

Software Procedure

SWP-0041 AFHCAN tConsult Server Build and Configuration Procedures

Revision: 1

Effective Date: 1/11/2011

Alaska Native Tribal Health Consortium
Division of Health Information & Technology
4000 Ambassador Drive
Anchorage, AK 99508
Tel: (907) 729-2260
Fax: (907) 729-2269



Contents

Purpose	2
Audience	2
Scope	2
Additional Resources	Error! Bookmark not defined.
Acronyms and Abbreviations	Error! Bookmark not defined.
Material Requirements	3
Initialize Server	3
Initial Logon	5
.Net Framework Installation	6
IIS Installation	7
Finalizing the OS Configurations	7
Installing Windows Applications	7
Appendix A – AFHCAN tConsult Server Build QA Checklist	10

Purpose

The purpose of this procedure is to provide detailed guidance for loading the Windows 2003 SP2 operating system, SQL 2005, IIS, and the subsequent security configuration for use as a tConsult healthcare server.

Audience

This document is written for IT technicians and system administrators who are responsible for building, configuring or maintaining an tConsult Server. It is assumed readers are familiar with intermediate-level computer terms and concepts, as well as a basic working knowledge of the Windows 2003 Server operating system.

Scope

AFHCAN developed a set standard for building a secure, robust Telehealth server that complies with the HIPAA Privacy Rule. A major goal of the Privacy Rule is to assure that individuals' health information is properly protected while allowing the flow of health information needed to provide and promote high quality health care and to protect the public's health and well-being. To achieve this goal AFHCAN has implemented the latest best practices in security into the server builds.

This document then, provides detailed steps on building and configuration of a tConsult Server used in a production environment.

Material Requirements

1. Server
 - a. Server CPU w/NIC(s)
 - b. Manufacturer CDROMS/DVDs – drivers disk
 - c. Monitor
 - d. Keyboard
 - e. Mouse
2. Software
 - a. Windows 2003 CD-ROM/DVD w/license key (plus CALs)
 - b. Windows 2003 SP2
 - c. SQL Server 2005 CD-ROM/DVD w/license key (plus CALs if not processor license)
 - d. SQL Server 2005 SP3 CD-ROM/DVD
 - e. ATS Downloads CD-ROM dated 8-9-2011 or later (can be obtained from AFHCAN)
 - f. .Net 3.5 Framework SP1, .Net 4.0 Framework CD-ROM/DVD
 - g. Perc Firmware Update (if applicable)
3. Documentation
 - a. Server Configuration QA Sheets – Appendix A of this document
4. Miscellaneous – all may not be needed
 - a. LAN Connection for Server
 - b. WAN Connectivity to Core
 - c. CAT5 cables – regular, cross-over

Initialize Server

It is assumed that the server is installed with a monitor, keyboard and mouse (or KVM equivalent).

IMPORTANT: DO NOT CONNECT THE LAN AT THIS POINT – the server is vulnerable to attacks until it is hardened.

1. BIOS Configuration – Boot Sequence:

- CD-ROM
- Hard Drive
- Floppy

2. RAID-5 configuration

Follow the manufacturer's documentation provided for the RAID software installation/hardware configuration. To access the Dell RAID BIOS select Ctl-M during the POST process.

- Create a single four-drive RAID5 container and establish the fifth drive as a hot spare.

1. Perc Firmware update – Depends on Dell PowerEdge Model which version to be updated.

- Insert bootable firmware update floppy
- Reboot system
- Follow instructions on screen to update
- Reboot system

2. Windows 2003 Server Initial Installation

Partition hard disks: Note: The sizes below reflect 146 Gb Hard Drives. Larger Hard Drives will allow for a 36 Gb C partition and a 24 Gb E partition with the remaining disk space for the D partition.

IMPORTANT: Use NTFS file format for ALL partitions throughout this process

- Create C: partition – 36 Gbytes (36874)
- Create D: partition – 350 Gbytes (358537) or the amount of the remaining space available after calculating the space necessary for the C and E partitions *Remember to leave 8 Mb free.
- Create E: Partition – 24 Gbytes (24576)
- Regional and language Options – leave at default
- Name: "User"
- Organization: Use the organization name (e.g. "AFHCAN")
- Product Key – enter key
- License - Per Server with (5) connections typically.
- Computer Name: Enter appropriate name

Computer Name and Administrator Password:

- Name: Administrator / Password: "password"

NOTE: This will change later with stronger account names and passwords

Date & Time Settings

Adjust as necessary. Use Alaska Time Zone with automatic adjustment for daylight savings unless Server is being deployed elsewhere – check deployment for Time Zone location.

