ivanti

Painless User Migration with Ivanti

WHITE PAPER

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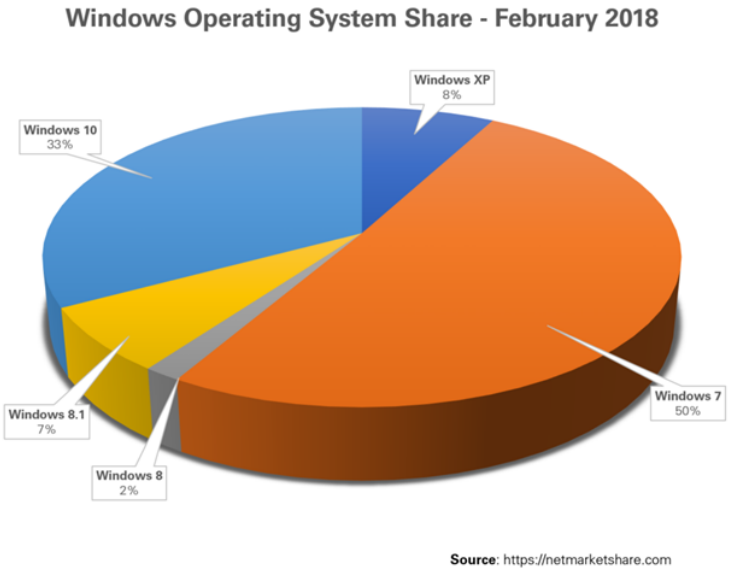
Introduction

Many organizations vividly remember the pain of migration from Windows XP to Windows 7. Most of them stuck with Windows 7 for the next five years or more!

Even today, Windows 7 is the most widely deployed desktop operating system in the enterprise and has been the workhorse of Windows application delivery for nearly 10 years.

The enterprise IT community largely ignored Windows 8. In fact, 12 months after its release, its post-launch adoption was only 9.3%, compared with 18.9% for Windows 7[1].



Source: https://netmarketshare.com

[1] *http://uk.businessinsider.com/windows-7-and-windows-8-adoption-12-months-after-launch-2015-7*

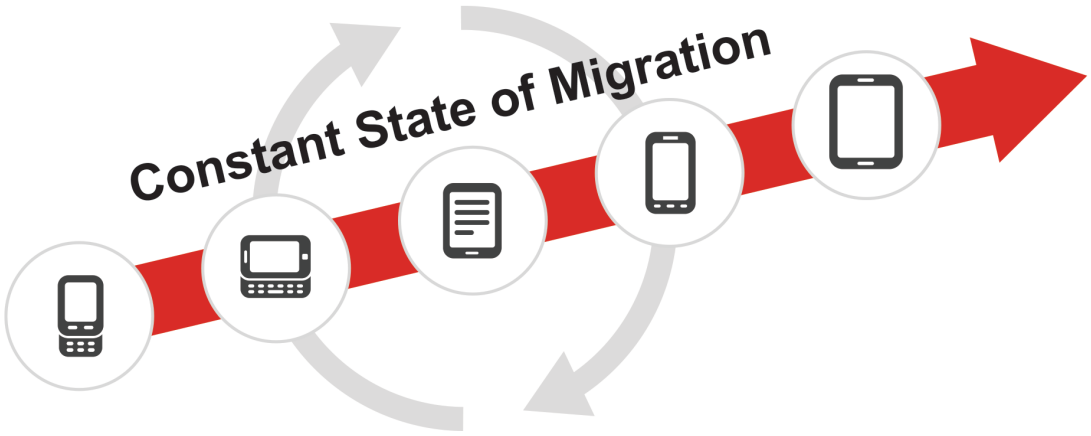
The corporate community has also been slow to adopt Windows 10 because of the lack of convincing reasons to do so, especially when most end users will still be using the same applications that they do on Windows 7.

