



ProfileUnity™ with FlexApp™ Technology

# Quick Start and Evaluation Guide

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This guide has been authored by experts at Liquidware in order to provide information and guidance concerning ProfileUnity™ with FlexApp™.

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## Overview

This Quick Start and Evaluation Guide for ProfileUnity with FlexApp is designed to focus your efforts on the most valuable and consistently used functionality that can apply to a wide range of organizations. It is not meant to demonstrate the depth of the solution's customizable feature capabilities as these are quite significant and comprehensive.

It is strongly recommended that you read this guide in its entirety before you begin your evaluation. That way, you can familiarize yourself with the special features and unique capabilities of ProfileUnity with FlexApp outlined here.

This guide covers base configuration for profile portability, folder redirection with optional data migration, and FlexApp. How you configure the product depends in part on the exact features you want to test for your environment. You need to test actual user profiles and data to evaluate many of the features, so be prepared with identified Windows user test candidates before installation and configuration.

## Software Description

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ProfileUnity is available as a standalone product and consists of three parts:

- **Management Console** –Provides one central location where administrators can configure persona management and user and machine policies.
- **FlexApp Packaging Console** –Provides the ability to capture application as FlexApp packages. Administrators can then assign these packages to groups of users.
- **Client Tools** –Manages each user's settings and persona during their session.

ProfileUnity requires Microsoft Windows Active Directory (AD) to deploy its client files to the desktop and point the user to its configuration file.

## Environment Access Rights

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Before beginning your evaluation of ProfileUnity, make sure that you have an Administrator for your user environment available to install and configure the ProfileUnity with FlexApp software. Your Administrator should meet the following requirements:

- Be a Windows Active Directory Domain Admin or have equivalent access
- Have the ability to create Active Directory Group Policy Objects (GPOs)
- Have VMware Horizon Composer or Citrix Director access if part of your environment

# Requirements and Preparation Checklist

Step	Task	Status
<b>Access Requirements</b>		
1	<b>Acquire AD Domain Admin access.</b> Ensure that you have Domain Admin rights or that you can be granted them temporarily.	
2	<b>Acquire access to NETLOGON folder of the domain controller.</b> Ensure that you have administrator access to save files (write permission) to the NETLOGON folder of the domain controller.  <b>Note:</b> If you do not want to use the NETLOGON folder, any other UNC or cloud storage path can be used that meets the following requirements: "Authenticated users" must have read access and there must be a replication strategy in place to avoid the possibility of the alternative server being down.  If you plan to use cloud storage, refer to <a href="#">Using Cloud Storage with ProfileUnity</a> for more information on setting it up to work with ProfileUnity.	
3	<b>Make sure you are able to create AD Group Policy Objects.</b>	
4	<b>Have VMware Horizon or Citrix Director access if part of your environment.</b>	
<b>Software and Documentation</b>		
5	<b>Download the software.</b> Visit <a href="http://www.liquidware.com/download">http://www.liquidware.com/download</a> to download a fully-functional version of ProfileUnity with FlexApp.	
6	<b>Download the Installation and Configuration Guide.</b> Go to the <a href="#">Liquidware Documentation Portal</a> to find ProfileUnity product documentation. The <a href="#">ProfileUnity Installation &amp; Configuration Guide</a> covers system requirements, installation, and configuration of ProfileUnity.	
7	<b>(Optional) Download the FlexApp Packaging Console Manual.</b> Go to the <a href="#">Liquidware Documentation Portal</a> to find product documentation. The <a href="#">ProfileUnity FlexApp Packaging Console Guide</a> covers system requirements and installation of FlexApp along with packaging and updating applications. The <a href="#">FlexApp Packaging Console Guidance and Best Practices</a> document is an extension of the FlexApp Packaging Console Guide, providing additional guidance around the overall application packaging workflow with respect to FlexApp.	
<b>System Requirements</b>		
8	<b>Review the requirements for the ProfileUnity Management Console.</b> The ProfileUnity Management Console should be installed on a machine running Windows Server 2012 R2 or higher. The ProfileUnity Management Console relies on a port for full	

