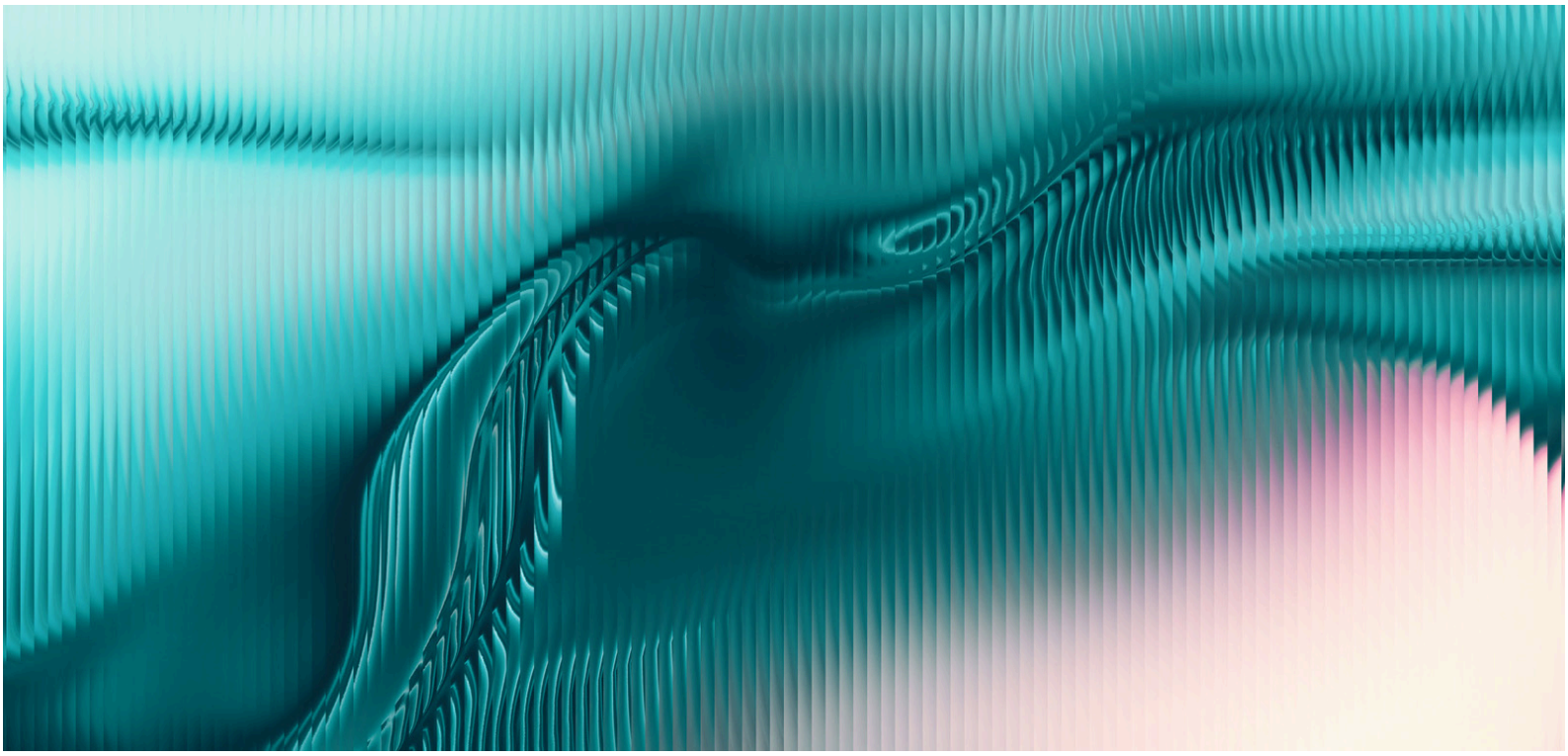
Hewlett Packard Enterprise

Technical white paper

HPE OneView 7.0 Server Migration Guide



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Executive summary

This document describes the server migration feature introduced with HPE OneView 7.0. We will review the intended use cases and some of the key topics around the feature to help you familiarize yourself with it.

Introduction

HPE OneView 7.0 introduces the server migration feature. With this feature, you can transfer the management of supported servers along with their associated profiles and copy dependent resources from an HPE OneView appliance to another appliance without disrupting production workloads running on the servers. The server migration feature supports the following servers:

- HPE ProLiant DL and ML servers; and HPE Apollo systems Gen8, Gen9, Gen10, and Gen10 Plus
- HPE Superdome Flex and HPE Superdome Flex 280 servers

Use cases

The server migration feature is designed to serve two use case scenarios.

Between the same version (7.0 or later) of HPE OneView appliances

The first use case is the server migration between HPE OneView appliances that are running the same HPE OneView version 7.0 or later[1] so that you can rebalance the number of servers across multiple HPE OneView appliances or simplify the server management by appliance consolidation.