Source: *Dimensional Research global survey of 1,800 IT professionals (2017)*

However, a number of compelling events are forcing IT's hand, and driving Windows 10 adoption:

- Hardware support
- Extended Support of Windows 7 ends in 2020
- Application and hardware accessory vendors

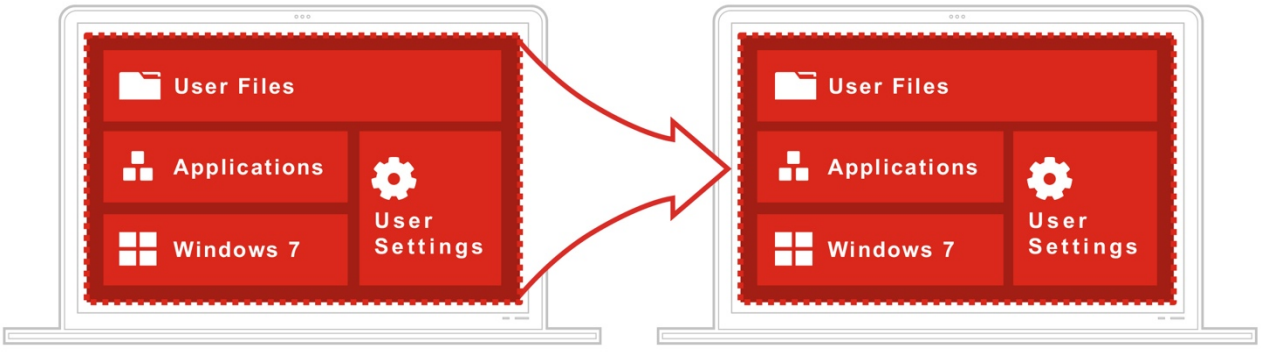
Windows 10 presents an entirely new challenge from a migration point of view. Gone are the days of a major desktop upgrade every five to seven years. Windows 10 is delivered “as a service”, meaning that it receives major updates twice a year, and each is supported for only 24 months—more in keeping with the pace of change of mobile operating systems. Endpoint IT administrators now live in a constant state of migration and must adapt their approach to cope with this brave new world.



In this paper, we’ll discuss the problem of migrating the end-user population between Windows versions, and how Ivanti places IT back into control of a predictable, smooth upgrade cadence.

In order to perform Windows migration properly, you need processes that account for the computer, corporate-approved applications, and user-related data. So, within this context, let’s break down the Windows desktop into manageable chunks, and discuss how we would upgrade and migrate each one:

1. Windows Operating System
2. Applications
3. User Profile and Settings
4. Local User File Data



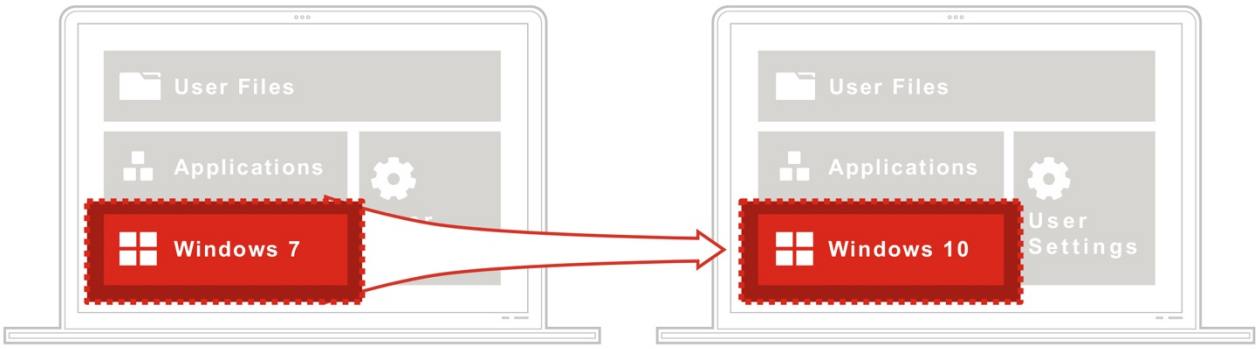
1. Windows Operating System Upgrades

Microsoft's in-place upgrade for the underlying Windows Operating System works reliably on the whole. However, with big leaps in versions (such as from Windows 7 to Windows 10, or between versions of Windows 10 that are far apart), there could be changes in application behavior, and the user's desktop experience can be lost or altered, causing a loss in productivity and a flood in help desk calls.

