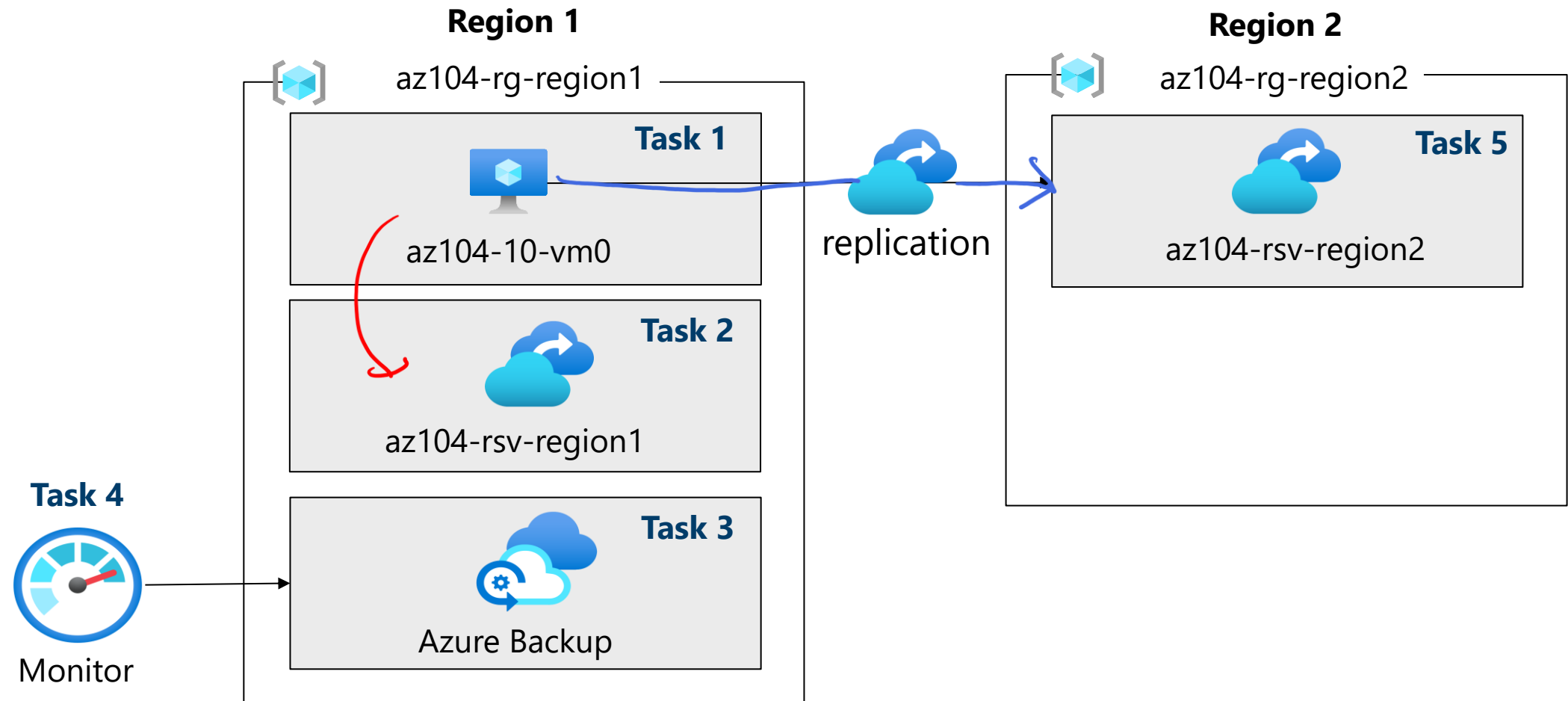# Learning Recap – Configure Virtual Machine Backups

Check your knowledge questions and additional study

- 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 – Implement Data Protection

Lab 10 – Architecture diagram

End of presentation