opentext™ | Cybersecurity

Taking the migraine out of migrations: Migrating your VMware workloads and more

Introduction

Moving Windows and Linux workloads from any source infrastructure, including VMware, to another can be difficult, even for the most experienced IT professional. OpenText™ Migrate™ is a cybersecurity product that can help make the process seamless and repeatable across any infrastructure.

This guide is designed to help any-size organization meet the challenges faced when moving their workload to a new environment. Several workflows are discussed to provide you with a repeatable approach to migrations, regardless of the use case.

Getting started

When planning any migration, it's important to understand your goals. Moving servers can be a straightforward task like a hardware refresh, impactful like a datacenter relocation[1], or complex like a divestiture or acquisition project[2].

The most challenging migrations include a sudden need to change the infrastructure with limited timelines for planning and assessments. Having a tool like Migrate helps standardize the migration processes across any infrastructure, even if the source or target is a physical server.

Nearly every infrastructure provider offers onboarding tools at little to no cost. With VMware, for example, you can use a tool like VMware HXC to move into and around your VMware estate, but it cannot move you off VMware. Other tools may require access to the hypervisor or specialized servers[3] to convert VMDKs to the destination format, and then attach them to the new infrastructure. These all have their own sets of challenges and pain-points[4]. Having to think about moving the entire VMware estate can be a daunting project with figuring out the different sets of tools, processes, resources, levels of effort, and downtime for each of the server groups.

When using Migrate, you utilize a standard workflow and process regardless of the infrastructure. Perform full server migration, right-size resources, distribute or consolidate servers, upgrade SQL Servers, and replicate unique environments with challenging configurations with little to no impact on the business—in parallel with a 15-minute-or-less cutover window.

Helpful definitions

Infrastructure examples

Hypervisor
- VMware
- Hyper-V
- KVM

Hyper converged
- AzSHCI
- Nutanux
- Scale Computing

Hyperscale
- AWS
- Azure
- GCP

VMware HCX
A VMware product for onboarding and moving workloads around a VMware Host Server environment.

Full server
The act of moving a server workload to a destination with no changes to the structure of the environment. Also known as lift-and-shift or like-for-like.

Right-size
The process of reconfiguring the destination server to adjust the CPU, memory, or disk sizes to better fit intended goals.

In parallel
Practically no limit on the number of simultaneous migrations.

15-minute cutover
No final synch process. Replication is always current, so the cutover time is consistent regardless of the data size being replicated.

---

[1] Datacenter relocation consists of many servers across multiple regions, requiring a myriad of tools and requirements.

[2] Mergers and acquisitions warrant consolidation or distribution of servers from multiple locations, systems, or infrastructure.

[3] Some tools require centralized servers to consolidate attributes and another to control information and data to be converted and pushed to the destination.

[4] Challenges and pain points include hidden costs, single points of failure, encryption, and security requirements for data at rest and in flight, throttled bandwidth, management overhead, and skills requirements.

Types of migrations

Which migration type you choose will depend on your organization's goals for the migration project.

Below is a list of migration options:

