ProfileUnity™
and FlexApp™

Quick Start and Evaluation Guide
**Introduction**

This guide has been authored by experts at Liquidware Labs in order to provide information and guidance concerning the evaluation process and normal use cases of ProfileUnity and ProfileUnity FlexApp.

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ProfileUnity and FlexApp Technology Overview

ProfileUnity with FlexApp delivers feature-rich, yet affordable, User Environment Management and Application Layering for both virtual desktop deployments and physical PCs. ProfileUnity decouples user profiles, settings and data from the operating system thus ending the user migration cycle to new Windows desktops, including Citrix XenDesktop, XenApp, and VMware Horizon. ProfileUnity’s ongoing User Environment Management features centralize ongoing user and policy management with context aware settings that are only limited to your imagination.

ProfileUnity delivers a flexible universal profile that is compatible across multiple Windows versions. ProfileUnity boasts a lightweight agent and no complex software package to install on end-points. This cost-effective solution separately stores and dynamically applies user profiles, configurations, data, and select layered applications to a Windows OS in seconds at login, enabling organizations to be more flexible than ever before with their desktops.

ProfileUnity’s FlexApp technology is designed to allow administrators to deploy corporate or department installed applications (DIA) without the burden of tedious base image management. FlexApp enables a potentially limitless number of applications to be stored separately from the Windows operating system yet ‘snapped-in’ in only seconds at login. Applications look native to the operating system, enabling compatibility of thousands of more applications than with other methods of application virtualization. FlexApp DIA supports both persistent and non-persistent desktops.

FlexApp UIA (User Installed Applications) allows select users to install only applications that have been given rights to install. FlexApp UIA supports only non-persistent desktops.

ProfileUnity offers these key advantages:

- ProfileUnity retains profiles in native Windows® formats, which keeps them backward and forward compatible across Windows operating systems. ProfileUnity is the perfect solution to harvest user profiles and user data from an older Windows OS and deliver it to a newer Windows OS just in time. Profiles can also co-exist across multiple Windows versions.
- ProfileUnity runs as a standalone system. No proprietary databases are used for user profiles or data. The lightweight client installs to endpoints without the need for software distribution or user downtime. ProfileUnity is priced an average of 40 to 50 percent less than other user virtualization offerings, for faster ROI and a lower overall budget.
- ProfileUnity offers sophisticated features including Context-Aware Filters, Integration with Microsoft® Active Directory, Advanced Folder Redirection options, and more.
- ProfileUnity includes Application Rights Management for no added cost. These features enable you to elevate privileges for select users to run or install select applications and restrict users from running select applications in the base image.

Innovative FlexApp technology provides key benefits to customers, including:

- Simplifies management of non-persistent Windows environments dramatically because fewer master images must be maintained
- Promotes greater desktop virtualization ROI and economies of scale because more workers can use the virtual desktop infrastructure
- Reduces desktop administrator time on maintenance and troubleshooting activities
- Significantly lowers TCO as organizations realize optimal license use and reduce storage requirements
- Layers the application in the native locations throughout the Windows OS without application isolation.

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. In order to get the best results for the evaluation, it is good idea to familiarize yourself with the special features and unique capabilities of ProfileUnity and FlexApp Layering outlined in this guidebook.
This guide will get you started with a base configuration for profile portability, folder redirection with optional data migration, and FlexApp Packaging and Layering on a departmental/group/user basis. How you configure the product depends in part on the exact features you wish to test for your environment. Also, you will need to test actual user profiles and data in order to evaluate many of the features, so be prepared with identified Windows user test candidates before installation and configuration.

Top Reasons Customers Use ProfileUnity

For the most part, customers choose ProfileUnity to automate many of the processes around managing their user profiles, user data and the resources (including printers, drive, applications, etc.) that are assigned to users.

