



Army Win10 Transition

December 2016

TECH BULLETIN

Completion of ePO server upgrades in CONUS has been pushed back one month. The new go live date is 31 December 2016. SCCM 2012 upgrades will continue through 31 March. Once the ePO upgrades are in place, CONUS organizations may begin Win10 deployment at a limited, test and evaluation (T&E) pace. A phased approach for full deployment will start with CONUS—West (the 106th Signal Brigade) in January 2017, followed by the National Capital Region in March, CONUS—East in April and functional commands in May.

Regional News

EUROPE

The Europe Win10 Pilot officially concluded 14 November. At the end of the month, approximately 3,000 machines on the combined production network were running Win10, which equates to 8.6% of the theater device total. On average, the Win10 imaging process takes about four hours, excluding pre- and post-installation work. At some locations, imaging has taken as long as 11 hours, and computers have remained in quarantine for several hours, and sometimes overnight, while updates are applied. Before full-scale deployment begins in January, updates will be bundled into the image, which should significantly reduce deployment time; however, subsequent image updates will occur only quarterly. Network configuration, SCCM infrastructure, logical routing and latency issues are being assessed, as well. Currently, there is no enterprise solution for migration; each Network Enterprise Center is using a different method (due to limited storage on distribution servers), though all are light-touch.

Microsoft reps conducted two weeks of implementation training, which included the virtual System Center Configuration Manager (SCCM) concept. Implementer concerns and issues were captured and passed to 5th Signal Command.

5th Signal is collaborating with the Army Enterprise Service Desk Federation to develop Win10 tactics, techniques and procedures and to share lessons learned regarding the support model. The goal is to provide this information to other theater service desks in order to produce a standard level of service worldwide. Additionally, 5th Signal has crafted an Operating System Deployment Dashboard, available on SCCM reports, to provide pertinent theater-wide data on the imaging service and help set baseline standards. A “black list” of incompatible hardware will be available soon on the 119 portal.

A “commercial” informing personnel of the coming Win10 migration will air on the Armed Forces Network in December. New user training videos will be posted to the 119 portal, as well.

AFRICA COMMAND

More than 500 NIPR machines were running Win10 as of the beginning of December. AFRICOM expects to life-cycle replace 600 out-of-warranty computers with Win10 systems in January. The intent is to have 100% of command systems on Win10 by 1 March 2017.

AFRICOM currently is using two deployment methods. Computers already on the network receive a zero-touch wipe-and-load at the user's desk. User profiles are stored on a network drive using folder redirection so that there is no need to back up user data prior to imaging. When the user logs back on, his or her profile and data are there. Hardware that does not fully support the advanced features of Credential Guard and Device Guard is not being converted to Unified Extensible Firmware Interface (UEFI). New hardware is being deployed with UEFI, Credential Guard and Device Guard if the manufacturer supports it. This requires some light touch while on the bench. The system is booted to PXE. Touch labor selects the task sequence to configure the UEFI partition; once configuration is complete, the computer reboots. Touch labor hits F12 to restart PXE, then the disk is formatted and installation continues.

AFRICOM does not plan to remove Edge (which is the default SHB browser). For sites that are not compatible with Edge, users are automatically redirected to Internet Explorer. All of the command's baseline applications have been tested for compatibility. Assessment of above-baseline apps on the NIPRNet is now under way; directorate reps are responsible for testing those apps' compatibility. As AFRICOM works extensively on the SIPRNet, the J6 expects to find significantly more above-baseline software on the classified side.

AFRICOM is in the final stages of developing and testing its SIPR image, which uses the NIPR SHB-A as its base and adds 90meter, a few GPO changes, a different version of Axway with a different configuration file for proxies, a red classification banner and a few other tweaks. Piloting of the image will be expanded as soon as information assurance approval is received.



