

Windows Enterprise Status Current Enterprise Domain Status

August 17, 2016

Current State of the Enterprise Forest and Domain

- All domain controllers are running Windows Server 2012 R2. All current critical hotfixes issued by Microsoft are generally applied as soon as available.
- The forest and domain are at “Windows Server 2012 R2 Functional Mode”
- Schema extensions for the following Microsoft products have been applied:
 - Initial Windows 2000 schema (Jan 25, 2000)
 - Exchange 2000 (Mar 13, 2000)
 - Exchange 2000 SP3 (Aug 11, 2002)
 - Windows Server 2003 Domain Controllers (Mar 6, 2004)
 - Exchange 2003 (Mar 6, 2004)
 - SMS 2003 (Aug 11, 2005)
 - Windows Server 2003 R2 Domain Controllers (May 12, 2007)
 - Windows Server 2008 Domain Controllers (May 14, 2009)
 - Exchange 2007 SP1 (Jul 14, 2009)
 - Exchange 2007 SP2 (Sep 8, 2009)
 - OCS 2007 R2 (Mar 18, 2010)
 - Exchange 2007 SP3 (Aug 10, 2010)
 - SCCM 2007 (Mar 15, 2011)
 - Exchange 2010 SP1 (Apr 19, 2011)
 - Lync 2010 (Jan 31, 2012)
 - Exchange 2010 SP2 (Feb 2, 2012)
 - Lync 2013 (Dec 6, 2012)
 - Windows Server 2008 R2 Domain Controllers (Jan 3, 2013)
 - Exchange 2010 SP3 (Jun 6, 2013)
 - Exchange 2013 CU2 (Jul 31, 2013)
 - Exchange 2013 CU3 (Jan 28, 2014)
 - TPM for Windows 8 and Server 2012 (Jan 28, 2014)
 - Exchange 2013 SP1 (CU4) (Apr 10, 2014)
 - Exchange 2013 CU5 (Jul 24, 2014)
 - Windows Server 2012 R2 Domain Controllers (Jul 31, 2014)
 - Exchange 2013 CU7 (Jan 28, 2015)
 - LAPS (Sep 17, 2015)

Implementation Features Completed

- Active Directory is being populated with ISU NetIDs automatically whenever a user creates a new NetID or changes their password on an existing NetID. Users can login to Windows systems with the same username/password combination as they use for other Acropolis services.
- ISU NetID “account status” actions that take place at the Acropolis level automatically happen at the Windows level. Currently these actions are “create”, “update”, “suspend”, “unsuspend”, “delete”, and “rename”.
- The ISU NetIDs of all those people who have NOT changed their password since April of 2000 have been populated into Active Directory with a “long random character” password. These people must change their Acropolis password (to bring them “in synch”) to be able to login to Windows 2000. The “random passwords” had to be used since the original Kerberos passwords cannot be recovered after they are encrypted. Users with passwords currently “out of synch” can be recognized in Active Directory Users and Computers. Their “Description” will say “Change password to use”. Once they change their password (in Acropolis) the Description will revert to their “Proper name”.
- Windows password changes made on Windows systems that are members of the domain are reflected back into the ISU NetID (bi-directional password synchronization).
- The “official university department information” for each user has been placed in Active Directory for all faculty/staff. This means the OU into which the faculty/staff user object should be located can be automatically determined.
- A “mass batch move” process has been done for OUs with active participation in the domain. This process moves existing Windows 2000 “ISU NetID” user objects into the correct departmental OUs (based on the “official department abbreviation” for each user). Most major college/departmental OUs have had their user objects loaded.
- A “PswdUtil” program has been written to allow OU administrators to enforce individual password age policies on users, lists of users, groups, or OUs that they administer. This program is designed to run nightly as a “scheduled task” by an OU administrator so that different groups of users can have different effective password age policies. The program and documentation are available at: <http://tech.its.iastate.edu/windows/admin/PswdUtil.v1.0.zip>
- The Active Directory account-creation process has been modified to use the “official university department abbreviation” to deposit new faculty and staff users into their departmental OUs (if the OUs exist). The logic for this process is documented at <http://tech.its.iastate.edu/windows/admin/OUUserLogic.pdf>