The risk is far greater in the case of a hardware refresh, when there's no automated way to transfer the personality of the old desktop to the new one. Microsoft strongly encourages IT organizations to validate every Windows 10 version before deploying it, to check for hardware and application compatibility, and to be aware of changes in user experience.

There are numerous Windows client management solutions on the market, and whether you use one from Ivanti, Microsoft, or another vendor, the following steps in this paper still apply.

Ivanti Endpoint Manager can ease migrations



How Ivanti Helps

- Ivanti has multiple solutions, including Endpoint Manager, to discover the hardware and software estate. In this case we're mostly interested in an accurate catalog of Windows desktops, their versions, their users, and the applications installed on them, so we can ensure a complete migration.
- Ivanti Endpoint Manager provides comprehensive, targeted delivery of Windows OS images, updates, and patches.
- Endpoint Manager also tackles updates to hardware-device drivers to ensure a smooth rollout.
- Peer-to-peer file sharing reduces the network bandwidth employed to deliver large Windows images to remote sites.
- Complete tracking of project progress through Xtraction web dashboards. Ivanti also partners with Juriba (http://www.juriba.com/) for a complete project management solution around Windows 10 migration and other Windows infrastructure projects.
- Once the Windows image is installed, Endpoint Manager can trigger the next stages in the Windows 10 migration—delivery of applications, then the import of user settings and file data.

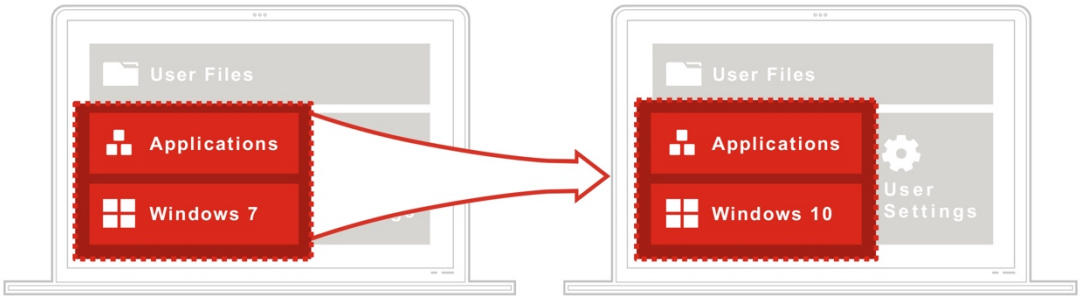
2. Applications

The vast majority of Windows applications employed in the business world are still based on the Win32 architecture, which stretches back to 1993. And despite the emergence of a new application model in Windows 10—which is used for Windows Store applications and some built-in apps like Edge—Win32 is still king.

During the transition from Windows XP to Windows 7, many of these Win32 applications had to be fixed or retired to cope with the new security model in Windows 7. While the transition to Windows 10 isn't as large, challenges remain that can cause applications to misbehave.

In addition, many web applications only function correctly on one version of a browser, such as Internet Explorer. Windows 10 forces updates to browsers and also brings its own built-in Edge browser that it has lauded for its security. Careful planning is needed before performing a blanket or user-managed upgrade to Windows 10 to ensure that web applications don't break.

Ivanti Endpoint Manager



How Ivanti Helps

- As mentioned before, Ivanti will discover and provide a complete catalog of all applications installed and in use in the environment.
- Ivanti's partnership with Application Readiness (https://applicationreadiness.com) provides early warning of potential compatibility issues with different Windows 10 versions.
- Ivanti Endpoint Manager centralizes and automates the delivery of applications onto Windows endpoints once the new operating system is in place.
- Peer-to-peer file sharing reduces the network bandwidth employed to deliver large applications to remote sites.
- Ivanti also provides ongoing Asset Management capabilities. Software license usage is tracked to ensure compliance with license agreements. Application usage can be limited by application control solutions to ensure ongoing compliance.

3. User Profile and Settings

Maintaining the user experience between Windows environments is critical to user productivity. Regional settings, security credentials, printer connections, custom dictionaries, accessibility settings, shortcuts, and bookmarks are just some of what turn a vanilla desktop with a bunch of applications into a productive, familiar work environment.