- Full server
- File and folder
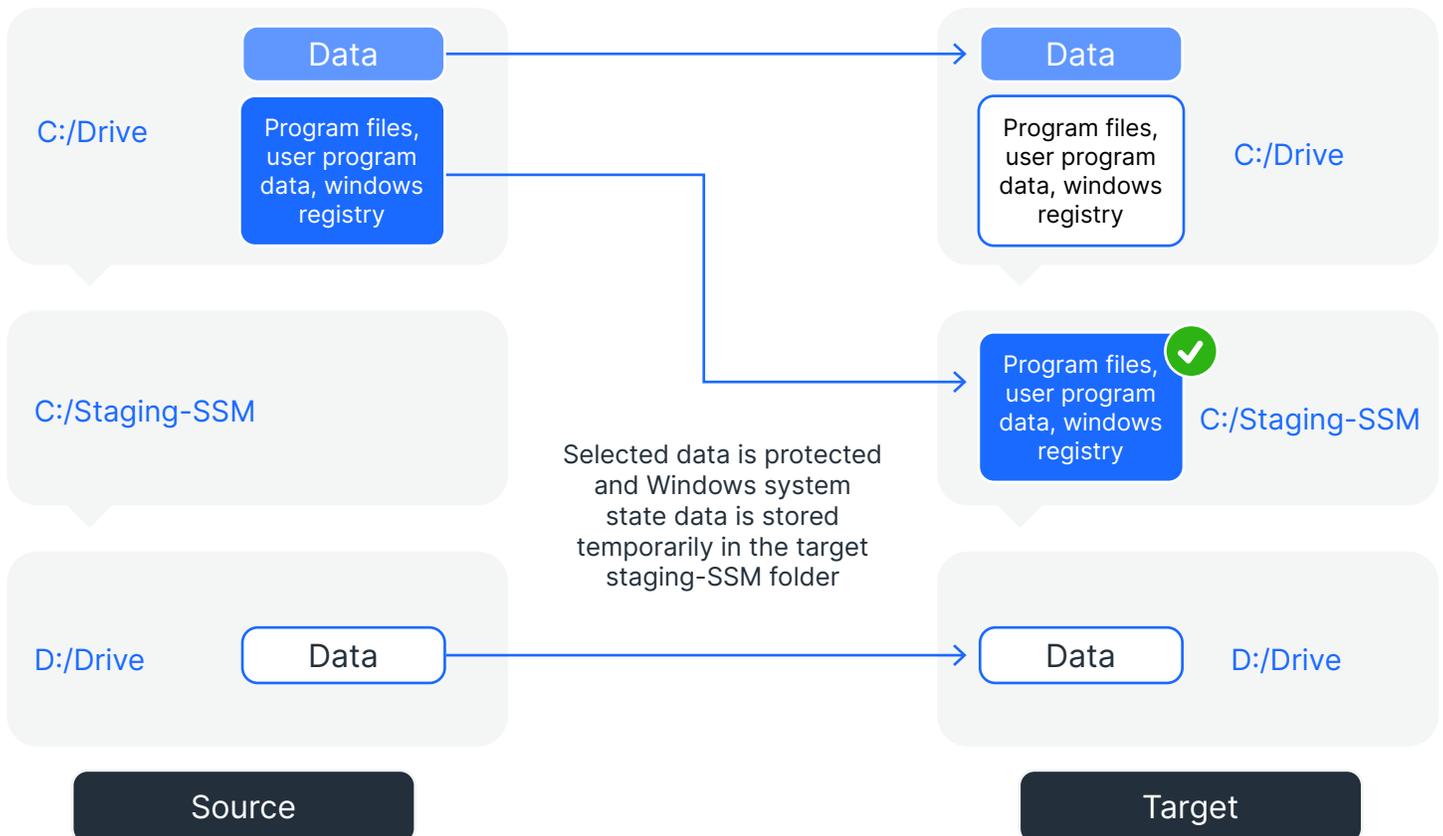- SQL modernization
- SAP HANA scale-up server

Full Server Lift and Shift

A full server migration allows you to transfer the entire system state to any virtual machine (VM) or physical servers across any infrastructure. Migrate is an agent-based solution that provides near real-time continuous byte-level replication between the source and target systems, ensuring the data is where it needs to be for you to initiate a cutover at any time. In addition, there is no "final synch" requirement, which allows for the bare minimum amount of downtime when cutting over to the target server.

If you're looking to move off VMware, be it one server or your entire estate, this is the easiest migration type to help you achieve that goal. With Migrate, data is copied directly to your target server without the need for host-level access or consolidation servers. There is no requirement for any extra snapshot storage space, header conversions, or variables final synch time. If desired, you can perform simple, non-disruptive testing of the cutover and target to ensure that everything is executed as planned. You can ask your qualified Migrate consultant for more details.