- Exchange 2000 implementation/conversion is complete. Schema updates to support Exchange 2003 Servers are complete. Exchange 2003 servers are active in the domain.
- Software processes have been installed on the Windows 2000 root domain to implement the “enforced conventions” for departmental OU management. See <http://tech.its.iastate.edu/windows/admin/UserMgmtInOUs.pdf>
- Installation of Enterprise SUS (Software Update Services) server. Instructions at http://tech.its.iastate.edu/windows/admin/SUS_User_Kit.zip
- Conversion of all Windows Enterprise Domain controllers to Windows Server 2003. Required schema extensions and hardware/OS upgrades. Project completed by end of summer 2004.
- Forest and domain “functional mode” switched to “Windows Server 2003 Functional Mode” on July 5, 2005.
- Synchronization of official university departmental, college, major, and class lists as Windows Global Security Groups has been implemented (entered production status July 18, 2005). See <http://tech.its.iastate.edu/windows/admin/ListSync.pdf>
- Movement of student user objects into a “Students” OU structure (broken down by college) completed February 2006.
- Campus address postal information has been mastered from official university data into all user objects. Information includes the street, city, state, and zip for each user. For faculty and staff the university address will be used (not the home address). For students, the current “on campus” address will be used (not the permanent home address). In all cases, if the address information is suppressed by the user it will not appear in Active Directory.
- Student User Object “service oriented fields” has been delegated to college IT admins. This provides the ability for college IT admin staff to provide “logon script”, “home directory”, and “roaming profile” support for students with majors in their college.
- Conversion of all Windows Enterprise Domain controllers to Windows Server 2008. Required schema extensions and hardware/OS upgrades. Project completed by end of summer 2009.
- Forest and domain “functional mode” switched to “Windows Server 2008 Functional Mode” on August 11, 2009.

- Support for “non-official” (user requested) ASW lists as Windows Global Security groups (with one-way synchronization ASW->Windows). Project completed November 2009.
- Synchronization of “FAX” phone numbers from official university data sources into Active Directory. Project completed January 2011.
- Support for ASW mailing lists to be displayed in the Global Address List (Exchange “contact” objects created for an ASW mailing list). Project completed in March 2011.
- Support for home-directory and roaming-profile storage for all users on enterprise file servers. In early August 2011 all users objects without any existing home-directory and roaming-profile storage attributes were set up to use enterprise file servers managed by ITS (a few departmental OUs were granted exemptions). The new service was branded “CyFiles”.
- Upgrade of WINDC5 on January 8, 2013 to Windows Server 2008 R2 (a 64-bit operating system). This resulted in “Active Directory Web Services” being available for the first time. Since some systems require an older authentication/encryption method only supported on a 32-bit domain controller on domain controller upgrade (WINDC4) was delayed until January 21, 2014. See the following announcement for more details:
<http://tech.its.iastate.edu/windows/admin/Announce.2013.06.05.pdf>
- Support for Box.net provisioning added May 2014.
- Conversion of all Windows Enterprise Domain controllers to Windows Server 2008 R2 was completed January 21, 2014.
- A hardware upgrade for all domain controllers was completed summer 2014. Domain controllers remained at Windows Server 2008 R2 for this upgrade.
- Conversion of all Windows Enterprise Domain controllers to Windows Server 2012 R2 was completed June 24, 2015.
- A year-long phase-out of bang-accounts has nearly completed. See the following announcement for the timeline and more details:
<http://www.tech.its.iastate.edu/windows/admin/Announce.2015.07.02.pdf>
- Forest and domain “functional mode” switched to “Windows Server 2012 R2 Functional Mode” on July 15, 2015.
- The CyFiles service was migrated to MyFiles on August 11, 2016. More information is available at <https://iastate.box.com/storage>

Current Work in Progress

- Nothing significant to report at this time.

Future Work (waiting for other processes to complete)

- Nothing significant to report at this time.