Step	Task	Status
	Web access for administration, communication of the FlexApp Packaging Console, and call back of inventory information from desktops. By default, the port is 8000, but it is fully configurable to any port number assigned. Refer to the <a href="#">ProfileUnity Installation and Configuration Guide</a> for more software requirements.	
9	<b>Review the requirements for the ProfileUnity Client.</b> The ProfileUnity Client runs on a variety of physical and virtual user machines running Windows 10 and higher or Windows Server 2012 R2 and higher. The clients using FlexApp can be deployed as physical desktops or as either persistent or non-persistent virtual desktops. Refer to the <a href="#">ProfileUnity Installation and Configuration Guide</a> for more software requirements.	
10	<b>Review the requirements for FlexApp and the FlexApp Packaging Consoles.</b> Each FlexApp Package or Layer should be created on a virtual machine running the same operating system with the same bit level (32- or 64-bit) as the user machines on which it is deployed. The FlexApp Packaging Console should not be installed on the same machine as the ProfileUnity Management Console. Refer to the <a href="#">ProfileUnity FlexApp Packaging Console Guide</a> for more software requirements.	
11	<b>Ensure that users have allocated network drive space.</b> Existing paths are fine. Suggested size for compressed profile store is 150 MB (15-50 average is typical) per user.	
12	<b>Ensure that you have ample network storage available per user for folder redirection.</b> For folder redirection of “My Documents” and any other files you want to redirect, the storage required varies significantly depending on the quantity of user data per user.	
13	<b>(Optional) Allocate space for FlexApp.</b> If you plan to test FlexApp department installed applications and create your own packages, you should use central storage with a minimum of 20GB per application. FlexApp Packages or Layers can be provisioned on a persistent disk, VHDX, VMDK, or cloud storage. During installation of the FlexApp Packaging Console, several FlexApp packages are added to your inventory list automatically. Liquidware has pre-packaged some popular applications and made them available to all users for immediate use via cloud storage. Using Liquidware apps allows for faster prototyping with Proof of Concepts during the evaluation process.	
<b>Suggested Environment Modifications</b>		
14	<b>Set anti-virus exceptions for ProfileUnity.</b> If anti-virus programs are used in the environment, they can slow down user logon and logoff times while scanning ProfileUnity files and directories. Excluding these files and directories can speed up the logon and logoff process. For more information, refer to the Liquidware ProfileUnity knowledge base article entitled, <a href="#">Antivirus Slows Logon While Scanning of ProfileUnity Program Files and Directories</a>	
15	<b>Modify the logoff behavior of desktops using Citrix Virtual Desktop.</b>	

Step	Task	Status
	A common issue with desktops running Citrix Virtual Desktop is that machines are shut down before logoff scripts have finished running. More specifically, some or all user Portability settings are not being saved because ProfileUnity Portability .7z files are missing from the network store after log off because the logoff script was terminated early. For more details about this issue, refer to the Liquidware ProfileUnity knowledge base article entitled, <a href="https://github.com/liquidwarelabs/ProfileUnity">ProfileUnity Logoff Script is Terminated Early on Citrix Virtual Apps and Desktops</a> .	

Additional resources can be found at the following location:

<https://github.com/liquidwarelabs/ProfileUnity>

# ProfileUnity Installation and Configuration

Refer to the [ProfileUnity Installation & Configuration Guide](#) for step-by-step instructions for configuring your environment and installing the ProfileUnity software.