The top reasons that customers deploy ProfileUnity include:

- Speed up overall user login times
- Co-exist Windows OSs – seamless onboarding to new desktop, end user migrations
- Application Layering by group, department, user – streamline image management
- Application Rights Management – restrict or elevate users to run select apps
- Replace Roaming Profiles – solving profile portability, granular, faster, dependable
- Lower costs of delivering VDI – lower storage and management costs
- Make more users compatible with VDI – knowledge workers and power users can have the customizations and apps they demand even in VDI
- Deliver context aware desktop experience – printer management, settings, shortcuts, etc. all based on custom filters
- Disaster Recovery - persona, data, apps restored in seconds to any Windows desktop
- Ongoing management of the desktop – provision settings , standards, registry modifications, desktop lockdown, and more
- One central user management console -Persona, Applications, Configurations, and central migration settings – for any and all Windows desktops

The examples provided in this Quick Start and Evaluation Guide will illustrate how to use ProfileUnity to address these needs in your own environment.
Quick Start Process

Download Options

The ProfileUnity Management Console runs on a Windows Server (2008 or later). All prerequisites are included in the ProfileUnity with FlexApp file that you may have already obtained from the Download tab of the Liquidware Labs web site after you register for no charge. If you have not downloaded, please do so now.

Requirements and Preparation Checklist

The following requirements and preparation should be made to the environment for either method of download and installation.

- Ensure that you have administrator access to save files to the NETLOGON folder of the domain controller.
  
  **NOTE:** If the NETLOGON folder is not desired, any other UNC path may be used that meets the following requirements: “Authenticated users” must have read access and there should be a replication strategy in place to avoid the possibility of the alternative server being down.

- Ensure that you have Domain Admin rights or you can temporarily get access to have them.
- The ProfileUnity console relies on a port for full Web access for administration, communication of the FlexApp Department Installed Application packaging console, and for call back of inventory information from desktops. By default the port is 8000 but it is fully configurable to any port number assigned.
- Ensure that users have allocated network drive space. Existing paths are fine. Suggested minimum size for compressed profile store is 150 MB (15-50 average is typical.)
- Ensure that you have access to a Windows 2008 or later Server where the ProfileUnity Management Console can be installed. This can be the administrator’s own desktop.
- Ensure that you have ample network storage available per user for folder redirection of “My Documents” and any other files you wish to redirect. Storage required will vary greatly depending on quantity of user data per user.
- If you plan to test FlexApp Department Installed Applications –
  
  o Central storage with a minimum of 20GB is suggested. This is where department apps will be installed and stored on VHD provisioned by ProfileUnity.
  o A non-persistent Windows packaging console (desktop or server) for use by administrators should be allocated. For best results, it is recommended that the OS version should match the end-user computing environment to which you are layering. The packaging console must also match the bit (32 or 64) of the end user computing desktops.

Although ProfileUnity’s Guided Configuration will give you the option to quickly implement ProfileUnity and FlexApp, please be aware that there is additional documentation available on the Liquidware Labs Support Documentation web page.
ProfileUnity Installation and Setup

Once you have downloaded, you may begin the installation/setup of ProfileUnity. Detailed videos on installation and configuration are also available in the Videos section of the Liquidware Labs web site. The following section outlines the required steps for installation of ProfileUnity.

Launch the executable you downloaded and follow the prompts. What you are installing is the ProfileUnity Management Console which can be on a Windows 2008 or later Server. The console is used to manage ProfileUnity; it writes and saves configuration files used by ProfileUnity’s small local network hosted agent. The machine that this is installed to does not need to be on 24/7 because ProfileUnity can run in production without the console being present. The installer will be implementing all of the necessary requirements including a database called MongoDB and a lightweight web server. These are used for configuration only, your organization’s user data and profiles are not stored in the database.

Refer to the full ProfileUnity Installation Guide, available on the support section of the Liquidware Labs web site, if a step-by-step guide is needed.

Note: The default Password for the ProfileUnity web console is UN: admin PW: is Blank and you will be prompted to change this at logon. 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.

ProfileUnity AD Integration

To configure the production environment and the console, ProfileUnity has an easy-to-use Guided Configuration Wizard.

