



Ivanti User Workspace Manager Advanced Upgrade Guide

Introduction

Ivanti User Workspace Manager consists of multiple software products and components, including Management Center, Environment Manager, Application Control, Performance Manager, File Director, and Browser Manager. This guide outlines the various options for upgrading the UWM environment, with a *primary focus on upgrading the back-end infrastructure (servers and databases) for Management Center and Environment Manager (Personalization Server)*.

Document Revision History

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Contents

| | |
|--|---|
| Introduction..... | 1 |
| Document Revision History | 2 |
| Reviewers/Contributors | 2 |
| Contents | 3 |
| General Information / References..... | 4 |
| Migrating to New Servers..... | 5 |
| Migrating Management and Personalization Databases to a new SQL Server | 5 |
| Migrating Management and Personalization Application Instances to a new Windows Server | 5 |
| Upgrade Options/Methodologies | 7 |
| In-Place Upgrade | 7 |
| Parallel Migration | 7 |
| New Infrastructure Migration | 8 |
| Migrating Endpoints to New/Parallel Management Center Environment..... | 9 |

General Information / References

Before proceeding with any upgrade, it is important to understand the basic product information, requirements, version compatibility, and other factors. Here are some references to review before proceeding:

- **Standard UWM Product Upgrade Documentation**
https://help.ivanti.com/ap/help/en_US/dtn/2022/Content/Install%20and%20Configure/Product%20Upgrade.htm
- **Ivanti UWM Version Compatibility and Upgrade Best Practices**
<https://forums.ivanti.com/s/article/Ivanti-User-Workspace-Management-formerly-AppSense-Version-Compatibility-and-Upgrades>

Migrating to New Servers

With many products and technologies, upgrading the environment includes implementation of new servers. It is usually desirable, and sometimes required, to upgrade the version of Windows Server and SQL Server.

However, with Management Center and Personalization Server, migrating to new Windows and SQL Servers at the same time as upgrading the UWM software actually makes the upgrade process more complex, and hence add risk to the project.

If new Windows or SQL Servers are desired, it is typically recommended to perform the migration as a separate task from upgrading UWM. When migrating to new servers as part of an upgrade project, the migration should usually be done prior to the upgrade.

Migrating Management and Personalization Databases to a new SQL Server

The process of migrating UWM databases is very straight-forward. Essentially, the steps are as follows:

1. Backup the database
2. Restore the database to the new SQL Server
3. Ensure configuration and service accounts still retain correct permissions
4. Using the Server Configuration Portal, create new database connections for each server, and then configure the application instance to use the new database connection

Please refer to the following articles for complete instructions:

- <https://forums.ivanti.com/s/article/Migrating-UWM-Management-Center-databases-using-the-Server-Configuration-Portal>
- <https://forums.ivanti.com/s/article/How-to-migrate-AppSense-Personalization-Server-Databases>

Warning Note: Advanced database availability methods, such as AlwaysOn, SQL Replication, or GeoSync will require additional steps and configuration.

Migrating Management and Personalization Application Instances to a new Windows Server

In this scenario, no upgrade is being performed, or an upgrade could be done before or after the migration to new servers. The outcome is simply that new servers will be supporting the environment.

Management Center:

1. Provision new Windows Server(s) with applicable Windows/security updates.
2. Install Management Center on new server(s), using the exact same version that is running on existing server(s).
3. Configure the database connection and instance exactly the same as the existing server(s).
4. Confirm that connectivity works. Adjust firewall rules if necessary. Update VIPs if using load balancers.
5. Update the Global Server Failover list if necessary. If using load balanced VIPs, no change should be needed. If no VIPs are utilized, add the new server(s) and bump to the top of the list.

6. Allow time for ALL endpoints in the environment to check in. The deployment agent needs to check in to receive the updated server list with the new server(s) in it. Any VDI pools using an image will need the image updated and the pool redeployed.
7. After confirming that all endpoints are using the new server list, the old server(s) can be decommissioned.

Personalization Server:

1. Provision new Windows Server(s) with applicable Windows/security updates.
2. Install Management Center on new server(s), using the exact same version that is running on existing server(s).
3. Configure the database connection and instance exactly the same as the existing server(s).
4. Confirm that connectivity works. Adjust firewall rules if necessary. Update VIPs if using load balancers.
5. Update the Site List in the EM Personalization console, if necessary. If using load balanced VIPs, no change should be needed. If no VIPs are utilized, add the new server(s) to the site list where applicable and bump to the top of the list.
6. Update all EM configuration policies if necessary. If using load balanced VIPs, no change should be needed. If no VIPs are utilized, add the new server(s) to the list where applicable and bump to the top of the list.
 - a. If using group policy actions to bypass the site list, the server list will need to be updated in the group policy actions themselves. Otherwise, the server list needs to be updated by clicking on the Personalization Servers button in the policy.
7. Allow time for all endpoints in the environment to install the updated configuration policies.
8. After confirming that all endpoints are using the new policies, the old server(s) can be decommissioned.

Upgrade Options/Methodologies

There are essentially three options for upgrading Management Center and Personalization Server infrastructure:

- In-Place Upgrade
- Parallel Migration
- New Infrastructure Migration

In-Place Upgrade

Intuition and experience in the IT industry would typically indicate that in-place upgrades are risky, and that migrating to new environments is safer and cleaner. However, with UWM, this is rarely the case. *Migrations are much more complex than in-place upgrades, making configuration mistakes (and therefore issues and downtime) much more likely.*

Pro: This method is typically simple and easy, requiring no core infrastructure components to change (different VIPs, servers, databases).