## Configuring Users and Computers in Active Directory

ProfileUnity uses Microsoft Active Directory (AD) and Group Policy Management for managing the users and computers configured to use the software and for activating the ProfileUnity Client without actually installing the agent on each of those individual physical or virtual desktops. Consequently, there are some administrative tasks outside of installing the ProfileUnity software where administrators need to configure some Active Directory and Group Policy settings. The ProfileUnity Management Console can automate configuring some of the Group Policy settings after the ProfileUnity Organizational Unit (OU) has been created, or you can choose to manually configure your AD settings.

Step	Task	Status
<b>Active Directory Settings</b>		
1	<b>Create a ProfileUnity Computer Organizational Unit.</b> This should have blocked inheritance set. Write the name of the test machine OU	
2	<b>Create non-production test machines.</b> Create a test pool and point to the test machine OU or place test machines in the ProfileUnity OU. Write the names of the test machines:	
3	<b>Create non-production test users.</b> These users can be used in the ProfileUnity Management Console under Licensing Management later. Write the names of the test users:	



## Logging In to the Management Console for the First Time

For security purposes, set the Management Console admin account password first. This admin account can be used to manage access for other users and can be used to log in if LDAP authentication fails. Use the following default credentials the first time you log in:

- **Username:** `admin`
- **Password:** (blank)

After entering `admin` as your username and leaving the password blank, you will be prompted to change the password at the first login.

There is a second level of authentication to the Management Console available through AD integration. With this feature, Domain Admins have default access to the ProfileUnity Management Console. This can be removed or modified to another AD group later by using the Administrative section of the Management Console.

**Note:** During the configuration process, ProfileUnity offers the option to automatically configure Active Directory using the Computer OU that you set up before installation. You must be logged in as an Active Directory admin to the ProfileUnity Management Console for this option to work correctly. Therefore, we recommend that you log out from the ProfileUnity “admin” account and log back in using your Active Directory Domain Admin account credentials before using the Guided Configuration Wizard.

## Using the Guided Configuration Wizard

To configure the production environment using the Management Console, ProfileUnity has an easy-to-use Guided Configuration Wizard. The first time you log in to the ProfileUnity Management Console, the Guided Configuration Wizard opens automatically to help you set up your environment for ProfileUnity.

Step	Task	Status
<b>Additional Environmental Configuration Settings</b>		
1	<b>Set the Deployment Path.</b> ProfileUnity needs access to NETLOGON or a common domain location where the client software and configuration files can be deployed. Write the name of the deployment path. For example: <code>\\domain\netlogon\profileunity</code>	
2	<b>Set the User Profile Share.</b> ProfileUnity needs to know the root share path to your users' home directories.	

Step	Task	Status
	Write the name of the user profile/home share. For example: \\fileserver\share\%username%	
3	<b>Set the ProfileUnity Management Console Server.</b> Write the name of the server running the Management Console:	

## Evaluation and Management Concepts

The following section on Evaluation highlights some of the major features in ProfileUnity with FlexApp Technology including:

- Profile Portability
- Folder Redirection
- Data Migration
- Context Aware Filters
- Drive Mapping
- Printer Assignment
- FlexApp Layering - Departmental Installed Applications (OPTIONAL)

Refer to the [ProfileUnity User Guide](#) for information on additional ProfileUnity features and configuration options that can be used to manage your user environment.

### Profile Portability & Folder Redirection with User Authored Data Migration

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These options were configured for you (if you chose them specifically) during the Guided Configuration process. It is best to log in to a user account that already has a user profile and some data saved in the Desktop and/or My Documents folder.

Log in as a test user that was part of your AD Group during ProfileUnity Integration.

1. At login, you should see ProfileUnity running, indicated by a ProfileUnity splash screen and a progress bar. Depending on the profile size, ProfileUnity might run for as little as a few seconds or might take longer. If this process takes too long, you can tune profiles later for optimal performance.
2. Make some changes to your desktop environment. For example, change the color of the desktop, add a word to your spell checker dictionary in your word processing software, or add a file to the desktop.
3. Log off. ProfileUnity then backs up your changes and saves them in a compressed state to the network.
4. Log in to another desktop in the same domain as the user. Ideally, you should log in to a different version of the operating system (for example, switch from Windows 10 to Windows 11 or vice versa). When ProfileUnity runs at login, a splash screen appears, indicating that the software is

restoring your profile to the new machine and even dynamically accounting for differences in operating system versions.