Windows' built-in Roaming Profiles feature attempts to do some of these, but fails on a number of counts:

- **Roaming profile versions**: With each release of Windows, e.g. Windows XP, Windows 7, Windows 8.x, and Windows 10, Microsoft introduced a new roaming profile version. Unfortunately, this results in the roaming profile only being valid for that specific operating system. Therefore, if a user wants to roam between a Windows 7 and Windows 10 desktop, they will need separate roaming profiles. This can result in disparate user settings across different platforms and will require much more disk space to host each profile.
- **Roaming profile bloat**: As a user makes continual changes to their workspace, the size of their roaming profile grows with all these additional personalized settings. When the user logs off their session, the roaming profile is saved out to a network file share. The next time the user logs on, the roaming profile needs to be loaded—across the network—for that user. As the roaming profile grows larger and larger, it takes more and more time to load the profile, increasing logon times and curtailing user productivity.

- **Roaming profile corruption**: Often, roaming profiles are susceptible to corruption. This can occur when duplicate copies of the profile, which open in more than one user session, are closed at the same time and fail to write back to the network share. In addition, if IT has implemented a quota size on the network share and the profile size exceeds that quota, the profile won't be written out and can become corrupted. This results in loss of user personalization and can lead to user dissatisfaction and an increase in help desk tickets.

Ensuring those settings follow the user during a migration can be done two ways:

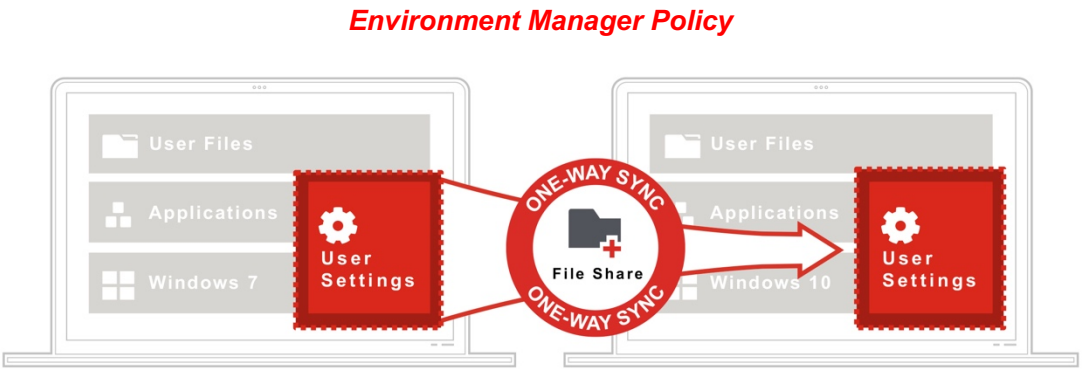
- A: A series of point-to-point transfers whenever Windows is upgraded or when hardware is refreshed
- B: Continuous roaming and sync of the user profile across all Windows environments

Method A might be best if your organization has mostly physical desktops, and you plan to tightly control the deployment of Windows 10 versions and hardware upgrades.

Method B works best when users roam between physical desktops, virtual desktops, and even between desktop and server versions of Windows in the case of Terminal Server/RD Session Host/XenApp. It also allows for environments where users access a mix of Windows 7, 8, and 10 desktop devices.