SOUTHWEST ASIA (SWA)

As of the end of November, just under 200 machines were running Win10 (without BitLocker). The SWA Cyber Center (SWACC) has put two IMO soldiers on the night shift. Using a dedicated switch, each soldier backs up the profiles on 25 machines; takes them to the DSST, where they are imaged simultaneously; returns them to the appropriate workstation; and puts them back on the network. The saved profiles are restored when the user logs on in the morning. SWACC intends to image 500 computers by the end of December, and is working with Army Central to develop a by-unit fielding plan for the entire theater.

SWACC has deployed the Application Compatibility Toolkit (ACT). It has produced vendor results for approximately 25% of apps but, so far, generated neither vendor nor community results for the remaining 75%. The missing compatibility data will have to be entered into the database manually.

The theater is still awaiting an 802.1x solution from NETCOM.

CONUS

At the end of November, the Corps of Engineers had 65 Win10 machines on the production network. For this phase of migration, the goal is to image about 300 tablets and 100 PCs. The Corps continues to refine policies and the application testing process. It also kicked off a no-touch deployment pilot using Adaptiva. In the first test, a 1.6 gb package was deployed over a marginal WAN link. The traditional method took 97 minutes while Adaptiva's virtual deployment point took less than 2 minutes. Memory pipelining and aggregating multiple peer network cards accelerated download to the client. In another test, a 1.6 gb app was delivered (for installation) to a remote site at a congested T1 connection. In standard mode, download took 5.5 hours; using the local virtual construct, it was finished in less than a minute. Under the assumption that the Win10 image will be about 10 gb, the Corps will continue to test larger packages, as well as performance on a LAN.

U.S. Army Reserve Command (USARC) is testing the Win10 image through the branch cache until CONUS Host-Based Security System (HBSS) upgrades are completed. Once HBSS and ePO (ePolicy Orchestrator) server upgrades are in place, USARC headquarters will initiate a small pilot with five to 10 machines, then expand as results dictate. USARC is looking at purchasing 13,000 Win10-compliant computers through Consolidated Buy 24.

At the end of November, the Army National Guard had approximately 300 Win10 systems on the network; its T&E phase will conclude at the end of December.

Program Executive Office Aviation reached just over 600 live Win10 machines. In addition, Army South began its rollout of approximately 600 new computers; it intends to break its life-cycle replacement effort into three consolidated buys, achieving full hardware compliance by the end of FY18. Image testing is on hold, however, for Army South, Army North and Installation Management Command, as they await necessary infrastructure upgrades on their home installation, Joint Base San Antonio.

PACIFIC

The No. 1 dependency for U.S. Army Pacific (USARPAC) is its NIPR SCCM infrastructure, which is at end of life. The command is awaiting approximately \$215,000 to buy new equipment; once the purchase order is executed, delivery will take about 60 days. The USARPAC T&E phase should not be affected by the SCCM shortfall but full deployment, targeted to start in March 2017, may be delayed or at risk. The requirement to upgrade all servers to 2012 R2 by 31 December 2016 poses another challenge due to competition for limited resources.

Four systems (two laptops and two Surface Pro 3s) are running Win10 in a lab environment. The command has approximately 24,000 NIPR machines, 700 of which are not reachable online, and between 3,000 and 4,000 SIPR machines.

USARPAC has locked its organizational unit (OU) structure for the T&E phase; recognized by NETCOM as a smart OU, it may become the permanent solution. The G6 expected to download the final NETCOM GPO at the end of November.

In addition, ACT has been loaded and the 311th Signal Command can now access the database housed at Regional Cyber Center – Pacific. The 311th is awaiting guidance on transferring SQL information, how to perform a community assessment on an Army network and how to capture all computer makes/models.

The command's SCCM subject matter expert is due back in early December to work on development of a zero-touch deployment solution and assess feasibility and efficacy compared to a light-touch solution using PXE and DVD boot media.

The G6 also is developing a training plan and schedule for IAT I-III personnel.