5. Check that the changes that you made in the previous Windows session (Step 2 above) exist in the new Windows session.
6. Browse to the user's network file storage, which is the same location that you identified in the Guided Configuration process above. Note that a ProfileUnity folder should have been created automatically. This folder includes files that have been either redirected or made portable. The portability file contains a portion of your profile in a compressed state with a ratio of up to 50:1. This is not the profile in use; it is the profile in storage that is updated when you log off. The profile in use is in the native location on your active Windows session.
7. Check your user account's network file storage path to find the redirected My Documents and Desktop folder, which is the default setting in the Guided Configuration process. It is not a problem if all of the data is not yet in these folders; the data will continue to transfer from the original legacy machine until it is complete. This transfer is handled by a special "Anytime Migration" feature of ProfileUnity that allows this process to happen in the background while users retain the ability to work on their desktops. After all data in these two folders has been migrated, Folder Redirection will be turned on at the next login.

## Context Aware Filters Applied to Custom Drive Mappings

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Context aware filters control how features and configurations are applied within ProfileUnity. You can apply a configuration based on hundreds of criteria with a single filter or by "stacking" filters. For example, in a hospital setting, you might want users to be able to print to the printers that are near them. To do this, you can assign printers based on the subnet, OU, or Computer Name that corresponds to where the Windows session is physically located.

The following section describes how to create a filter and configure it for a drive mapping.

### Creating Context Aware Filters

1. Log in to the ProfileUnity Management Console.
2. Click the **Filter Management** option in the left column.
3. Create a filter by filling in the text-entry fields and selecting options on the screen. Make sure that you apply the filter to a Windows machine that you can subsequently log in to so that you can test this feature.

**Note:** Additional details about creating filters are available in the [ProfileUnity User Guide](#).

4. Click the **Save** button.

## Applying a Filter to Custom Drive Mapping

1. Click the **Configuration Management** option in the left column.
2. Click the **Edit** button for the configuration that you want to apply a filter to.
3. On the **Edit Configuration** screen, click the **Drive Mapping** icon.
4. Click the **Add Drive Mapping Rule** button.
5. On the **New Drive Mapping Setting** screen, configure a drive mapping using your new custom filter.
6. Assign a **Drive Letter** to the drive, then specify the **UNC Path**.
7. Click the **Save** button.
8. Click the **Update** button in the top right corner of the **Edit Configuration** screen to save all configuration module changes to the current configuration and return to the main Configuration Management list.
9. In order for the Configuration changes to take effect in your user environment, the Configuration file must be downloaded or deployed to the Deployment Path where the ProfileUnity Client is also hosted. By default, this should be your NETLOGON file share. Select the configuration to download from the Configuration Management list.
10. Click the **Download Configuration** icon to save the ProfileUnity configuration (an INI file) to your production/test environment.

**Important:** Re-deploying or re-downloading configuration changes is an easily overlooked step for new users.

Configuration Management						Create Import	
Name	Comments	Last Deployed By	Last Deployed Date	Created	Modified	Filter Download Configuration	
Default				2020-11-19 08:57:12	2020-12-03 07:13:07	PDF TEXT JSON INI	
FlexApp Demo				2020-11-30 15:05:46	2020-12-01 09:54:24	PDF TEXT JSON INI	
Basic Config				2020-12-02 14:10:35	2020-12-02 14:10:35	PDF TEXT JSON INI	

11. Test this filter and the Drive Mapping by completing the following steps:
  - a. Log in to the Windows machine/user to which you originally applied the filter.
  - b. After ProfileUnity runs at login, navigate to Windows Explorer.
  - c. Verify that the drive mapped for the user when the filter was fulfilled.