How Ivanti Helps

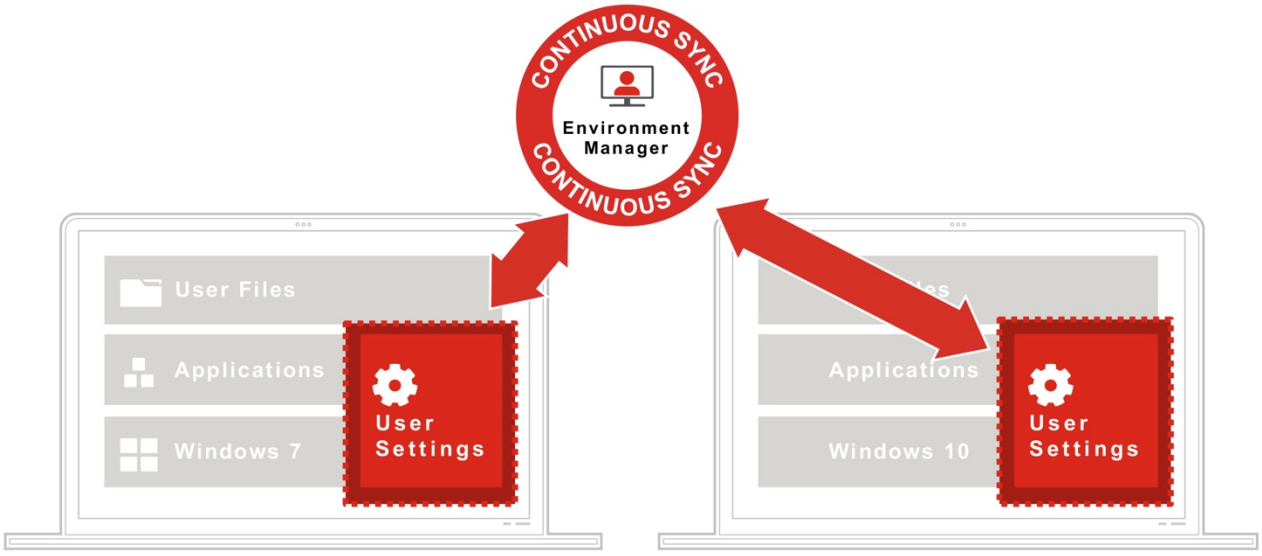
- **Method A** can be achieved using Ivanti Environment Manager Policy, which provides standard profile management capabilities without any additional investment in back-end infrastructure, such as SQL Servers or Web Servers. The solution manages user-profile settings by saving out select files and registry settings to a file server on the network, either at logoff or when an application is closed. It then restores those settings the next time the user logs on or when a specific application is started, assuming the user is connected to the corporate network.



This replaces the need for a roaming profile and eliminates the worry of profile bloat or corruption. However, if users wish to roam back and forth between different operating systems, then Method B is more appropriate.

In addition, Ivanti has made available a Windows 10 Migration Accelerator kit on the Ivanti Marketplace, which includes free Environment Manager Policy configurations to perform the copying and restoring of common personal settings associated with Windows 10 environments.

- **Method B** is achieved using the full version of Ivanti Environment Manager, which uses advanced User Personalization to sync users' personal settings via secured web services to an SQL database.



The infrastructure cost is higher with Method B. However, the user experience is seamless and IT doesn't need to plan upgrades since the profile roams continuously, irrespective of which operating system a user employs.

User settings can be shared effortlessly between open sessions, across different operating systems and platform architectures. In addition, Method B includes offline support to ensure profile settings are available even when users are disconnected from the corporate network.

This method also provides the ability to snapshot and rollback user settings on a per-application basis in the unlikely event of profile inconsistencies; this includes self-service rollback options to eliminate profile-related support calls.

Due to its three-tier architecture, Method B includes comprehensive disaster recovery and failover support to ensure business continuity in the event of network or infrastructure failure and can be implemented on-premises or across hybrid or full-cloud environments.

4. Local User File Data

IT's worst nightmare is a user with critical files stored locally on their laptop, which are prone to loss either through device failure or theft, or due to a Windows migration that overwrites them.

And it's not just documents. Years of important email might be stored in PST files on endpoints. Synchronizing such "locked" files is usually impossible while the user is working, and so those files are rarely, if ever, migrated.

Windows offers two features designed to help with tackling the problem of local file storage, namely Offline Files and Folder Redirection. Each has limitations:

- **Offline Files**: The built-in Offline Files feature in Windows allows user files to be accessible locally when users work offline by attempting to sync user files and folders from the on-premises file share to the local endpoint. The technology was introduced in Windows XP and hasn't changed significantly in Windows 10, and it has a reputation for sync issues leaving users unable to access their data. In particular, when a user's Offline Files cache has been encrypted and the user changes their password, cached files become invalid. Additionally, with Distributed File System (DFS), when the user moves to an offline state, DFS syncs the entire folder tree forcing far more data than necessary to be synced. There are other problems with low connection speeds and file server permissions that can cause Offline Folders to fail.

