TCU Active Directory 2008 Upgrade Plan

**For the first Windows Server 2008-based Active Directory Domain Services installation:**

1. Verify functional capacity of current AD Infrastructure
	1. Run DCDiag from AD5.TCU.EDU (FSMO Holder) and review to verify that no issues exist
		1. %systemroot%\Windows\System32\Dcdiag /e /v /c /f:”c:\dcdiag\_log.log” /ferr:”c:\dcdiag\_errors.log”
	2. Run Repadmin from AD5.TCU.EDU (FSMO Holder) and verify that no replication issues exist
		1. %systemroot%\Windows\System32\Repadmin.exe
2. Backup 2 domain controllers including the system state
	1. Using NTBackup, backup AD5.TCU.EDU and AD6.TCU.EDU
	2. Move backups to USB-based drive or to the local workstation
3. Prepare the Forest Schema
	1. Log on to FSMO Schema Master holder (AD5.TCU.EDU) as an account with Enterprise Admin, Schema Admin, and Domain Admin memberships.
	2. Copy the contents of \sources\adprep folder from the Windows Server 2008 DVD (found at [\\ad5\d$\AD2008Prep](file:///%5C%5Cad5%5Cd%24%5CAD2008%20Prep) )
	3. Open a command prompt and change to D:\AD2008Prep
	4. Run the following command:
		1. Adprep /forestprep > D:\ADPrepLogs\Forest.log
	5. Wait 15 minutes to insure replication to all DC’s has occurred
4. Prepare the Domain
	1. Log on to FSMO Infrastructure Operations Master holder (AD5.TCU.EDU)
	2. Open a command prompt and change to D:\AD2008Prep
	3. Run the following command:
		1. Adprep /domainprep /gpprep > D:\ADPrepLogs\DomainGP
	4. Wait 15 minutes to insure replication to all DC’s has occurred
5. Install Active Directory Domain Services on a Windows 2008-based Member Server
	1. Run DCPromo from the Run line.
	2. On the “Welcome to the Active Directory Domain Services Installation Wizard” screen, click next without selecting Advanced Mode.
	3. On the “Operating System Compatibility” screen, click next.
	4. On the “Choose a Deployment Configuration” screen, choose “Existing Forest” and choose “Add a domain controller to an exisiting domain,” then click next.
	5. On the “Network Credentials” screen, fill in the domain name (TCU.EDU) and choose to use the current logged on credentials, then click next.
	6. On the “Select a Domain” screen, choose TCU.EDU, then click next.
	7. Click “Yes” to the warning concerning read-only domain controllers.
	8. On the “Select a Site” screen, choose “Default-First-Site-Name”, then click next.
	9. On the “Additional Domain Controller Options”, unselect the “DNS server” option and leave “Global Catalog” selected, then click yes.
	10. On the “Location for Database, Log Files, and SYSVOL” screen, specify the locations as follows and then click next:
		1. Database Folder:
			1. D:\Windows\NTDS
		2. Log Files Folder:
			1. E:\Windows\NTDS
		3. SYSVOL Folder:
			1. E:\Windows\SYSVOL
	11. On the “Directory Services Restore Mode Administrator Password” screen, specify the following password then click next:
		1. Password
			1. $3c3P@r|-|P4TCu
	12. Verify the information on the Summary screen is correct, then Export the settings to the following location and click next:
		1. Location:
			1. C:\AD2008\_settings.txt
	13. Deselect the “Reboot on completion” option on the “Installation Wizard Status Screen”
	14. When the promotion is completed, and it prompts for a restart, cancel the restart, and open the netlogon.dns file found in the following location:
		1. Location
			1. C:\Windows\System32\Config
	15. From the netlogon.dns file, copy the <GUID>.\_msdcs.tcu.edu entry for insertion into DNS
	16. Using Putty, connect to Alpha and create the DNS entries for the Domain Controller as follows:
		1. Start the editing processes with this command:
			1. Edit multinet:domain-name-service.tcu-ad8
		2. Insert the <GUID>.\_msdcs.tcu.edu entry into the appropriate location
		3. CTRL-Z to save
		4. Copy the stage file to production:
			1. Copy multinet:domain-name-service.tcu-ad8 multinet:domain-name-service.tcu-stub
			2. Wait for this to complete
		5. Verify the contents of the tcu-stub file:
			1. Edit multinet:domain-name-service.tcu-stub
		6. Update DNS:
			1. @sys$com:create\_dns\_from\_tcunodes
			2. Wait for this to complete
		7. From a command prompt, verify that the entries exist using NSLOOKUP
	17. Restart the server.
	18. After the reboot, verify replication and DC status from AD5.TCU.EDU

