

Project Name: Windows 7

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ITS Division: TSD

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Overview

Microsoft has released the next version of their Operating System (Windows 7). Windows 7 will provide increased speed and security at the desktop, while offering better hardware compatibility and enhanced features.

International Technology Services (ITS) released the Windows 7 operating system in a three-phase approach. This phased deployment process provided ITS with valuable customer feedback, data collection and analysis, which resulted in the completion and final release of the Windows 7 Operating System.

The third and final version of the Windows 7 image was released in October 2011. Both architectures (32bit and 64bit) are available for installation.

Upon release, IT staff began deployments to our Service Center Agencies (SCA) and ITS staff to facilitate testing initiatives and compatibility analysis. The initial deployment focused on SCA test groups and various ITS staff members. Our Technical Support Division (TSD) and National Office Support Division (NOSD) staff have been migrated to ensure that we have an effective Windows 7 IT support structure in place. As of 6/3/2012, approximately ~1500 machines have been migrated to the latest Windows 7 image.

Procedures to expand our Windows 7 installation to additional personnel within the environment have been completed and are currently underway.

Windows 7 Benefits

Windows 7 offers several new tools and features that focus on improved productivity, security and usability.

Speed

- There is several key performance improvements included in Windows 7. Users will notice faster boot-up times, improved program responsiveness and with the 64bit OS, equipment and software can take advantage of additional RAM.

Security

- Through the user account control (UAC) feature windows 7 makes it easier and more secure to run programs as a standard user instead of an administrator. The Windows firewall is also enabled to provide additional protection against malicious software.

Improved Wireless Support

- Mobile users and remote workers will notice a big improvement with the wireless networking features of Windows 7.

Better Hardware Compatibility

- Windows 7 handles plug and play much better than its Windows XP predecessor. Windows 7 comes pre-installed with a large number of drivers and can automatically search for new drivers when needed.

Our Imaging Solution

Thin Image Methodology

- Based on industry best practices, ITS has implemented a thin image approach in building, deploying and maintaining our Windows 7 desktop images. With a thin image all applications, drivers and configurations are applied dynamically at deploy time. This approach results in streamlined maintenance, easier deployments, fewer problems and increased modularity.

Automated Lite-Touch (LTI) Imaging Process

- ITS uses a Lite-Touch (LTI) imaging process through a distributed deployment environment infrastructure. Windows Deployment Services (WDS) is used to support a network-based installation of the Windows 7 operating system. WDS eliminates the need to install the operating system directly from CD, DVD or USB.

Single Image Solution

- ITS maintains a single Windows 7 image for each architecture (x86) and (x64). The images will install on the majority of all supported hardware platforms (approx. 40 different models) installed throughout the environment. Through using the aforementioned thin image approach, drivers and other hardware specific applications can easily be added to support new hardware platforms, thus virtually eliminating the need to create and maintain multiple images.

Standard Security Configuration Baseline

- Based on the National Institute of Standards and Technology (NIST) guidelines, ITS applies the United States Government Configuration Baseline (USGCB) to all Windows 7 Operating Systems installed throughout the environment.

Our Image Management Toolset

The latest Microsoft image management tools available are utilized to create, maintain and deploy our Windows 7 desktop images.

Deployment Image Servicing and Management (DISM) Tool

- DISM is used to service our Windows 7 images offline. This allows us to quickly add software updates to our images. Updates are added to our base images on a once-a-month basis to ensure newly imaged computers are protected from the start.

Microsoft Deployment Toolkit (MDT) 2010

- MDT is used to build, maintain and deploy our Windows 7 images. MDT provides a standard management interface for drivers, applications and configurations included with our imaging process. MDT is the recommended toolset for automating and managing desktop deployments.

Windows Automated Installation Kit (AIK) for Windows 7

- The Windows AIK is another toolset used in conjunction with MDT to install, customize and deploy the Windows 7 operating system.

User State Migration Tool (USMT)

- USMT is used during the Windows 7 imaging process to migrate user files and settings. USMT captures files and settings from the source computer and then loads them onto the destination computer. This ensures all necessary files and settings are restored during a Windows 7 imaging process.

Inventory, Rationalization & Compatibility

There are three main factors that influence the time, cost and complexity associated with a Windows 7 migration project. These include workstation compatibility, peripheral compatibility and application compatibility. Several initiatives have been underway to support the aforementioned factors and help drive the migration effort to Windows 7. These initiatives include the following:

Workstation Readiness

- ITS developed two separate workstation readiness reports, which indicate computers within the environment that have hardware capable of supporting Windows 7 Enterprise (x86 and x64) and Trusted Platform Module (TPM) 1.2. The report also provided information regarding computers that require hardware upgrades necessary to support Windows 7. The report is categorized by agency and shows the percentage of workstations capable and not capable of running Windows 7.

Application Rationalization

- ITS conducted a complete application inventory on the end user computing environment. This list was reviewed and condensed by ITS personnel, removing duplicates, irrelevant entries, and consolidating versions. The remaining applications (roughly 10,000) are the inputs to the rationalization. ITS developed a SharePoint site to help manage the application rationalization and compatibility process. The site is categorized by agency, application name\version and installation count.

Peripheral Inventory

- ITS developed a list of peripherals used throughout the environment. This list included 43,113 total peripheral devices installed throughout the environment with 1,632 different types of peripheral devices identified. The report is categorized by device type, agency and number of devices installed. A streamlined peripheral certification process was developed in support of Windows 7 and the various peripherals installed throughout the environment.

Windows 7 Readiness Survey

- In an effort to promote the Windows 7 desktop migration efforts the Windows 7 Readiness Survey was recently distributed to all of the Service Center Agency (SCA) Chief Information Officers (CIOs). This survey is a key tool necessary in assisting both the ITS Support community and the SCA's in identifying eligible end-users for migration to a Windows 7 desktop. The survey serves as a simple and intuitive way to identify the pool of end-users that only have dependencies upon the suite of standard Office Automation (OA) products currently tested and available with a Windows 7 imaged desktop. Those employees that participate in the survey and are considered "eligible" will be placed in the OA pool. As of 6/3 approximately 6500 SCA workers completed the survey.

Recent Releases / Accomplishments

ITS is working on several new technology releases that will add additional value and efficiency to our Windows 7 platform and management.

Microsoft Bitlocker Administration and Monitoring (MBAM)

- MBAM is a tool for managing, enforcing and monitoring drive encryption on Windows 7 throughout an enterprise environment from a central location. The MBAM client is included with our Windows 7 Operating system and the backend infrastructure to support an enterprise wide implementation has been

provisioned. MBAM has been approved for release and is now included as a standard component on all Windows 7 builds.

Systems Center Configuration Manager (SCCM)

- SCCM is a comprehensive Windows management tool that provides operating system deployment, software deployment, software updates, software metering and hardware/software inventory. SCCM will deliver software deployment and update efficiencies, additional operating system deployment capabilities and anti-malware / anti-virus protection. Migration from our legacy Systems Management Server (SMS) environment to Systems Center Configuration Manager (SCCM) has been completed.

Upcoming Release (s)

Microsoft Forefront Endpoint Protection (FEP) 2010

- FEP is a client endpoint protection product that provides anti-malware, anti-virus and vulnerability blocking solutions. FEP is included with System Center Configuration Manager, which provides a single and centralized infrastructure managing endpoint protection. A limited FEP pilot has commenced and additional testing and analysis is currently underway. Benefits include, lower TCO, centralized management and reduced user downtime.