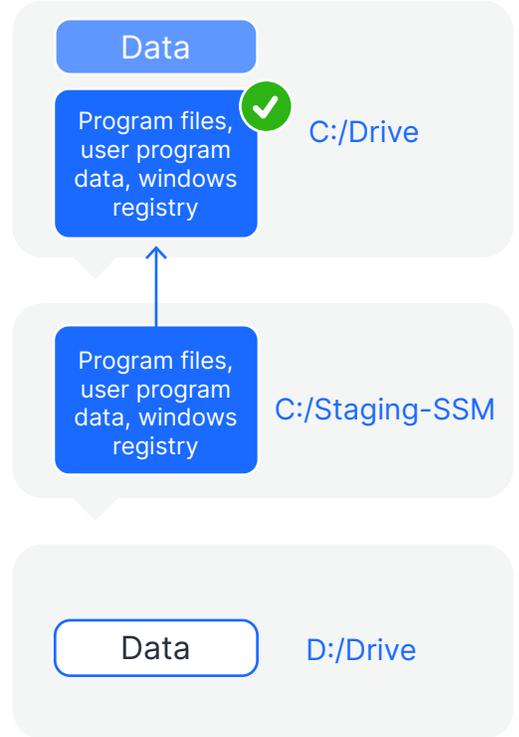# How does the full server job type work?

Synchronization

Selected data is protected and Windows system state data is stored temporarily in the target staging-SSM folder

Source

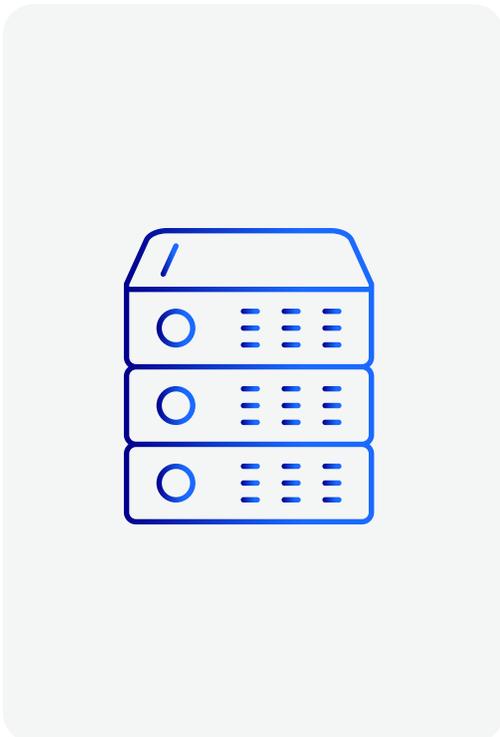**Target**

How does the full server job type work?

Cutover

Upon cutover, the source server is shutdown if online and the source's system state data overwrites the targets' except for hardware information
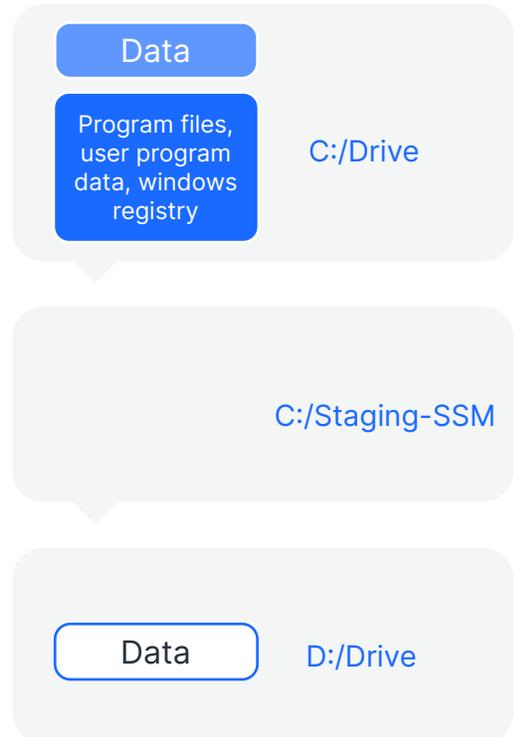
Source

Target

Data

Program files, user program data, windows registry — C:/Drive ✓

Program files, user program data, windows registry — C:/Staging-SSM

Data — D:/Drive

The target server then reboots and replaces the registry while moving any remaining staging files. At this point the target no longer exists and is now the source

Source

Target

Data

Program files, user program data, windows registry — C:/Drive

C:/Staging-SSM

Data — D:/Drive

File and folder

If your migration needs require a bit more granularity or are more complex due to mergers and acquisitions, distribution or consolidation, or dozens of other reasons where the information on the server(s) need to be split or combined at the file and folder level, then Migrate can help.