## Printer Management

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1. Log in to the ProfileUnity Management Console.
2. Click the **Configuration Management** option in the left column.
3. Click the **Edit** icon for the configuration that you want to manage printers for
4. On the **Edit Configuration** screen, click the **Shared Printers** icon.
5. Click the **Add Shared Printer Rule** button.
6. Click the **Browse Server** icon.

The **New Shared Printer Setting** window opens.

7. Enter the name of a **Print Server** in your network.

The printer list is populated automatically through ProfileUnity's printer auto-discovery capabilities.

8. Apply a unique filter to connect the printer to a limited group of users or a single user, or use the "No Filter" option to apply the printer to all ProfileUnity users and machines.
9. Click the **Save** button.

**Note:** ProfileUnity and your Windows network supports Windows "Point- and-Print" driver technology so no drivers are needed for most popular printers that conform to this standard.

10. Click the **Update** button in the top right corner of the **Edit Configuration** screen to save all configuration module changes to the current configuration and return to the main Configuration Management list.
11. In order for the Configuration changes to take effect in your user environment, the Configuration file must be downloaded or deployed to the Deployment Path where the ProfileUnity Client is also hosted. By default, this should be your NETLOGON file share. Select the configuration to download from the Configuration Management list, then click the **Download Configuration** icon to save the ProfileUnity configuration (an INI file) to your production/test environment.
12. Log in to a machine/username in the filter group where the printer was applied and test the printer mapping.

## Application Layering with FlexApp

FlexApp Layering is an advanced feature within the ProfileUnity User Environment Management platform. It is a fully integrated solution that leverages profile settings and policies but can also be implemented independent of ProfileUnity's core User Environment Management features. FlexApp enables Administrators to assign department-level applications to groups of users. FlexApp complements application virtualization solutions that use isolation, such as Microsoft App-V and VMware ThinApp. FlexApp application layering is also compatible with many desktop virtualization platforms, including Citrix Virtual Apps and Desktop and VMware Horizon. These environments can be kept ultra-secure by leveraging ProfileUnity's Application Rights Management features, which eliminates the need to make users full "Local Admins" in order to run or install applications.

Everything needed for FlexApp to run on the endpoint was configured for you in the Guided Configuration.

FlexApp testing consists of implementing the FlexApp Packaging Console installed to well-managed desktops and provisioning FlexApp packages from the FlexApp management feature set in the ProfileUnity Management Console.

## Installing the FlexApp Packaging Console Software

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Refer to the [ProfileUnity FlexApp Packaging Console Guide](#) for step-by-step instructions for installing the FlexApp Packaging Console to manage department installed applications. This guide also covers how to package applications and configure them for deployment to users. In addition, it explains how to manage packaged layers using techniques such as cloning, extending packaged layers to include additional software, and patching or updating layers.

Liquidware provides a set of various pre-packaged applications, called Liquidware apps, inside the FlexApp Packaging Console. These FlexApp packages were designed to get POCs off the ground faster because they are available for immediate use. Liquidware apps can be used for testing or cloned and used in a more permanent basis in your environment.

## Additional Resources for FlexApp

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There are two additional resources on the Liquidware Support Portal to assist you in testing FlexApp in your environment and deciding how to structure your environment to take advantage of Application Layering.

- [FlexApp Packaging Console Guidance and Best Practices](#)—This document is an extension of the **FlexApp Packaging Console Guide**, providing additional guidance around the overall application packaging workflow with respect to FlexApp.

- [FlexApp Base Image Creation Best Practices](#)—This document provides a refresher of common techniques for base image creation.



## ProfileUnity Evaluation Checklist

As you progress through your evaluation, make sure you are able to accomplish the following tasks.