**For additional domain controllers:**

1. Copy the AD2008\_Settings.txt from \\ad8\c$ to the root of the next server to promote.
2. Modify the “AD2008\_Settings.txt” so that the appropriate user names and password fields are available
	1. Make sure that automatic reboot is set to false
3. Start a CMD session and run the following command:
	1. Command
		1. Dcpromo /unattend:”c:\AD2008\_Settings.txt”
4. When the promotion is completed, and it prompts for a restart, cancel the restart, and open the netlogon.dns file found in the following location:
	1. Location
		1. C:\Windows\System32\Config
5. From the netlogon.dns file, copy the <GUID>.\_msdcs.tcu.edu entry for insertion into DNS
6. Using Putty, connect to Alpha and create the DNS entries for the Domain Controller as follows:
	1. Start the editing processes with this command:
		1. Edit multinet:domain-name-service.tcu-ad<X>, where X is the server number.
	2. Insert the <GUID>.\_msdcs.tcu.edu entry into the appropriate location
	3. CTRL-Z to save
	4. Copy the stage file to production:
		1. Copy multinet:domain-name-service.tcu-ad<X> multinet:domain-name-service.tcu-stub
		2. Wait for this to complete
	5. Verify the contents of the tcu-stub file:
		1. Edit multinet:domain-name-service.tcu-stub
	6. Update DNS:
		1. @sys$com:create\_dns\_from\_tcunodes
		2. Wait for this to complete
	7. From a command prompt, verify that the entries exist using NSLOOKUP
7. Restart the server.
8. After the reboot, verify replication and DC status from AD5.TCU.EDU

**Transfer the FSMO Roles**

 Via GUI:

1. Logon to AD8.TCU.EDU – this will be the FSMO holder for all FSMO roles
2. Transfer the RID Master, PDC Emulator, and Infrastructure Master roles
	1. Open Active Directory Users and Computers, right-click on TCU.EDU, and choose “Operations Masters…”
	2. For each of the tabs, click “Change” and okay the process to change the role master to AD8.TCU.EDU
3. Transfer the Domain Naming Master role
	1. Open Active Directory Domains and Trusts, right-click on Active Directory Domains and Trusts, and choose “Operations Master…”
	2. Click “Change” and okay the process to change the Domain Naming Master role to AD8.TCU.EDU
4. Transfer the Schema Master Role
	1. At a Run… prompt, register the Schema Management DLL
		1. Command
			1. Regsvr32 schmmgmt.dll
	2. Create a new MMC Console and open the Active Directory Schema snap-in
	3. If the snap-in does not connect to AD8.TCU.EDU, right-click on Active Directory Schema, and choose “Change Active Directory Domain Controller” and select AD8.TCU.EDU and click okay to the warning concerning operations master.
	4. Right-click on Active Directory Schema, and choose “Operations Master…”
	5. Click “Change” and okay the process to change the Schema Master role to AD8.TCU.EDU
	6. Unregister the Schema Management DLL
		1. Command
			1. Regsvr32 /u schmmgmt.dll
	7. Verify replication and that the roles were transferred with DCDiag.

Via CLI:

1. Open a new command prompt, and enter the following command:
	1. Command
		1. NTDSUtil
2. Type “roles” and press enter.
3. Type “connections” and press enter.
4. Type “connect to server AD8.TCU.EDU” and press enter.
5. Type “q” and press enter.
6. Transfer the 5 roles with the following series of commands, noting the changes that follow each one.
	1. Commands
		1. Transfer domain naming master
		2. Transfer infrastructure master
		3. Transfer PDC
		4. Transfer RID master
		5. Transfer schema master
7. After verifying their successful completion, quit out of NTDSUtil.
8. Verify replication and that the roles were transferred with DCDiag on AD8.

After moving the roles, update DNS so that the changes are permenant:

1. Using Putty, connect to Alpha and modify the DNS entry for \_ldap.\_tcp.pdc.\_msdcs.tcu.edu as follows:
	1. Start the editing processes with this command:
		1. Edit multinet:domain-name-service.tcu-ad8
	2. Insert the <GUID>.\_msdcs.tcu.edu entry into the appropriate location
	3. CTRL-Z to save
	4. Copy the stage file to production:
		1. Copy multinet:domain-name-service.tcu-ad8 multinet:domain-name-service.tcu-stub
		2. Wait for this to complete
	5. Verify the contents of the tcu-stub file:
		1. Edit multinet:domain-name-service.tcu-stub
	6. Update DNS:
		1. @sys$com:create\_dns\_from\_tcunodes
		2. Wait for this to complete
	7. From a command prompt, verify that the entries exist using NSLOOKUP

**Demote AD2003 Servers**

1. From the Run prompt, run DCPromo
2. On the “Welcome to the Active Directory Installation Wizard” screen, click next.
3. On the “Remove Active Directory” screen, unselect “This server is the last domain controller in the domain” and click next.
4. On the “Administrator Password” screen, enter and confirm the standard local administrator password and click next.
5. On the “Summary” screen, verify the options and click next.
6. Restart when it is finished.
7. Verify replication and DC removal with DCDiag.

**Raise Forest Functional Level**

1. Open “Active Directory Domains and Trusts”
2. Right-click on “Active Directory Domains and Trusts” and choose “Raise Forest Functional Level …”
3. Choose “Windows Server 2008” from the dropdown, and click Raise.
4. Allow 15 minutes for replication or verify through other means.