



Azure Migration Services – Overview



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◆ 1. What is Azure Migration?

Azure Migration is the process of moving workloads—including servers, applications, databases, and data—from on-premises or other clouds into Microsoft Azure.

Microsoft offers **end-to-end migration tools** to:

- Discover and assess on-premises environments
- Plan cloud migration
- Perform migration with minimal downtime
- Optimize resources post-migration

The **Azure Migration Journey** includes:

1. **Assess**
 2. **Migrate**
 3. **Optimize**
 4. **Secure & Manage**
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♦ 2. Key Azure Migration Services

✓ 1. Azure Migrate

A central hub to plan and execute migrations:

- Unified platform for multiple tools
 - Supports servers, databases, VMs, applications, web apps
 - Provides performance-based sizing recommendations
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✓ 2. Azure Database Migration Service (DMS)

Purpose-built tool for **database migrations**:

- Supports SQL Server, MySQL, PostgreSQL, Oracle, MongoDB
 - Online/offline migrations
 - Minimal downtime for production workloads
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✓ 3. Azure Data Box

Hardware appliance for **offline data transfer**:

- Move large datasets (up to petabytes)
 - Ideal for data center migrations or remote locations
 - Options: Data Box, Data Box Disk, Data Box Heavy
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✓ 4. Azure Arc

Azure Arc helps manage **on-premises, multi-cloud, or edge** resources in Azure:

- Enables hybrid capabilities
 - Useful for partially migrating environments
 - Supports Azure services like SQL and Kubernetes anywhere
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3. Azure Migrate – Deep Dive

Azure Migrate is a **central service** for discovery, assessment, and migration of workloads.

♦ Azure Migrate Components

Component	Description
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Discovery & Assessment	Inventory and assess readiness of on-prem workloads
Server Migration	Migrate VMware/Hyper-V or physical servers
Database Migration	Supports SQL, MySQL, PostgreSQL, Oracle
Web App Migration Assistant	Move web apps to Azure App Service
Virtual Desktop Assessment	Migrate to Azure Virtual Desktop (AVD)

◆ **Assessment Capabilities**

- Discovery via **appliance or agentless** method
 - Dependency mapping for right-sizing
 - Cost estimation
 - Azure readiness report
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◆ **Migration Options**

Source Environment	Migration Targets
VMware vSphere	Azure VMs, Azure VMware Solution
Hyper-V	Azure VMs
Physical Servers	Azure VMs
SQL Server	Azure SQL, SQL MI, SQL VM
Web Apps	Azure App Service
File Shares	Azure Files

4. Common Migration Scenarios

Scenario	Azure Service
Data center shutdown	Azure Migrate, Azure DMS
Moving SQL Server to Azure	Azure Database Migration Service
App modernization	Azure App Service + Azure Migrate
Bulk data transfer (multi-TB)	Azure Data Box
Edge to cloud	Azure Arc

5. Tools Comparison

Tool	Use Case
Azure Migrate	General workloads (servers, apps, DBs)
Database Migration Service	Database-specific migrations
Azure Data Box	Physical offline data transfer
Azure Site Recovery (ASR)	DR and lift-and-shift migration
Azure Arc	Hybrid and multi-cloud management

6. Migration Phases & Best Practices

Phases of Migration

Phase	Activities
Discovery & Assessment	Inventory, dependency analysis, readiness checks
Planning	Right-sizing, cost estimation, risk identification
Migration Execution	Use Azure tools to migrate VMs, DBs, etc.
Post-Migration	Validate, optimize performance, monitor
Governance & Security	Set up policies, compliance, access control

Best Practices

- Use **Azure Migrate appliance** for better discovery
 - Perform a **pilot migration** before full cutover
 - Use **ASR** for migration with high uptime requirements
 - **Tag migrated resources** for management
 - Monitor performance with **Azure Monitor** and **Log Analytics**
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7. Summary

Service	Function
Azure Migrate	Central migration hub for servers, databases, apps
Database Migration Service	Specialized tool for DB migrations
Azure Data Box	Offline data movement at large scale
Azure Arc	Hybrid and multi-cloud resource management
ASR (Site Recovery)	Disaster recovery and lift-and-shift support

Azure Migration Services help organizations transition to the cloud smoothly while minimizing risks and downtime.



8. References

- [Azure Migrate Documentation](#)
- [Azure Database Migration Guide](#)

- [Azure Data Box Overview](#)
- [Azure Arc Documentation](#)
- [Cloud Adoption Framework](#)