



## **Base Image Creation**

***Basic Guidance and  
Best Practices***

## Introduction

This guide has been authored by experts at Liquidware Labs in order to provide information and guidance concerning the enterprise base image creation process.

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## General Base Image Creation Guidance

Creating an optimized base image is the foundation that most end-user computing (EUC) projects are built upon. Most enterprises have developed processes or workflows to accomplish this task. There are number of critical pieces of collateral to help optimize these processes to achieve better results across both physical and virtual environments. Here are a few of these articles to help establish a baseline:

- [Deploying Microsoft Windows 7 Desktops in with VMware View](#)
  - Created by EMC resources, this is widely considered a plausible baseline when creating base images. Regardless of platform choice, this content provides a solid guideline for optimizing the Windows operating system prior to creating base images.
- [VMware OS Optimization Tool](#)
  - This is a unique, robust GUI interface that allows the administrator to make optimization changes to a wide range of Windows Operating Systems, as part of the base image creation process. The power of this tool is unprecedented, but can also be daunting when faced with all of the options. Consider small steps and robust testing when leveraging this tool.
- [The Ultimate Windows 10 Tuning Template for any VDI Environment](#)
  - This template from LoginVSI works with the VMware OS Optimization tool to achieve even greater performance.
- [Citrix Windows 7 Optimization Guide for Desktop Virtualization](#)
  - Windows 7 optimization from the perspective of Citrix
- [Citrix TargetOSOptimizer Tool](#)
  - This tool performs applies a set of optimizations specifically recommended for Pooled and Dedicated machines as part of the VDA installation process.

No matter which path or tool you select, optimizing the Windows operating system as part of the base image creation process is a critical step for every enterprise.

## Getting Started

The following represents a basic workflow when creating an enterprise base image. Many organizations have existing processes that they follow. This is not meant to replace existing processes but rather augment or serve as a refresher of sorts.

- Consider leveraging Stratusphere FIT, to conduct desktop and application assessments.
  - Identify the list of applications that will be part of the base image.
  - Identify the list of applications that can be provisioned to through other solutions.
- Establish a baseline
  - Of the options listed above, one of them should be a sufficient starting point.
- Broker Optimizations
  - Historically, a best practice is to install things like VMware tools and the Citrix VDA as part of the base image or golden image.
- Install all C++ Runtimes.
  - With respect to ProfileUnity and FlexApp, this is definitely considered a best practice.
- Anti-virus exclusions
  - Under certain scenarios, some Anti-virus or security solutions observe or flag some FlexApp actions during normal run time. After investigation, it is clear that nothing out of the ordinary is happening. Therefore, some exclusions are needed to allow for normal activity to proceed. Liquidware Labs is currently working with some known anti-virus and security vendors to adjust this behavior.
- Install all versions of Microsoft .NET Framework your applications might need.
  - If you don't have any .NET version sensitive applications, install all major versions of .NET.

## Base Image Creation Checklist

Task	Status ✓
1. Determine which operating system versions are required.	
2. Determine whether 32- or 64-bit architecture versions are required.	
3. Maintain a minimum of one (1) VM with snapshots per OS version.	
4. Establish hardware settings within the corresponding VM's that matches or resembles production target application requirements	
5. Identify application dependencies	
6. Consider leveraging the <a href="#">VMware OS Optimization Tool</a>  To adjust the following settings:	
7. Install VMware tools	
8. Install Citrix VDA	
9. Disable error reporting	
10. Disable automatic updates	
11. Remove unnecessary applications at boot	
12. Remove any unnecessary windows components	
13. Change NTFS behavior	
14. Disable hibernation	
15. Disable system restore	
16. Disable paging the executive	
17. Properly size the VM memory	
18. Set page file to a fixed size	
19. Disable indexing	
20. Disable unnecessary services	
21. Disable super-fetch	
22. Disable success logging	
23. Group Policy Refresh interval	

<b>Task</b>	<b>Status</b> ✓
<b>24.</b> Disable scheduled defrag	
<b>25.</b> Remove Tablet PC components	
<b>26.</b> Disable boot graphic	
<b>27.</b> Any additional components as needed	

## Getting Help with ProfileUnity

If you have questions or run into issues while using ProfileUnity with FlexApp, Liquidware Labs is here to help. Our goal is to provide you with the knowledge, tools, and support you need to be productive.

### Using Online Resources

Liquidware Labs maintains various kinds of helpful resources on our [Customer Support Portal](#). If you have questions about your product, please use these online resources to your full advantage. The Support Portal includes product forums, a searchable Knowledge Base, documentation, and best practices among other items. You can visit our website at <http://www.liquidwarelabs.com>.

### Troubleshooting with the Software

ProfileUnity with FlexApp provides full logging capabilities to track activities. Once you have tried to duplicate the issue with full logging turned on, the log file details can be used to help pinpoint the source of the problem you are experiencing. To turn logging on, go to your login user ID at the top right of the Management Console interface and select **Administration**. At the top of the Administration area, select **Settings**. As you scroll through the list you will see the Logging category. Set the **Level of Logging to Debug** to provide the most information. To view the log file, click on **View** under **Latest Log**. If you are still experiencing issues and need to contact technical support for additional help, the log file can be sent to support for further evaluation.

Not sure about your configuration settings? Don't forget that ProfileUnity offers summary reports for all your configurations, filters, and portability settings. Simply click on **Report** next to the name of the configuration, filter, or portability setting for which you need a report. You can download and save the report in either a Portable Document Format (PDF) or text format. These summary reports can also be very helpful in troubleshooting issues.

### Contacting Support

If you wish to contact our Support staff for technical assistance, please either log a request on the [Liquidware Labs Customer Support Portal](#) or give us a call. Prior to Logging a Case you may want to review these helpful tips:

- Check the online help included with your Liquidware Labs Product.
- Check the Product Documentation included with your Liquidware Labs Product.
- Try to see if the problem is reproducible.
- Check to see if the problem is isolated to one machine or more.
- Note any recent changes to your system and environment.
- Note the version of your Liquidware Labs product and environment details such as operating system, virtualization platform version, etc.

To speak directly with Support, please use the following numbers:

**Toll Free in USA & Canada:** 1-866-914-9665

**International:** + 1-678-397-0460