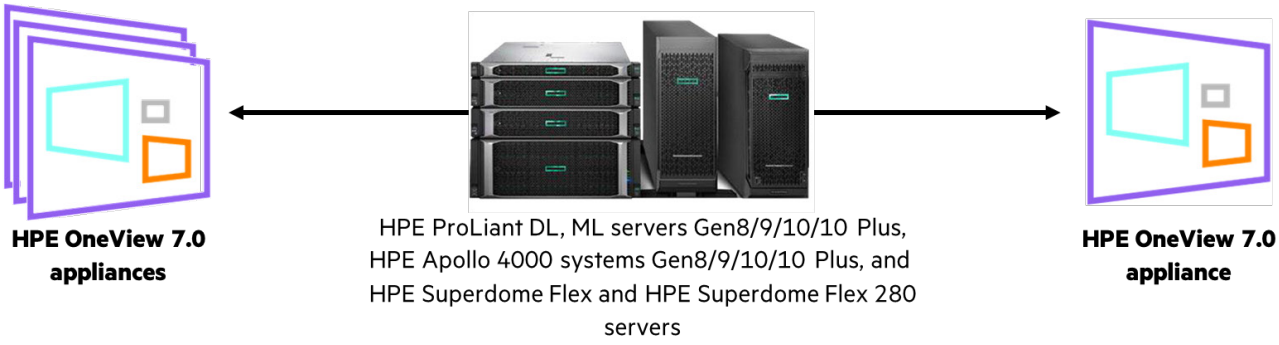

Figure 1. Server migration between the appliances that are running the same HPE OneView release

From HPE OneView 6.6 appliance to 7.0 or later

The second use case is the migration of servers from a source HPE OneView 6.6 appliance to a destination HPE OneView 7.0 or later release. HPE OneView 6.6 is a long-term support (LTS) release that offers extended support for LTS legacy platforms[2] (for example, HPE BladeSystem c7000 product line) that HPE OneView 7.0 and later releases do not support.

When you try to update an HPE OneView 6.6 appliance to HPE OneView 7.0, if any LTS legacy platform is present on the 6.6 appliance, the update operation will be blocked and exit with an error. If you perform the update readiness checker, it will also report a warning.

[1] See "Supported migration paths" section of "HPE OneView 7.0 Help for VMs" for the latest supported migration paths.
[2] See "HPE OneView—Product Lifecycle and Additional Resources" for LTS release and LTS legacy platform details.

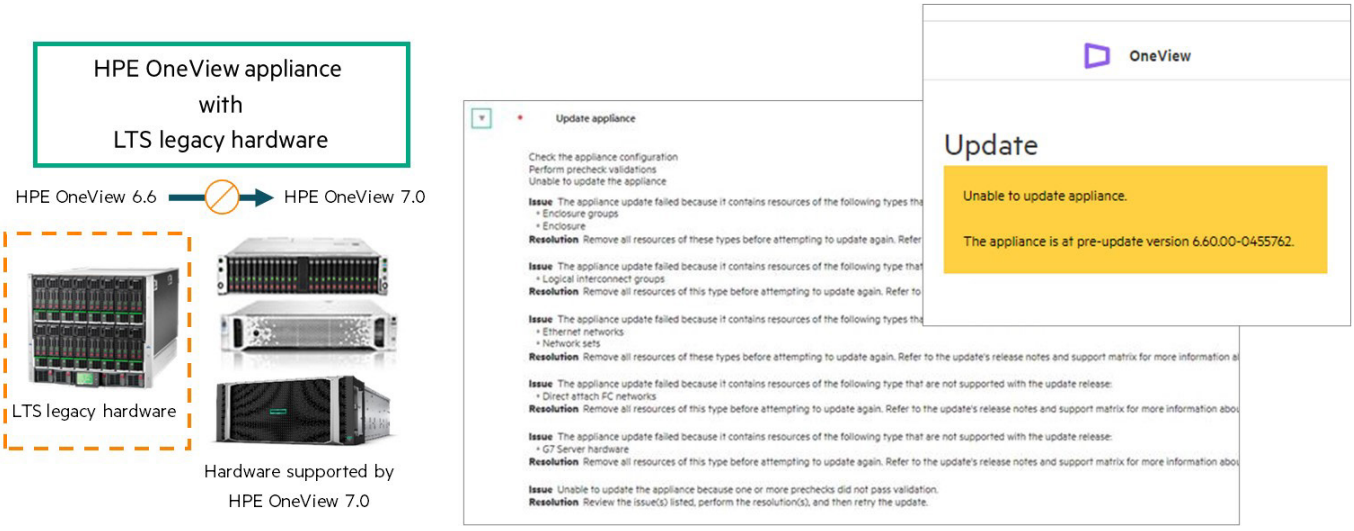

Figure 2. HPE OneView version update to 7.0 fails if any LTS legacy platform is present

In this case, HPE recommends you deploy a new HPE OneView 7.0 appliance and migrate the supported servers and associated profiles/resources from HPE OneView 6.6. In this way, you can manage the supported hardware with the latest features available only on HPE OneView 7.0 or later releases while keep managing the LTS legacy platform on HPE OneView 6.6.