Step	Task	Status
1	<b>Create a New Configuration.</b> All user and environment settings that control how ProfileUnity runs are contained in one or more Configuration files. A new configuration is automatically created in the Guided Setup when you first install ProfileUnity. You can modify it at any time in the Management Console. You can also create multiple configurations to layer how settings are applied. For example, one configuration might map drives before the next configuration runs with other settings related to those mapped drives.	
2	<b>Create a Filter.</b> Filters are a way to segment users based on real segmentation factors such as the department in which they work, whether they use a physical desktop or a virtual machine, and so on. Use these filters to apply configuration settings conditionally.	
3	<b>Create or Change a Portability Setting.</b> You can determine which parts of a user's profile are portable across multiple sessions by using registry rules and file system rules. ProfileUnity gives granular access to HKEY_CURRENT_USER and HKEY_LOCAL_MACHINE registry keys.	
4	<b>Tune Portability Settings if Necessary.</b> Some default portability settings grab folders that contain temp files or other items that are not necessary for user portability success. For example, the files under <code>\Sun-Java\DeploymentCache</code> might not be needed because they are temporary files and they can grow larger, thus impacting the zipping of files and movement across the network to the save path location.	
5	<b>Edit and Download a Configuration.</b> Each configuration is stored in an INI file. The default location to store these is the NETLOGON file share. A new configuration is created automatically in the Guided Setup when you first install ProfileUnity and is then pushed to the file share. The ProfileUnity Client uses these INI files to apply your settings with each user login.  <b>Note:</b> When you edit a ProfileUnity configuration after the initial Guided Setup, you need to save the file to the same location as the NETLOGON file share or your chosen alternate file share location. To do this, click the <b>Download Configuration</b> icon next to your configuration name on the <b>Configuration Management</b> screen.	
6	<b>Test Application Restrictions in ProfileUnity.</b> Configure application restrictions to test application rights management. An easy restriction to test would be to disallow the Calculator from running ( <code>Calc.exe</code> ). Application restrictions are practical when you want to limit usage of an app to a certain group of users. For instance, if an application is in the base image or if it is assigned by FlexApp at a machine level.	

Step	Task	Status
7	<b>(Optional) Set Up FlexDisk (VMDK).</b> FlexDisk is optional VMDK support for FlexApp Application Layering and ProfileDisk options. Otherwise, you can leverage lighter weight infrastructure requirements of VHDX storage with FlexApp and ProfileDisk. If you have VMware vSphere/VMware ESXi, you might want to consider the FlexDisk VMDK option. VMDKs often perform better than VHDXs and are more stable because they are not subject to network line speeds and interruptions.	
8	<b>Package an Application for FlexApp.</b> Use the ProfileUnity FlexApp Packaging Console to package applications or change metadata settings.	
9	<b>Assign a FlexApp Application.</b> Use the FlexApp configuration module to assign an application to a user, group, or other context aware setting. For more information about filtering, refer to Step 2 above.	
10	<b>Create a New Management Console User Account.</b> Multiple IT administrators can use the same ProfileUnity Management Console. Create a new user account for another admin.	
11	<b>Use ProfileUnity's Inventory to View FlexApp Packages.</b> Explore the Inventory screen of the ProfileUnity Management Console to get more system information.	
12	<b>Print a Summary of Your Configuration Settings.</b> Choose a Configuration, Filter, or Portability setting, then print a report that lists them. Then show it to the person in your organization who is responsible for documenting all of your user and environment settings.	

## Further Evaluation

There are more than a dozen other core features that you can leverage by writing or editing a configuration for your organization's custom requirements. Refer to the full [ProfileUnity User Guide](#) and the ProfileUnity knowledge base located on the [Liquidware Support Portal](#) for advanced filter settings, numerous additional features, and troubleshooting.

Thank you for evaluating ProfileUnity with FlexApp. If you have any questions, you can contact us at the email addresses below:

**Sales:** [Sales@Liquidware.com](mailto:Sales@Liquidware.com)

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