Migrate is one of the only replication tools that allows for include and exclude criteria in the replication set, as well as the ability to migrate files and folders from multiple source servers into a single server or from a single server into multiple servers. You can even use the optional path mapping feature to change the destination path, ensuring no naming conflicts exist.
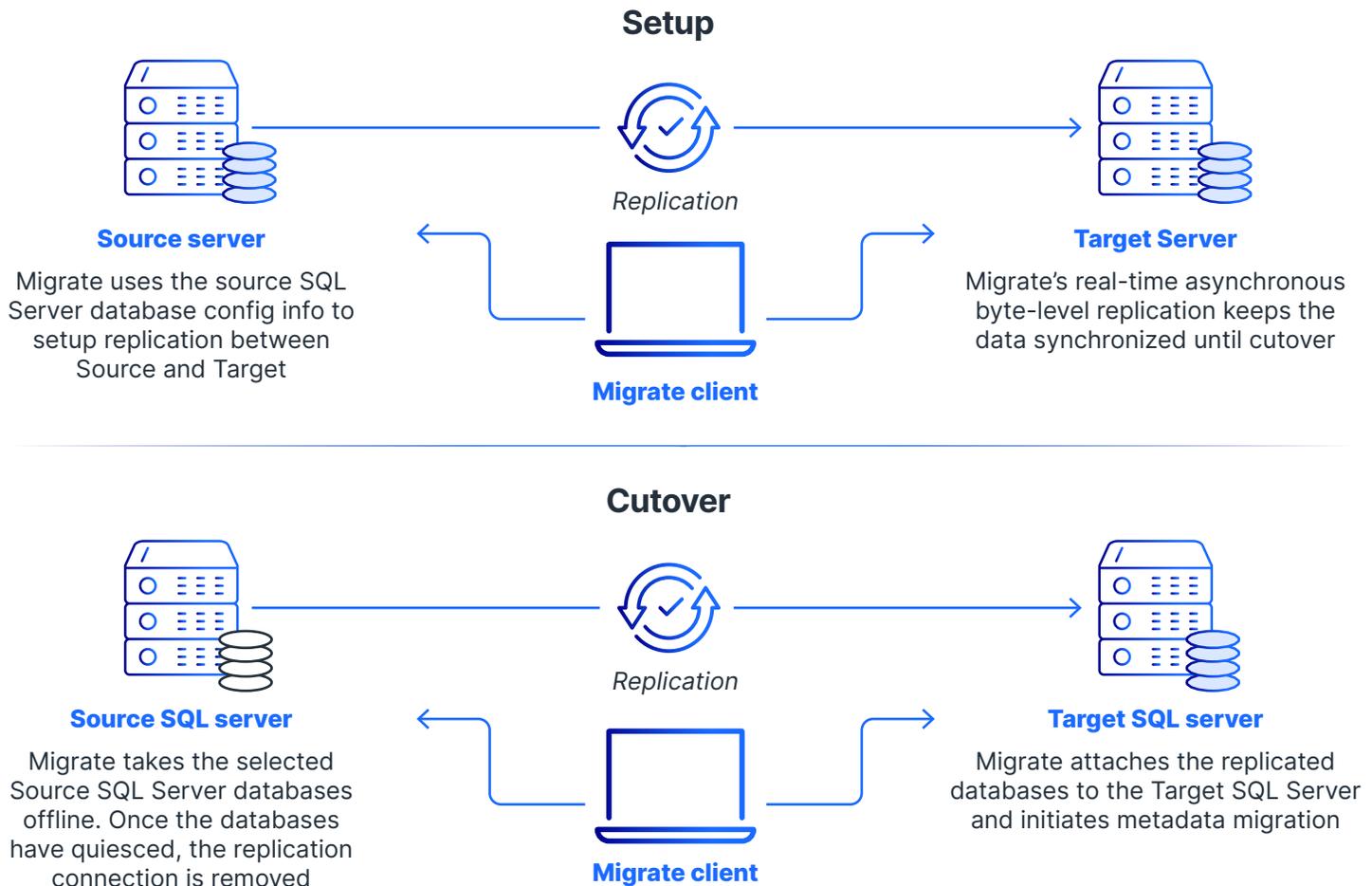
SQL modernization

SQL Server modernization involves migrating and upgrading your SQL database in a single motion. Using the SQL modernization workflow, the production source can be a Windows Server on a lower OS version and a lower SQL instance version located anywhere. The target can be a Windows Server running a higher version of the OS and SQL instance located anywhere.