- **Folder Redirection**: This works by redirecting common profile folders such as Desktop, Documents, Favorites, etc. from the local endpoint to a file share on the network. It's also used to address data sprawl where users typically store data locally on their endpoints. Folder Redirection works well for endpoint devices on the local network, safely within organizational firewalls. However, for users outside the network something like a Virtual Private Network (VPN) is required, adding complexity to the user experience, causing user frustration and an increase in IT support tickets. A VPN also requires that the user is continuously connected on a good Internet link, which is often not possible for mobile users.

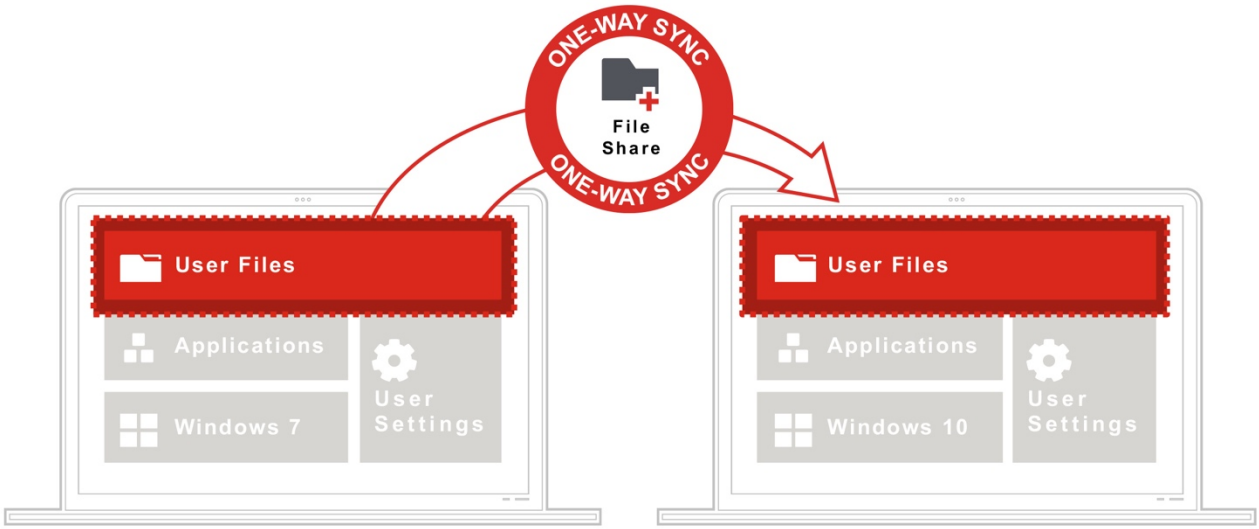
There is, of course, another Microsoft technology aimed at solving the problem of unmanaged files on endpoints, which is OneDrive for Business, delivered as part of Office 365. OneDrive syncs file data to the Microsoft Cloud, and is integrated with Windows 10 and Office applications, but OneDrive presents IT with some new challenges:

- It requires that all data is synced to the Microsoft Cloud. There is no facility for on-premises storage, which is an issue for regulated industries and other organizations that need to store at least some of their data files on-site.
- IT has no visibility or control over the sync and storage of file data. It all happens directly between the endpoint and the Microsoft Cloud, which means no audit trail, no policy control, and no control over which files are stored on-premises and which are in the cloud.
- The user experience requires changes in user behavior, especially if users traditionally store files on a file server using a U: drive or save work files into My Documents.