Upon first login, you will see the Setup screen prompt. You can verify administrator groups that have access to the console (leave as default and Domain Admins will have access). You’ll also confirm that the path to your NETLOGON file share was automatically discovered. You could choose another storage path for the deployment of the ProfileUnity agent; however, the NETLOGON location is ideal to ensure automatic and secure scalability. Click Next when done.
**ProfileUnity Configuration**

Now ProfileUnity needs a Configuration to run for your users - such as profile portability, folder redirection and optionally FlexApp UIA. On this screen, you will now be able choose a configuration that most closely matches your environment and intended desktop transformation. Depending on what is chosen here ProfileUnity may automatically setup profile portability and migrate any legacy data from profiles and user authored data locations such as My Documents and the Desktop folder. This Guided configurations selections have been optimized to manage profiles and data for your chosen environment.

[If you'd like to run multiple configurations for different desktop types you can add additional ones after setup.]

Once complete, click Next.

To store profiles, data, and optional VHD volume storage, ProfileUnity needs to know where your users' UNC storage path is located. This screen will allow you to specify the UNC storage path for users. Modify the path to match your environment, ensuring that the path is formatted similar as the example that follows: `\server.domain.com\share\%username%`. Note that the path must end in `home\%username%`. Click Next.
The next two screens you will encounter will be the Active Directory GPOs and License Group setup which will determine which group of users and desktops that ProfileUnity will manage. This part of the automated setup will accomplish Computer Configuration, User Configuration, and License Configuration. By clicking Next you’ll see the second image. Here you will choose the OU Computer Group for the desktops ProfileUnity will run on. You’ll also choose your User Group for the users that will be managed with ProfileUnity. If you do not have users in a select group in AD for your ProfileUnity implementation, go to AD now and create a group. The group in the example was manually created in AD as a Group called “ProfileUnityLicenseGroup”. Your group can be any name you desire or an existing User Group. Be sure to add your test users to that account in AD.

Once you have selected your groups, click Run. The necessary Group Policies will be automatically created and applied to the select groups and this will be confirmed on screen. AD integration is now complete. Click Next in the Management Console to continue to configuration.

On the next screen you are notified that you have completed the Guided Configuration process. Click Finish on this screen to commit the configuration. It will automatically be saved to your NETLOGON file path where the agent was installed earlier. NOTE: Saving changes to your Configuration later will be a manual process to ensure that the base Configuration is not unintentionally overwritten.

Select Finish.
If you completed these steps you will have installed ProfileUnity successfully and you have applied a ProfileUnity Configuration to your group of selected users. The guided configuration turned on a Portable Profile, specific best practice Folder Redirection, and depending on the configuration chosen, optional migration of legacy data.

You are now ready to test and use the product’s most popular feature sets.
Evaluation and Management Concepts

The following section on Evaluation will assist you in exploring and using 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)

Profile Portability & Folder Redirection with User Authored Data Migration

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

Logon as a test user that was included in your AD Group during ProfileUnity Integration.

1) Note that ProfileUnity should run at login. You will see a ProfileUnity splash screen at login and a progress bar. Depending on the profile size, ProfileUnity may run for as little as a few seconds or may take longer. If this process takes too long, then profiles can be tuned for optimal performance later. If FlexApp UIA was made active, the first logon takes longer because a VHD is being provisioned (first time only).

2) Make some changes to your desktop environment. For example, change the color of the desktop, add a word to your spellchecker dictionary in your Word Processing software, or add a file to the desktop, etc.

3) Logoff: ProfileUnity will run at logoff, it is backing up your changes and saving them in a compressed state to the network.

4) Login to another desktop in the domain as the same user. Ideally log into a different version operating system (i.e. switch from Windows® 7 to Windows XP or vice versa). ProfileUnity will run at login and, again, you will see a splash screen indicating that the software is restoring your profile to the new machine and even dynamically accounting for differences in operating system versions. Test that the settings that you modified in the previous Windows session (in step 2 above) are restored in the new Windows session.

5) Browse to the user’s network file storage (the same location that you identified in the guided configuration above). Note that a ProfileUnity folder should have been automatically created. 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 an incredible ratio of up to 50:1). This is not the profile in use; it is the profile in storage that is updated at logoff. The profile in use is in the native locations on your active Windows session.

6) Check your user account’s network file storage path to find the redirected My Documents and Desktop folder (the default setting in the Guided Configuration). It is OK if all data is not yet in these folders, it 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. Once all data has been migrated for these two folders, Folder Redirection will be turned on at the next login.
Context Aware Filters Applied To Custom Drive Mappings

Context aware filters greatly 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 may want users to be able to print on those printers near them. To accomplish this task, you can assign printer(s) based on the subnet, OU, or Computer Name that corresponds to where the Windows session is physically located.