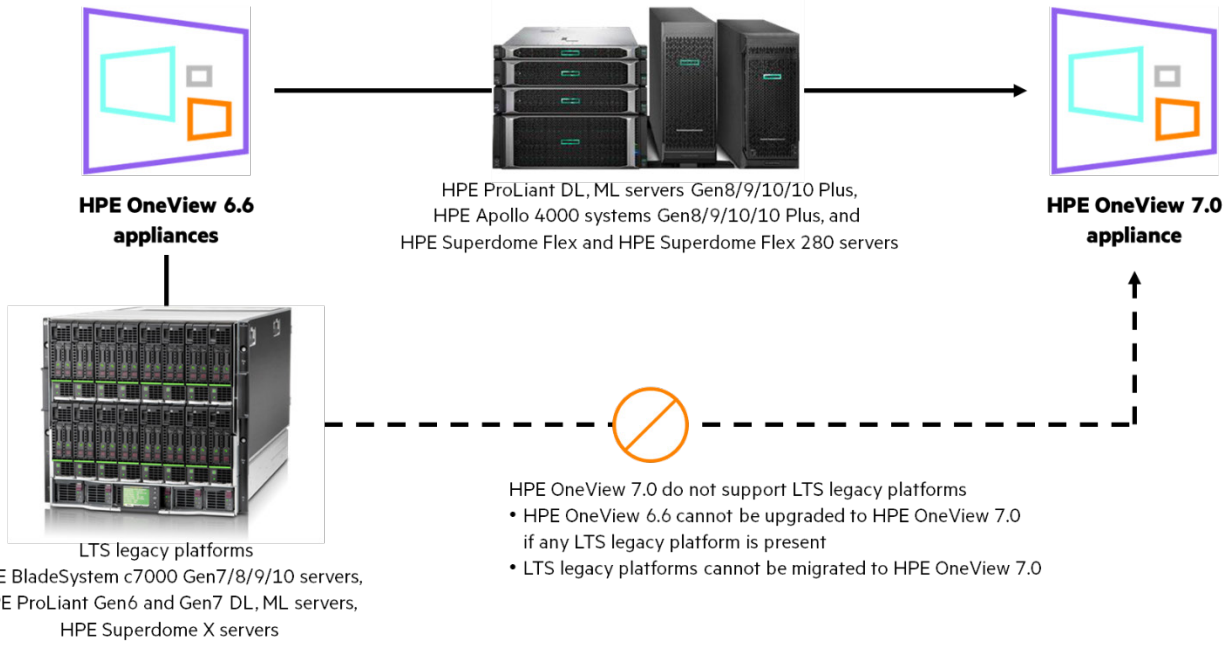

Figure 3. Server migration to HPE OneView 7.0 appliance from HPE OneView 6.6

How it works

The server migration process starts on the destination HPE OneView appliance by invoking **Migrate Server Hardware** action. Specify the source HPE OneView appliance and provide the credentials.

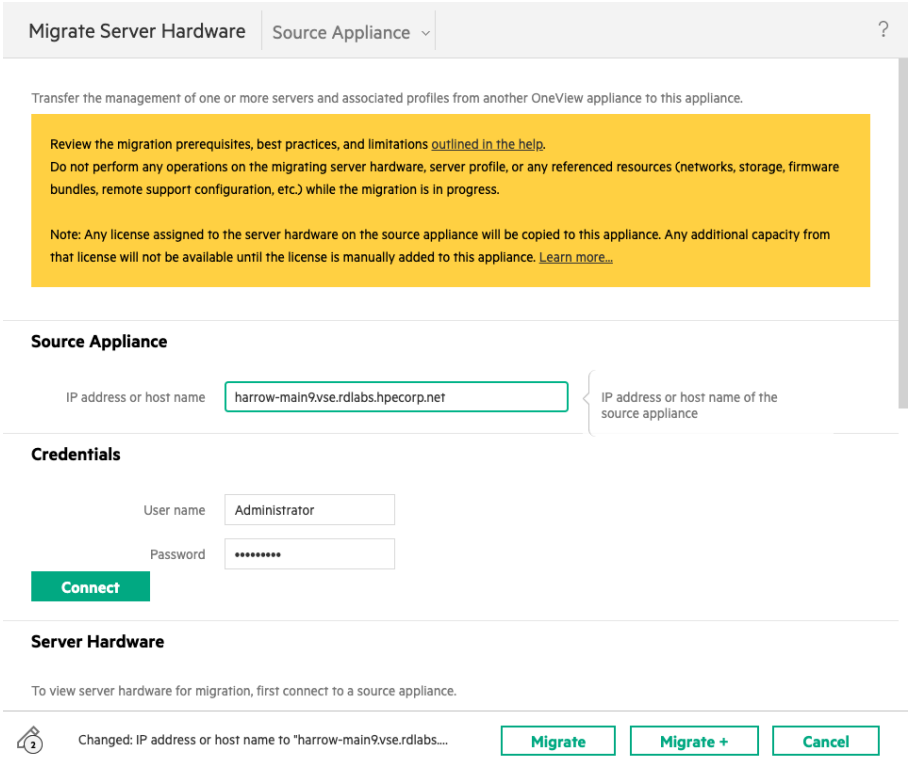

Figure 4. Migrate Server Hardware

Then, HPE OneView will list all supported servers that are available for migration for you to choose—all or some of them—and start the migration.