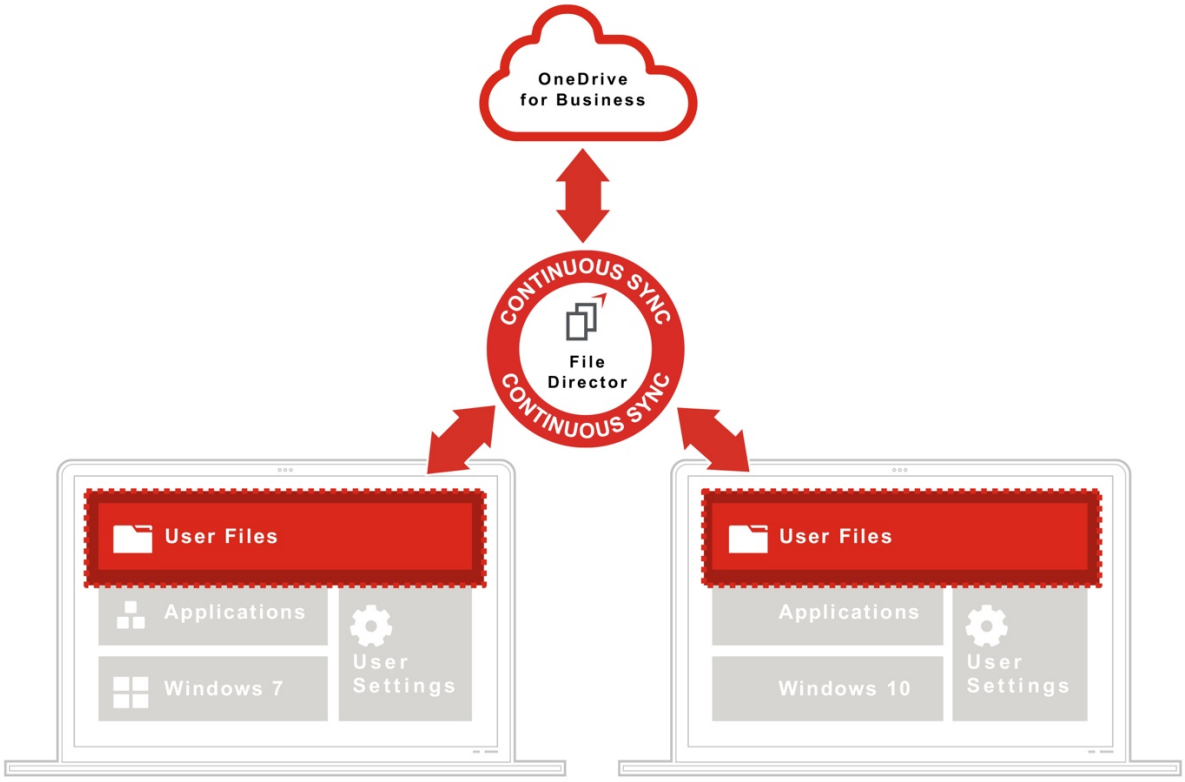
How Ivanti Helps

Ivanti has two solutions designed to ease the problem of ensuring the integrity and sync of local file data during a Windows migration, as well as the other challenges described above.

- For point-to-point migrations as described in Method A in section 3, Ivanti® Environment Manager ensures local file data is synced to a file server before migration begins, and then copies it into the new Windows image before the user logs on for the first time. A sample configuration is provided in the Windows 10 Migration Accelerator kit on the Ivanti Marketplace.



- For continuous sync across all Windows versions and endpoints, as described in Method B in section 3, Ivanti offers File Director, a unique solution that can use on-premises file storage in the data center as well as OneDrive storage in the Microsoft Cloud.



File Director provides invisible file sync to users, so they can continue to work and save documents in their usual locations unaware that, in the background, files are being synced securely through an HTTPS connection to either on-premises file storage or OneDrive, or a mixture of the two. File Director integrates easily with existing IT infrastructure with no impact on existing data storage, redundancy, disaster recovery, and business continuity plans.

File Director uses “ghost” or “placeholder” files so that users receive a familiar folder structure immediately and can choose to prioritize selected files or folders for download. Moreover, File Director will sync files to any user device, including macOS, iPad, iPhone, and Android, accommodating user mobility needs.

Finally, File Director is optimized for virtual desktop environments and manages data migration from physical to non-persistent VDI desktops by streaming users’ files to the desktop at logon or on demand as required.

Next Steps with Ivanti

We hope this paper has provided a clear picture of how Ivanti can ease the pain of the never-ending cycle of Windows 10 migrations, and that there are different approaches that may be suitable based on your existing investments and requirements.

For more information, please visit https://www.ivanti.com/solutions/needs/migrate-my-users-to-win-10