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

Creating Context Aware Filters

Login to the ProfileUnity Admin Console and choose the Filter Management tab from the navigation options on the left. Writing a filter is as simple as filling in the boxes and selecting your options on the screen. Make sure that you apply the filter you have written to a Windows machine you can subsequently login to, so that you can test this feature. Additional details about writing filters are available in the full ProfileUnity Help Manual on the Liquidware Labs Support Documentation web page. Choose Save when you have written a filter based on values in your environment.

NOTE: Intuitive and detailed Help is available throughout the product by clicking on the Life Ring icon while in any particular configuration screen.
**Applying a Filter to Custom Drive Mapping**

Choose Configuration Management from the navigation options across the left side. Click on Edit configuration icon for the configuration that you’re using.

Choose the “Drive Mapping” feature set module. Choose **Add a Drive Mapping** button. Now, configure a drive mapping using your new custom filter. Choose **OK** then choose **Save**.

![New Drive Mapping Setting](image)

Click the **Update** button on the Management Console. Return to Configuration Management by selecting it on the left and then select **Download** to save the ProfileUnity configuration (an .INI file) to your production/test environment where the ProfileUnity agent is also hosted. By default this should be your NETLOGON file share.

**PLEASE NOTE:** This is an easily overlooked step for new users.

As a final step, test this filter and the Drive Mapping by logging in to the Windows machine/user to which you originally applied the filter, when first creating it. After ProfileUnity runs at login, navigate to Windows Explorer and verify that the drive mapped for the user when the filter was fulfilled.
Printer Management

Login to the ProfileUnity Management Console. Choose Configuration Management from along the left. Click on the Edit icon for the configuration that you’re using.

Choose the “Printers” feature set module. Choose Add Printer Rule. Then choose Browse Server.

![Add Printer](image1)

Now you will see New Printer Setting screen. Enter the name of a Print Server in your network and the printer list will be automatically populated through ProfileUnity’s printer auto-discovery capabilities. You can apply a unique filter to “connect” the printer to a limited group of users or user, or use “No Filter” to apply the printer to all ProfileUnity users and machines. Choose Save when done.

![New Printer Setting](image2)

Click the button on the Management Console. Return to Configuration Management by selecting it on the left and then select Download to save the ProfileUnity configuration (an .INI file) to your production/test environment where the ProfileUnity agent is also hosted, by default this should be your NETLOGON file share.

**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.

Login to a machine/user name in the filter group where the printer was applied and test the printer mapping per the configuration.
FlexApp Layering Evaluation

FlexApp Layering Technology

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 DIA enables Administrators to assign department-level applications to groups of users, and to, optionally, to empower select users to install their own applications (FlexApp UIA). 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 XenApp/XenDesktop and VMware Horizon View. 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.

Note: FlexApp UIA features are intended only for non-persistent desktops and are found under the FlexApp UIA in the management console. If you are interested in testing FlexApp UIA please refer to the full manual for further details in setting up and testing the FlexApp DIA feature set.

FlexApp DIA testing consists of implementing the FlexApp Packaging Console installed to a non-persistent (easily snapshotted) desktop and provisioning FlexApp packages from the FlexApp DIA management feature set in the ProfileUnity Management Console.

The basic steps below should get you started with FlexApp DIA and packaging apps via VHDs. Please refer to the full manual for further details in setting up and testing the FlexApp DIA feature set including VMDK (FlexDisk) options.

Install the FlexApp Packaging Console

1. From the FlexApp Packaging Console VM
2. Open a web browser and connect to the corresponding address of your ProfileUnity Management Console
   - Typically HTTPS://servername:8000
3. Login to the ProfileUnity Management Console with your admin credentials
4. Click on “administrator” button in the top right corner

5. Scroll down to the ProfileUnity Tools section

6. Click on “Download FlexApp Packaging Console”
7. Click Run

8. When the download completes, browse to the location of “fpcsetup.exe” and double click to begin the install process

9. When the wizard appears, click next to continue the install
10. If .NET 4.5.x is not installed, the installer will automatically configure it for you.