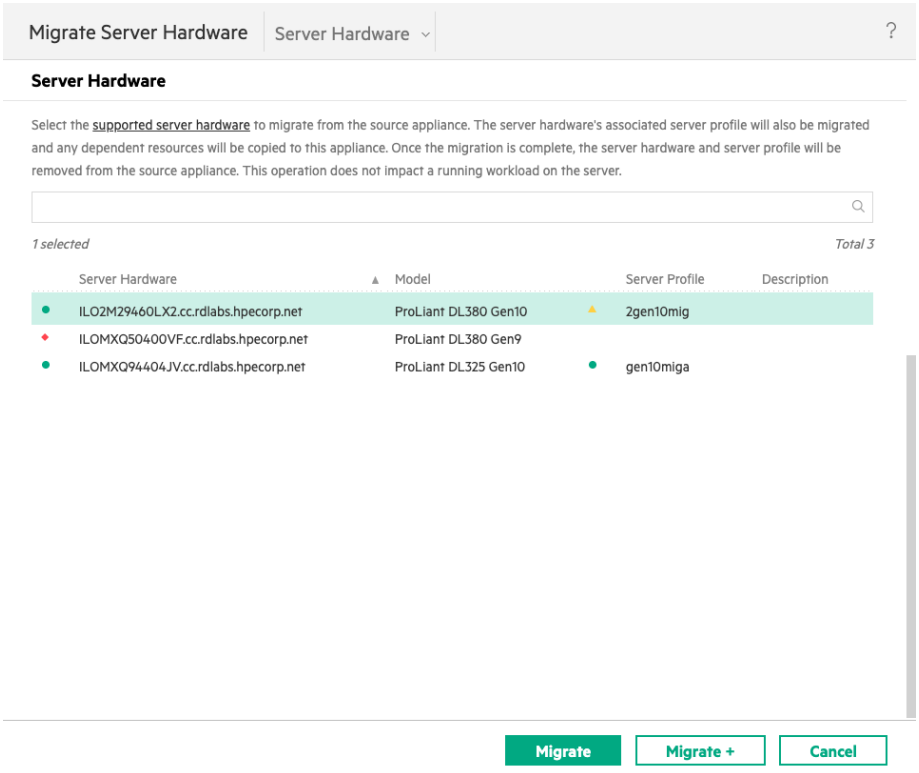

Figure 5. Select migration target

What resources will be migrated?

There are three types of resources with different migration behaviors. Resources that are dedicated to the server hardware are moved to the destination appliance and removed from the source appliance. Resources that are available for multiple server hardware to refer to are copied to the destination appliance and remain in the source appliance. Resources tied to the appliance are neither moved nor copied and remain in the source appliance or some of them such as activity history for a specific server are deleted upon migration of such server.

Resources that are moved

- Server hardware (HPE ProLiant DL and ML servers; HPE Apollo 4000 systems Gen8, Gen9, Gen10, and Gen10 Plus; and HPE Superdome Flex and HPE Superdome Flex 280 servers)
- Rack managers—If a server being migrated is an HPE Superdome Flex Server, all servers managed by the rack manager are migrated together when the selected HPE Superdome Flex migration process starts
- Server license—If the license key capacity is 1
- Server profiles associated with the server hardware
- Private SAN volumes that are attached to the server profile

Resources that are copied

- Server profile templates
- Data centers and data center racks
- Volume templates referenced by SAN volumes attached by the server profile
- Storage systems, storage pools, SAN managers, SANs, and FC networks referenced by SAN volumes attached by the server profile
- External firmware repository configuration
- Server license—if license capacity is more than 1

Resources that are not migrated

- The activity history of the migrated resources is not moved to the destination appliance. At the end of migration, the activity history for the resources that are removed from the source appliance is lost
- Appliance settings are not moved or copied
- Audit log entries
- Power delivery devices
- Scopes: Regardless of the scope of migrated resources in the source appliance, the scopes that are associated with the resources are not migrated to the destination appliance
- Users: All the users on the destination appliance who have top-level permissions will have access to migrated resources
- Utilization data of the server hardware
- Server HPE iLO account created by HPE OneView for its access will have its password regenerated
- For HPE Superdome Flex rack management controller (RMC) account created by HPE OneView for its access has its password regenerated

About HPE OneView license migration

The HPE OneView migration copies or moves the licenses associated with the servers you migrate, so you don't need to manually move or copy licenses. It is an automated, error-free process.

