Validating the Windows XP to Windows 7 Installation Experience

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Although the installed user base of Windows XP SP3 at Microsoft is not large, Microsoft IT thoroughly tested Windows 7 migration with this group of clients. Using various tools and utilities, the deployment team testing yielded a deployment experience that was fast, that offered a failback mechanism, and that easily migrated end user settings and data, allowing users to be productive quickly.

Introduction

Intended Audience

CIOs, IT Managers, Microsoft Windows Operating System Image Engineers, Deployment Engineers.

The Client Experience and Business Services (CXP) team at Microsoft acts as the end user advocate within the Microsoft corporate organization, and is accountable for optimizing the end-user experience. CXP manages change control processes for client hardware within the Microsoft enterprise. This ranges from identifying Original Equipment Manufacturer (OEM) Standards, to creating and managing supported operating system images with drivers and applications. CXP uses a testing facility to validate changes before they are rolled out and ensures that high quality services are delivered to internal clients at all times.

When Microsoft deployed Windows 7 internally, it needed to accommodate approximately 100,000 users in over 100 countries. Over 500,000 standard and non-standard computer systems exist within the enterprise. The Microsoft user base is predominantly Windows Vista SP1. However, about 40,000 Windows XP SP3 users exist as well. All users and hardware devices are supported by a virtual Global Helpdesk that is trained on the software and services that are being deployed to the enterprise.

Deployment Planning

Microsoft IT is Microsoft’s First and Best Customer. This means that Microsoft IT partners very closely with product development teams, such as the Windows product team, to deploy and test products in the Microsoft corporate network before they are made publicly available. In turn, timely and candid feedback is delivered to product development teams, which contributes to enhanced product planning and development.

The key goals of the Windows 7 deployment program were to minimize end user disruption and avoid productivity loss. The internal deployment planning team strove to develop new and improved ways to achieve program goals. Feedback from Microsoft IT contributed to highly optimized Windows 7 deployment options.

The remainder of this document discusses the testing process that Microsoft IT completed for its client base that would be migrating to Windows 7 from Windows XP SP3 and Windows Vista.

Client Image Development

In creating the Microsoft IT image specification for Windows 7, the imaging team had to take into account various deployment scenarios. These included:

* Various preconfigured installation options, such as Network Boot or Media.
* Multiple preconfigured Microsoft IT standard devices, with drivers and executables.
* Various preconfigured productivity applications, such as Microsoft Office, antivirus, and so on.

The Microsoft IT image strove to deliver an optimal user experience by creating an end-to-end solution that would allow users to be up and running with less effort and within the least time possible. This included migrating user profiles and data from one operating system to another. This was especially important for the Windows XP SP3 clients, as upgrading from Windows XP SP3 to Windows 7 is not supported.

The Imaging team at Microsoft leveraged the ImageX utility and Windows System Image Manager (Windows SIM) to manage and deploy the Windows 7 image. ImageX enables original equipment manufacturers (OEMs) and corporations to capture, modify, and apply file-based disk images for rapid deployment. Windows SIM creates and manages unattended Windows Setup answer files.

Data Migration

The Microsoft IT image utilizes the User State Migration Tool (USMT) 4.0, which allows users to easily transfer data from the previous operating system to Windows 7 OS. USMT allows users to opt for data migration before initiating a Windows 7 installation. The ability to migrate user state and data has contributed to the consistent internal adoption of Windows 7. USMT has also ensured a high satisfaction level among users. Under certain conditions, users are fully productive in less than 60 minutes.

USMT has advanced capabilities for data migration. It supports local computer or network backup of data. USMT works seamlessly for Windows 7 data migration scenarios from either Windows Vista or Windows XP SP3. USMT does not have to be specifically configured for each operating system.

The deployment team chose to use the local computer backup option for USMT, which is a feature new to USMT 4,0. USMT creates hard links to the user data and settings and stores them in a local folder. The data migration utility refers to the links on completion of the Windows 7 installation, and restores user default settings and files to their original locations. This capability has reduced migration time from hours to minutes. The actual time varied depending on the amount of data. In a controlled environment with about 10 to 20 gigabytes (GB) of data, the migration time averaged 10 minutes.

USMT also supports a failback scenario. If the operating system installation fails, no data loss occurs. USMT backs up the data into a local folder, called windows.old. A reinstallation of the operating system will automatically resume the migration automatically, without user interaction.

Deployment Solution Validation

To ensure that clients have an optimal OS Deployment experience, Microsoft IT subjects all images and scenarios to rigorous test passes. Microsoft IT maintains a testing facility which validates and releases all standard enterprise hardware. Nearly 120 configurations from different OEM manufacturers were verified for Windows 7.

To test the Windows 7 migration from Windows XP SP3 clients, the testing team identified hardware configurations with the standard Microsoft IT Windows XP SP3 image. These devices initiated a Windows 7 installation through a Network Boot. The installation image included the transfer of user settings and data migration, using USMT. Results included the following:

* Windows XP SP3 clients migrated to Windows 7 without major issues.
* Recorded installation times were less than 60 minutes, which is similar to installation times of clients who migrated from Windows Vista.
* User data migrated without issues, which is similar to the experience of clients who migrated from Windows Vista.
* All productivity applications installed correctly.

It was determined that the migration process from Windows XP SP3 to Windows 7 was no different from the process to migrate Windows Vista clients to Windows 7.

Conclusion

The concerted efforts of Microsoft IT and the product teams involved in Windows 7 Setup and User State and Data Migration have resulted in a smooth experience for users migrating from Windows XP SP3 to Windows 7. The migration scenario was validated in the Microsoft IT Hardware Testing Facility with all pre-release builds of Windows 7. The testing, which validated a migration scenario that preserved end user settings and data, quickly returned users to productivity.

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