Initial Logon

1. Copy files to C:

- Copy “i386” folder files from W2K3 CD-ROM to C: drive
- Copy “ATS Downloads” folder from AFHCAN ATS Downloads CD-ROM to C:\Downloads

2. View parameters, device manager, hard drive assignments

- Security Updates – Choose “Finish”
- “Manage your Server” window - check the “Don’t display this page at logon”
- Adjust Tools / Folder Options /View in Explorer window.

Recommendation: Uncheck “Hide protected operating system files”, click on “Apply”, then “Apply to all folders”

- Check Device manager and update/install drivers as necessary – update existing Perc controller
- Change DVD/CDROM drive assignment to R:
- Change drive assignments if necessary so 2nd partition is D: and 3rd partition is E:
- Format D: drive – Format and change volume label to “Local Disk”
- Format E: drive – Format and change volume label to “Local Disk”
- Change screen resolution to 1024x768.
- Set color depth as high as possible – preferably 32 bit.

3. Create/Modify Accounts:

- Change name of Administrator account. Use the OSBA#*** name defined for this server.
- Password: Use complex password defined for this account

- User **CANNOT** change password, and password never expires.

- Create decoy Administrator account:
 - User name: "Administrator"
 - Password: "Password@2000"
 - User **CANNOT** change password, and password never expires
 - NOT** a member of the administrator group

- Create AFHCANAdmin*** account
 - Use the name defined for this server
 - Password: password
 - Do not use the complex password yet, due to the many reboots that will be coming up. This will be done at the end.**
 - User **CAN** change password, and password never expires
 - Member of the administrators group

- Log out and log back in with the "AFHCANAdmin***" account. The "Administrator" account no longer has any privileges.

.Net Framework Installation

- Install .NET Framework 2 by double-clicking "C:\ATS Downloads\2.0 .Net Framework\dotnetfx2.exe"

- Install .NET Framework 3 by double-clicking "C:\ATS Downloads\3.0 .Net Framework\dotnetfx3.exe"

- Install MSXML6, SP1 by double-clicking "C:\ATS Downloads\MSXML6.0\msxml6_x86.msi"

- Reboot

- Install .NET Framework 3.5 SP1

- Upon completion reboot- This also updates .Net 2.0 and .Net 3.0 to SP2.

- Install .NET Framework 4.0

- Reboot

IIS Installation

- Browse to “C:\ATS Downloads\Registry and double-click on Setup.reg
- Browse to “C:\ATS Downloads\IIS Install and run the “installiis.bat” file
- Leave the default web site

Finalizing the OS Configurations

Install Optional Windows Components

- Uncheck “Accessories and Utilities”
- Leave Application Server checked
- Leave “Internet Explorer Enhanced Security Config...” checked
- “Management and Monitoring Tools” – click “Details”
- Check “Simple Network Management Protocol”
- Check “Security Configuration Wizard”
- Uncheck “Update Root Certificates”
- Reboot server
- Within “System Properties”, enable “Remote Desktop”
- Create “C:\Logs” folder
- Apply Microsoft “WindowsServer2003-SP2”
- Reboot Server

Installing Windows Applications

1. Install Adobe Reader

- Adobe Acrobat Reader - Run “C:\Downloads\Adobe\Adobe Reader v9.3\adbeRdr930_en_US.exe”. Accept all defaults
- Delete any shortcut icons created on desktop

2. Install SQL Server 2005

- Install from CDROM, Disk 1 of 2. If it does not auto start, double click on Setup.exe.
 - Installing Prerequisites. Microsoft SQL Server 2005 will examine the system and install any software components required prior to installing SQL Server. (Generally it is Microsoft SQL Native Client and Microsoft SQL Server 2005 Setup Support Files).
 - Setup then continues by scanning the system and actually appears to stop running before it returns to the System Configuration Check screen. If there are any features missing, SQL Server 2005 will allow correction prior to installation.
 - Accept the default registration information.
 - Select the following components:
 - SQL Server Database Services
 - Workstation components, Books Online and development tools.
 - Click on the Advanced Tab
 - Expand Database Services, select Data Files, and change the Installation path to D:\
 - Documentation, Samples and Sample Databases – Make Entire Feature Unavailable.
 - Accept Default Instance
 - Service Accounts - Customize the settings for each service
 - For **SQL Server** - Use the Local System Account.
 - For **SQL Server Agent** - Use the Local System Account.
 - For **SQL Browser** – Use the Local System Account
 - At the **Start Services at the end of setup**, (bottom 3rd of dialog box), select SQL Server and SQL Server Agent
 - Authentication Mode – Windows Authentication only
 - Accept default collation settings
 - Do NOT send Error or Usage Report Settings to Microsoft
- Note: You will be prompted for Disk 2 of 2 during installation – insert when prompted and click OK. When installation finishes click Next.**
- At the Completing Microsoft SQL Server 2005 Setup dialog box, click on Surface Area Configuration Tool.
 - Surface Area Configuration for Services and Connections
- Click on MSSQLSERVER | Database Engine | Remote Connections selecting Using named pipes only. Click on Apply and accept OK for restart of the Database Engine service. Then click on Ok to return to Surface Area