11. Once .NET 4.5.x has been either installed or verified the FlexApp Packaging Console setup will continue.
12. Accept the license agreement to continue

13. Adjust or accept the default install location
14. Click next to continue

15. Click Finish

**FlexApp Packaging Console Configuration steps**

1. Double click the “FlexApp Packaging Console” icon on the desktop to capture a FlexApp Layer

2. Enter your credentials for the ProfileUnity Management Console.
   - Line 1 = ProfileUnity Management Console address
   - Line 2 = username
   - Line 3 = password
3. Once logged into the FlexApp Packaging Console, click on the settings button

4. Enter information to streamline the FlexApp packaging process.
- Consider entering the “Default VHD location” to save time. A highly available network storage location is recommended.

- Additional customization options

5. Click OK when finished updating settings
Basic FlexApp Layer Packaging Process

1. Double click the “FlexApp Packaging Console” icon on the desktop to capture a FlexApp Layer.

2. Enter your credentials for the ProfileUnity Management Console.
   a. Line 1 = ProfileUnity management console address
   b. Line 2 = username
   c. Line 3 = password

3. Once logged into the FlexApp Packaging Console, click on the Create button.
4. Enter the corresponding details
   a. Package name
   b. Installer location
   c. Package Type (Select VHD, Local disk or a FlexDisk VMDK)
   d. VHD location refers to the default location to save the FlexApp Layer
   e. Size – you can configure varying sizes of FlexApp Layers depending upon the footprint requirements of each application
      i. Stratusphere UX has the ability to analyze the disk footprint requirements of applications. This information could be used to make virtual disk sizing considerations
   f. Compression – you have the option to compress the application within the FlexApp layer
   g. Virtual Disk Type
      i. Expandable – ability to add content later
ii. Fixed – FlexApp package is locked

5. Click the “Create” button when you are ready to continue.
6. The corresponding Virtual Disk type is created and mounted.

7. The application install proceeds as normal.
8. Once the install is complete, perform a test launch of the application.
9. Make any configuration changes during this time.
10. Click “Finish” when you are ready to proceed. This will finalize the FlexApp Package.

Click “Save” to complete the FlexApp packaging process. The FlexApp package is now stored on the network share you configured under Settings.

*Note: Pre-testing for the success of a package is covered in the FlexApp Packaging Console Manual and is not part of the scope of this Quick Start and Evaluation Guide.*

**FlexApp Package Deployment**

1. From the FlexApp Packaging Console VM
2. Open a web browser and connect to the corresponding address of your ProfileUnity Management Console.
   - Typically HTTPS://servername:8000
3. Login to the ProfileUnity Management Console with your admin credentials.

4. Click on “Configuration Management” button on the top left corner of the screen.
5. Click on the “Edit” button on the corresponding configuration.

6. Click on the “FlexApp DIA” button.
7. Click the “Add FlexApp DIA” button in the top right corner of the screen.

8. The available FlexApp Packages will be presented on the right side of the screen.

9. Left Click and hold to highlight one of the packages.
10. Drag and Drop the package onto the window on the left, then click save.

11. Click the “Update” button in the upper right corner.
12. Left click on the “INI “button.

13. In the bottom right corner of the screen, select “Save As”.

14. Save the updated configuration INI file to the corresponding ProfileUnity storage location, typically the corresponding NETLOGON share.

15. The corresponding FlexApp package is now available to anyone who has access to the saved configuration.
FlexApp Layering User Testing

1. Login to the test client VM leveraged from the earlier ProfileUnity testing.
2. After the desktop loads, the FlexApp packages will be layered in to the OS within the user session.
3. Verify normal application deployment behavior by checking for desktop icons, start menu items or add remove program files entries.
4. Perform a series of test launches of the corresponding FlexApp application layers.
5. Considering that the OS thinks the FlexApp packages are natively installed, application performance behavior should resemble native install look and feel.
6. Once basic testing is complete, repeat this process with additional applications.

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 Help Manual located on the Liquidware Labs Support Documentation web page for advanced filter settings, numerous additional features and troubleshooting.

Thank You

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

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