When you migrate a server with a single server license key assigned, the license key will be moved to the destination HPE OneView appliance, and it will also be removed from the source HPE OneView appliance.

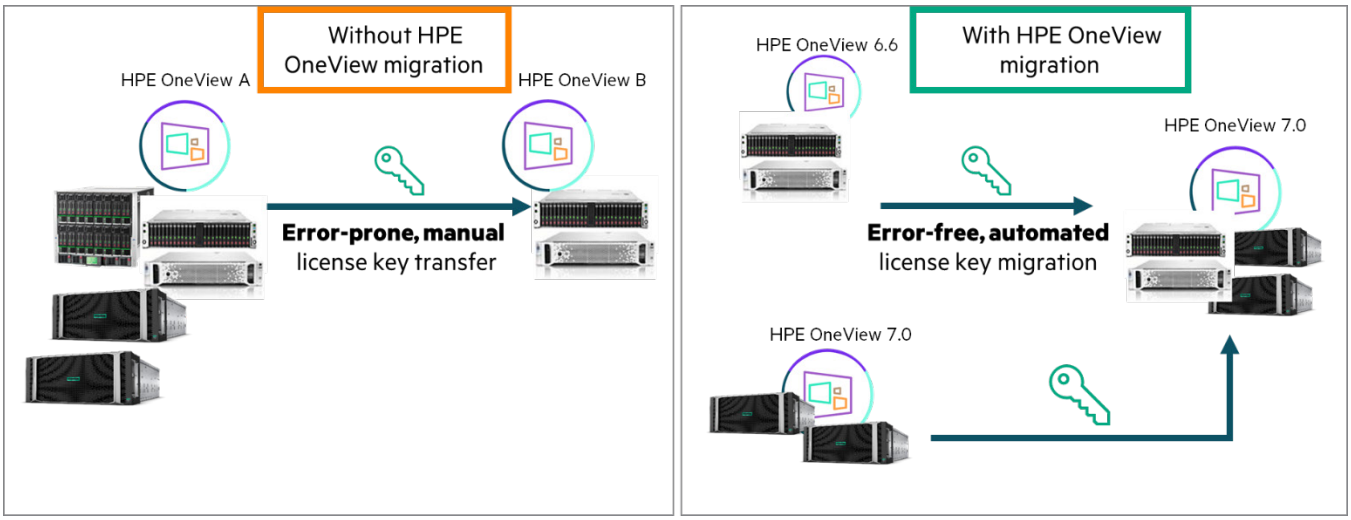

Figure 6. HPE OneView License migration

When migrating a server that is assigned a license key of capacity larger than 1 on the source appliance, the same license key will be assigned to the server in the destination HPE OneView appliance. There are a few exceptions, and they are described in the following table.

Table 1. Migrating HPE OneView licenses

Migrating license	Migration result	Exceptions
FIO quantity = 1	The same **HPE OneView w/o HPE iLO or HPE OneView Adv** license is assigned.	• No exceptions
Non-FIO HPE OneView w/o HPE iLO	The same **HPE OneView w/o HPE iLO** license is assigned.	• In rare cases, the destination HPE OneView appliance may have already assigned the license to another server. In this case, HPE OneView will attempt to assign a new license of the same type (HPE OneView w/o HPE iLO) if available. • If there are no extra HPE OneView w/o HPE iLO licenses and although there are extra HPE OneView with HPE iLO licenses, HPE OneView will not assign an HPE OneView with HPE iLO license key and server will be unlicensed. • User can change license type intent as needed.
Non-FIO HPE OneView Adv (with HPE iLO)	The same **HPE OneView Adv** (with HPE iLO) license is assigned.	• In rare cases, the destination HPE OneView appliance may have already assigned a license to another server. In this case, HPE OneView will first remove the HPE iLO key of the migrating server and will attempt to assign a new HPE OneView with an HPE iLO license on this server. • If there are no extra HPE OneView with HPE iLO licenses and although there may be extra HPE OneView without HPE iLO licenses, HPE OneView will not assign an HPE OneView without an HPE iLO license key and server will be unlicensed. • User can change license type intent as needed.
Non-FIO license key—quantity > 1	The same license key is assigned to the migrated servers.	• Same exceptions as mentioned previously. • If the number of migrated servers is less than the original license quantity (capacity), users need to manually add the license key in the destination appliance if they wish to use the remaining capacity.

Migrating a server with a license key of capacity larger than 1

Note that in case of migrating a server with a non-FIO license key of capacity larger than 1, the license type in the destination appliance remains **migrated** until the license key is added manually to the appliance. During this time, the license key will not be assigned to other servers.