For example, you could be running Windows SQL Server 2012 on a physical server in your datacenter. Using the SQL modernization workflow, your destination server can be a VM running in any supported infrastructure with SQL Server 2022. The SQL modernization workflow will identify the SQL databases on the source for selection, then allow you to select the SQL Server 2022 as the destination. After the replication is complete, the cutover process will disconnect the source database, ensure the database metadata is replicated, and then attach the database to the target instance of SQL 2022. During the entire replication process, users are still active, and the database is running. The only interruption of service is the actual cutover.

SAP HANA scale-up migrations

If you are moving your SAP HANA scale-up server(s), Migrate provides a full server style workflow that can move the environment with the special SAP HANA requirements in mind, allowing for a smooth migration with no data loss and minimal business impact.

How Migrate works for modernizations

Setup

Source server
Migrate uses the source SQL Server database config info to setup replication between Source and Target

Replication

Migrate client

Target Server
Migrate's real-time asynchronous byte-level replication keeps the data synchronized until cutover

Cutover

Source SQL server
Migrate takes the selected Source SQL Server databases offline. Once the databases have quiesced, the replication connection is removed

Replication

Migrate client

Target SQL server
Migrate attaches the replicated databases to the Target SQL Server and initiates metadata migration

Professional Services

Every migration project entails risk and may require multiple phases to deliver a successful project. Whether you need technical resources to complete your migration project, are looking for specific assistance or guidance for a quick start, or are looking to have your migrations completed "as a Service," OpenText Professional Services and Education teams can help.

The OpenText Professional Services team can assist in any or all the phases of your migration project to significantly reduce risk while improving the overall project effectiveness. With years of experience in migration projects, the OpenText Professional Services team can assist with:

• Discovery and assessments
• Candidate move group analysis
• Target creation
• Server migration

All services include a SOW, project management, defined deliverables, and experienced technical resources.

Further assistance

If you have any questions or would like assistance, arrange some time with one of our OpenText Cybersecurity or partner-qualified technical migration specialists to help with the requirements and design for your migration project at no cost to you. Leverage their years of experience for any migration and availability projects you may have.

Entire system state
This can include SIDs, GUIDs, registries, host name, IP address and more. Retaining the target IP is an option.

Near real-time
The Migrate agent identifies the file system I/O for change and sends the I/O to the target without pausing or stopping the source processes.

Snapshot
Volume Shadow Copy Services (VSS) or Logical Volume Manager (LVM) disk snapshot.

Include or exclude
Defined files or folders that are to be replicated or are to be excluded from replication. Use of a replacement mask (*) is supported.

Path mapping
To change the destination location to a different drive designator, path, or both.

SQL modernization
Requires the destination server to have a valid and supported SQL instance. Infrastructure as a Service (IaaS) instances only.

Finding help

OpenText Cybersecurity offers various options and resources for you to complete your migration or modernization.

Self-service resources

Use these self-service resources if you don't require dedicated support:

[Documentation](#). Provides product documentation online via HTML and PDF format.

[Video library](#)

[Software Development Kit (SDK)](#). Contains information about custom integrations using the Carbonite PowerShell module or the REST API.

[Migrate](#). For more information about any-to-any migrations with our replication products.

Requirements and OS support: [Windows](#). [Linux](#).

Professional Services

Our Professional Services gives you a wide range of options to support complex data migrations, including:

- SQL Server migrations and modernizations
- Migration readiness
- Migration as a Service
- Replication and protection

For more information, click here: [Professional Services offerings](#).

Training and Certifications

OpenText Cybersecurity also offers [Training and Certification](#) programs online.

opentext™ | Cybersecurity