Con: Some downtime, while minimal, may be experienced. However, properly configured environments should experience zero endpoint/user impact, except for non-persistent VDI environments. For non-persistent VDI, endpoints booting up during the outage may not receive updated configuration policies, and users logging on or launching applications during the outage may not get profile settings.

The in-place upgrade option is the most often recommended method for most environments. The in-place upgrade involves upgrading the software on the server, and then the database schema. Remaining server(s) should be upgraded immediately afterward.

Agents and configuration policies can be upgraded separately at your convenience. Refer to the articles in the General Information / References section for full details and instructions.

Parallel Migration

The parallel migration method of performing an upgrade is where the production environment is replicated: the databases are backed up and restored to a different SQL Server, new Windows Servers are built, the parallel environment is upgraded, and users and endpoints are migrated to the parallel environment.

Pro: In environments which are highly sensitive to production changes, this allows the production environment to remain untouched during the entire process, until endpoints/users are ready to be migrated.

Con: The big downside to the parallel migration method is that the longer it takes you to migrate endpoints/users, the more out of date the databases become. Changes made in Management Center configuration, Personalization configuration, and most importantly, user profile settings, will experience data integrity and parity issues. For example, there is a chance that users will have made profile changes (such as email signatures or wallpaper) since the backup/restore that they won't see when they're migrated.

In doing a parallel migration using an upgraded database, the following steps are typically performed:

- Backup the databases and restore them to the new location.
- Perform an In-Place Upgrade of the parallel environment. If the current version/schema is more than two major releases behind, the upgrade will need to be performed in multiple stages.

- For example, if the current version is 10.1 FR4, install 2019.x on the servers, create database connections to the restored databases, and upgrade the schema. Then, upgrade the software and database schemas to 2021.x. And so on until you've reached the software version desired, never skipping more than two major versions.
- Note that the staged upgrade is only applicable to the database schema. Once the databases have been upgraded, additional servers can just have the desired version installed, and do not need to go through the staged upgrade process.
- Perform the following in the parallel environment:
 - Update the Site list in Personalization.
 - Open your Environment Manager configuration policies from the Management Center database, upgrade the policies, and edit the personalization server list.
 - In Management Center, assign the new agents and upgraded policies to the deployment groups.
 - In Management Center, update the global failover list.

You are now ready to migrate endpoints to the parallel environment. Refer to [Migrating Endpoints to New/Parallel Management Center Environment](#) for instructions.

New Infrastructure Migration

This method involves creating a brand new environment from scratch, and then optionally migrating configuration policies and profiles. It isn't truly an "upgrade", as no databases are ever upgraded during the process.

The Pros and Cons of migrating to new infrastructure are similar to that of a Parallel Migration. This method might be chosen over a Parallel Migration if it is desired to begin anew with a clean environment, and existing endpoints and user profiles aren't as critical to project success. This is the least-often recommended approach: minor configuration differences between environments can have significant impacts when trying to migrate endpoints/users. For example, profile migration tools will not bring settings over properly if application group and Windows group definitions aren't exactly matched.

The following steps are typically performed for a New Infrastructure Migration:

- First, simply build and configure the new environment as desired.
- **IF** endpoints will be migrated from the legacy environment to the new environment:
 - Existing assigned configuration policies should be exported out of the legacy environment and imported into the new environment. (Having these policies in the package library will help to ensure that the Deployment agent will properly uninstall those policies after migration to the new environment.)
 - Once configuration policies are migrated, each policy should be opened, upgraded, and then modified to match the new environment. For example, personalization server lists will need to be updated.
 - Refer to [Migrating Endpoints to New/Parallel Management Center Environment](#) for instructions on migrating endpoints.
- **IF** user profiles will be migrated from the legacy environment to the new environment:
 - Using the Environment Manager Personalization console, connect to the legacy environment and perform an XML export of the configuration. At a minimum, all assigned Application Groups and Windows Settings Groups should be exported. This is necessary for the profile migration

- tool to function. Then connect the console to the new Personalization environment and import the XML file.
- Use the EMPmigrate tool to migrate user profiles from the legacy environment to the new environment. Details on using this tool can be found here:
https://help.ivanti.com/ap/help/en_US/em/2022/Content/Environment%20Manager%20Administrative%20Tools%20Guide/EMP%20Migrate%20Utility.htm.

Migrating Endpoints to New/Parallel Management Center Environment

When migrating endpoints from one Management Center environment to another, there are a few options.

For persistent endpoints, the easiest way to do this is to use the OLD Management Center environment and update the Server Failover list.

- If you want to cut everyone over at once, simply update the global failover server list to point to the new Management Center servers. Or, if using load balanced VIPs, simply update the VIPs to point to the new servers.
- If you want to control the migration, create a new deployment group with a custom failover server list to point to the new servers. Then simply move computers into the new deployment group when you're ready to migrate them.

The endpoints will check in to the old servers, receive the updated failover server list, and the next time they check in will be with the new servers.

In a parallel migration, the new Management Center instance will have the endpoint in the original deployment group with all new agents/policies assigned.

In a new environment, membership rules need to be in place, so that endpoints will get registered into the desired deployment group.

For all **non-persistent endpoints**, you'll need to update the images with agents/configs, register them with the new Management Center servers, and re-deploy your pools.