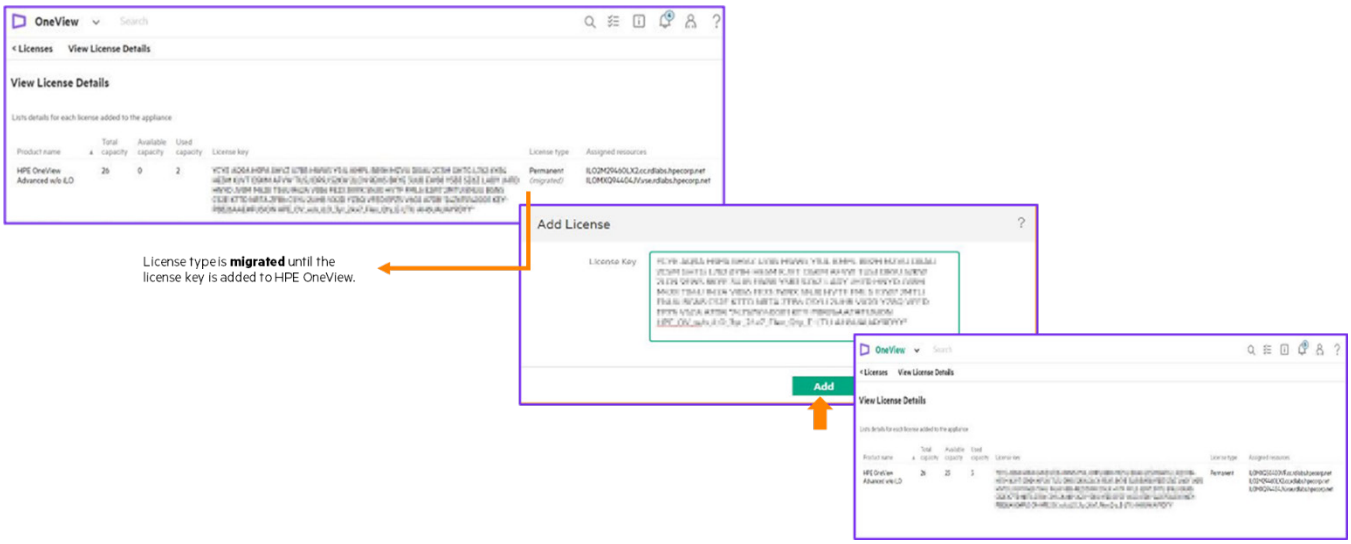

Figure 7. Migrating a server with a license key of capacity larger than 1

Migrating a server with an HPE OneView w/o HPE iLO key

While moving a server that is assigned an HPE OneView w/o HPE iLO license key from one HPE OneView appliance to another, the license key is unassigned from the source appliance.

When migrating a server that is assigned an HPE OneView w/o HPE iLO key using the HPE OneView 7.0 migration feature, the license key is assigned for the source appliance but remains as assigned to the migrated servers.

In the following figure, you can view the destination HPE OneView appliance after migrating 1 server.