KOREA

The theater has completed its ACT assessment; the majority of its systems will be able to upgrade to Win10 but some will have to be life-cycled out at a future date. Image deployment testing is under way. As part of the process, HBSS modules and the ePO server were updated. After the upgrade, however, SysPrep and Win P did not work properly; the Win10 image could be captured, as normally done with Win7, but was corrupted upon deployment. RCC-Korea developed a workaround: a task sequence that deploys the image, drivers and applications in order. After optimizing the sequence, the image now installs and configures itself in just over an hour. The next step is to apply NETCOM's new Win10 GPOs and expand the test group.

RCC-Korea is still working the legacy BIOS to UEFI conversion; currently, it appears that touch labor will be required to enable UEFI, and the machine will have to be reimaged. A Microsoft support technician is due in theater in December to assess solutions for the conversion process.

Programs of Record

Approximately 90 computers were running two versions of the Win10 image in November. With the release of FRAGO 2 to DA EXORD 139-16, the Assistant Secretary of the Army (Acquisition, Logistics and Technology) (ASA(ALT)) began issuing tasks to Program Executive Offices (PEO) to provide Win10 migration data and summary slides. Win10 enterprise desktop migration reporting will begin 9 January 2017. Once consolidated, this PEO data will be used to build the ASA(ALT) deployment plan for all enterprise assets. Initial assessments indicate about 22,000 systems spread across 11 PEOs. A similar reporting requirement will be issued to PoRs, with a due date of 31 January 2017. The Army has approximately 400 PoRs.

The ASA(ALT) Win10 Team hosts weekly telecons on Tuesdays from 1200 to 1230 to discuss migration issues. If you would like to attend, please contact Rich DeAtley (rich.d.deatley.ctr@mail.mil) or Shannon O'Brien (shannon.e.o-brien4.civ@mail.mil). Non-government personnel must submit a request to join through their government sponsor.

Windows 10 Upgrading Model

Upgrading under Windows 10 requires a different process than used in the past. In a traditional upgrade, the user data layer generally is backed up and moved off of the machine. All other operating system layers—STIGs, branding, applications—are rebuilt from scratch—you don't have to worry about incompatible apps or STIG settings being left behind. Under the Win10 servicing model, the only item replaced is the OS, which means legacy settings and apps remain. Implementers must evaluate whether those old apps and settings could break the upgrade. To make sure an in-place upgrade goes smoothly, the DoD Win10

executive agent recommends a three-step process.

- 1) Identify any incompatible software and branding and STIG conflicts that could interfere with the process, and clean them up.
- 2) Upgrade the device's OS—for example, swap out Threshold 2 for Redstone 1; any existing apps, STIGs and branding will be left in place.
- 3) Once the new OS is running, determine which apps need to be updated to function properly, remove old and apply new STIG settings as necessary, and change the branding if required.

Next month's Tech Bulletin will focus on the SCCM and HBSS infrastructure required to enable this model.

Zero-Touch Deployment Proof of Concept

In order to utilize Win10's imbedded security enhancements, workstations must run the UEFI instead of legacy BIOS, and the GUID Partition Table (GPT) instead of Master Boot Record (MBR). So far, migrating machines to UEFI and GPT has required touch labor prior to deploying the Win10 Secure Host Baseline—Army (SHB-A) image via SCCM. A November zero-touch deployment proof of concept, conducted at PEO Aviation, tested two sets of technology to automate this process: CP Migrator and Tanium (WWT products), and Nomad with AppClarity (1E products).

The proof of concept provided each vendor approximately 250 workstations to discover Win10 compatibility and to test five use cases: automated

migration to Win10 with SHB-compliant hardware; automated migration to Win10 with SHB-noncompliant hardware; automatic migration of user data from PC to PC (including deployment of SHB-A on a new PC); automatic migration of user data via VDI; and deploying Win10 SHB-A to a new workstation.

Both vendors successfully demonstrated their solutions. A significant amount of work was required during the pre-deployment phase, including discovery of the environment to ensure that the right drivers were utilized and appropriate modification of each vendor's software.

The results are still under evaluation and will help the Army to determine whether to pursue a zero-touch solution.