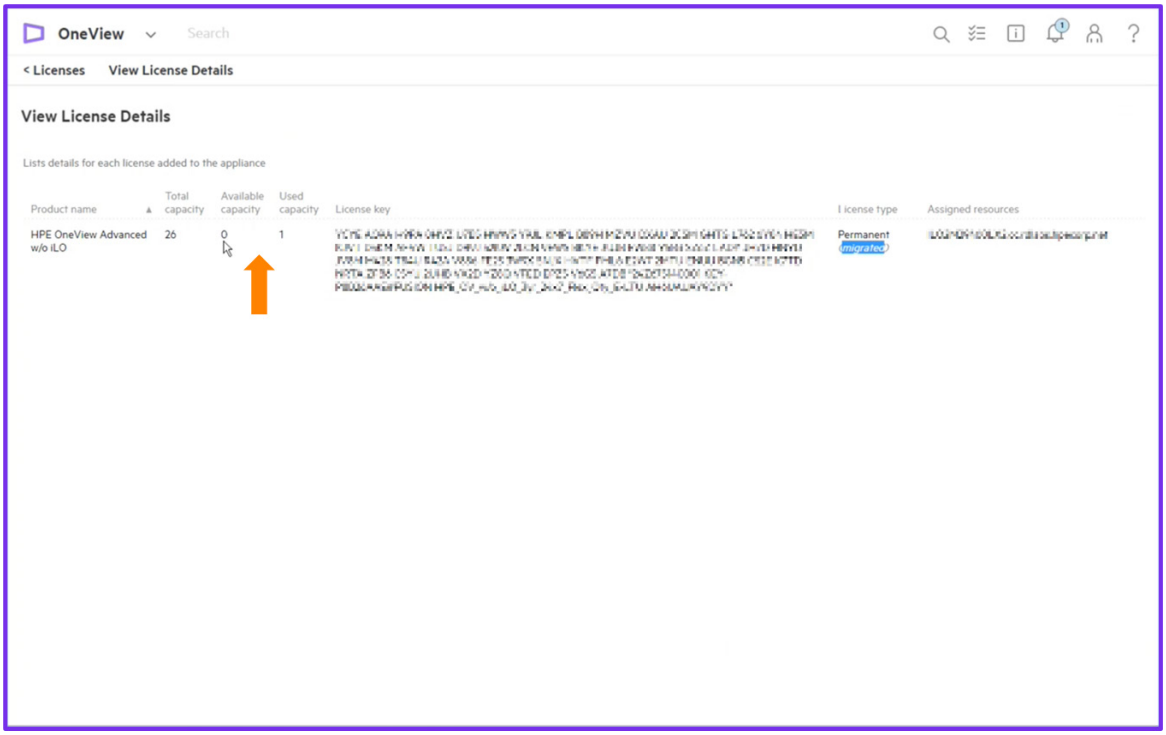

Figure 8. HPE OneView destination appliance after migrating the first server

In the following figure, you can view the destination HPE OneView appliance after migrating 2 servers.

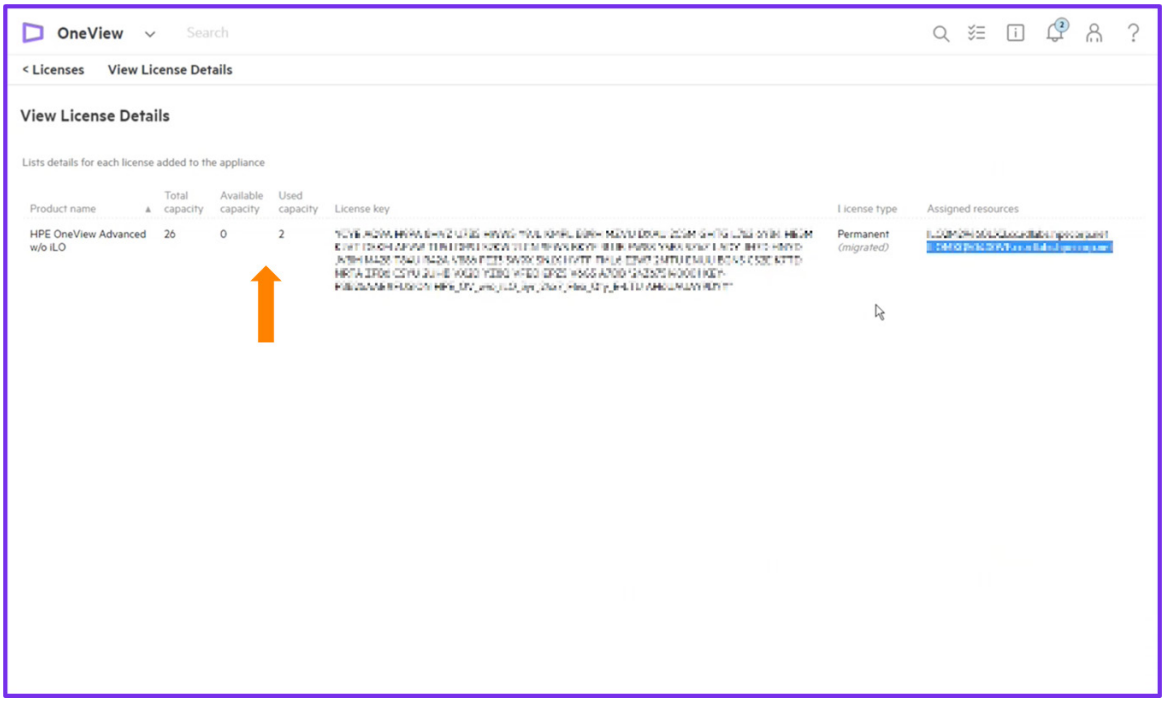

Figure 9. HPE OneView destination appliance after migrating the second server

In the following figure, you can view the source appliance. Note that the license key remains assigned.

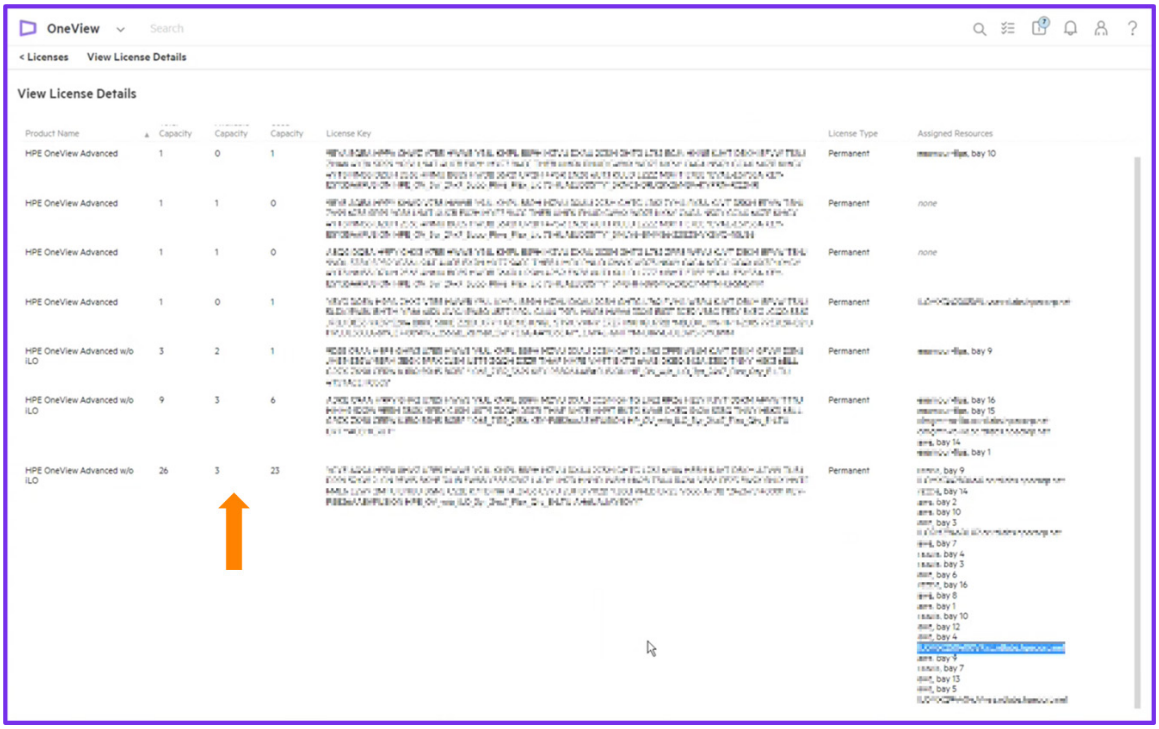

Figure 10. HPE OneView source appliance after migrating two servers

Best practice

Before you start the migration process, ensure the following prerequisites are met. Also, note that some operations need to be avoided during the migration process, and some best practices need to be followed post migration.

Prerequisite

- Check global settings and apply consistent settings in both the source and destination appliances.
- Ensure that the source and destination appliances are in the same security mode.
- LTS legacy platforms that are no longer supported by HPE OneView 7.0 must not be associated with networks used to attach volumes in the profile.
- Ensure the rack manager is in monitored state when migrating HPE Superdome Flex and Flex 280 servers.
- Load the CA root certificate in the destination appliance to access the server HPE iLO.
- If the server being migrated is using a Service Pack for ProLiant (SPP) that is added locally in the HPE OneView appliance, add it to the destination appliance manually.
- Back up both the source and destination appliances.
- Clear critical alerts for the servers that are to be migrated, or migration of such servers will not start.
- Ensure that no firmware update is pending or in progress, or migration of such servers will not start.
- Ensure that the server has the minimum supported HPE iLO version.
- Check if the security mode is not set to FIPS or CNSA; otherwise, the server is not supported by the migration feature.
- If the servers being migrated are part of a hypervisor cluster profile, delete the hypervisor cluster profile on the source appliance. Then, manually recreate a hypervisor cluster profile on the destination appliance after the migration.

Operations to avoid during migration

- While migrating the server hardware, do not perform appliance-level operations such as updating the appliance.
- While migrating the server hardware, do not perform any operations for the following associated or referenced resources:
  - Server profiles
  - Networks
  - Storage
  - Firmware bundles
  - Remote support configuration
  - Rack managers

Post-migration best practice

- Place migrated resources into required scopes, if necessary.
- Back up the source and destination systems.
- After the last server is migrated, remove the resources from the source appliance for shared resources.
- The configurations for shared resources such as SANs and storage systems are copied to the destination appliance. If additional configuration that is not known on the source appliance is required, manually configure them as required on the destination appliance after the migration completes.
- Register and add a hypervisor manager in the destination appliance, and then create a hypervisor cluster profile on the destination appliance, if you migrated the servers that were part of a hypervisor cluster profile on the source appliance.

Conclusion

With the server migration feature, you can seamlessly migrate the supported servers from an HPE OneView 6.6 appliance to HPE OneView 7.0 or later releases. In this way, you can manage the migrated servers with the latest features while you can keep managing LTS legacy platforms on HPE OneView 6.6, which is an LTS release. You can also use the server migration feature to rebalance the number of monitored/managed servers across multiple HPE OneView appliances or simplify the server management by appliance consolidation. The server migration feature helps you manage your on-prem IT infrastructure more efficiently and effectively.

Resources

HPE OneView product lifecycle
support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00117617en_us

HPE OneView product documentation
hpe.com/psnow/product-documentation?oid=5410258&cc=us&lc=en&jumpid=in_pdp-psnow-docs

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HPE.com/us/en/integrated-systems/software.html

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