Configuration screen.

- Surface Area Configuration Features
 - Select and enable CLR Integration

Click OK to return to Surface Area Configuration Screen. Click on the X to close the dialog box. Click on Finish to end setup.

- Upon finish, reboot the server
- After logging on, ensure the following SQL services are running:
 - SQL Server
 - SQL Server Agent
- Ensure the following services are disabled:
 - SQL Browser
 - SQL Server Active Directory Helper

3. Install SQL 2005 – SP4

Insert the CD-ROM and click on SQLServer2005SP4-KB2463332-x86-ENU.exe

- Agree to accept all defaults.
- Do not choose to send errors to Microsoft
- After SP4 has been successfully installed, remove the checkmark from Launch the User Provisioning Tool for Windows Vista after SP3 installation completes.
- Finish installing SP4 and reboot the server
- Set sa Password with Complex Password

Appendix A – AFHCAN tConsult Server Build QA Checklist

Use this section to document that each step has been completed.

Make/Model of Server: _____

Host Name of Server: _____

Builder: _____

Date of Build: _____

Service Tag: _____	<input type="checkbox"/>
RAID-5 Configuration	<input type="checkbox"/>
Perc Firmware Update	<input type="checkbox"/>
BIOS Update to latest BIOS version	<input type="checkbox"/>
3 Partitions C:\16002, D:\185634 * (or amount of remaining freespace after C & E are created), E:\7993 – size adjusted for larger hard drives	<input type="checkbox"/>
License – Per Server (5)	<input type="checkbox"/>
Correct Date/Time Settings	<input type="checkbox"/>
I386 folder files to C:\	<input type="checkbox"/>
ATS Downloads folder to C:\	<input type="checkbox"/>
Device Manager – drivers updated as necessary	<input type="checkbox"/>
Full Format NTFS of D:\ and E:\ drives, both labeled as Local Disk	<input type="checkbox"/>
Screen Resolution 1024 X 768	<input type="checkbox"/>
Rename Administrator Account to OSBA#####	<input type="checkbox"/>
OSBA Account Name: _____	
OSBA Password: _____	
Decoy Administrator Account	<input type="checkbox"/>
AFHCANAdmin### Account Name: _____	<input type="checkbox"/>
AFHCANAdmin### Password: _____	
Windows 2003-SP2	<input type="checkbox"/>
.Net Framework 2.0	<input type="checkbox"/>
.Net Framework 3.0	<input type="checkbox"/>
.Net Framework 3.5 SP1	<input type="checkbox"/>
.Net Framework 4.0	
IIS 6.0 – AFHCAN Software Website, port 8888 and SSL port 443	<input type="checkbox"/>
Install SNMP – Configured if staying local to AFHCAN network	<input type="checkbox"/>
Assure server is member of AFHCAN workgroup if not part of Domain	<input type="checkbox"/>
Remote Desktop Enabled	<input type="checkbox"/>
C:\Logs Folder created	<input type="checkbox"/>
Adobe Acrobat Reader v9.x	<input type="checkbox"/>
SQL 2005, SP3 Data directory D:\	<input type="checkbox"/>
SQL/SQLServerAgent set to Local System – set to startup Automatic	<input type="checkbox"/>
Windows Authentication Mode	<input type="checkbox"/>
Named Pipes Only	<input type="checkbox"/>

License Mode Set to 1 *(May be per seat – check on location)	<input type="checkbox"/>
Enable CLR Integration	<input type="checkbox"/>
SA password hardened _____	<input type="checkbox"/>
Installation of Dell OpenManager Server Administrator and IT Assistant	<input type="checkbox"/>
Obtained latest Microsoft updates and hotfixes	<input type="checkbox"/>
Harden Server	
Security Configuration Wizard – Secure AFHCAN Server1.xml	<input type="checkbox"/>
MMC-Security Configuration and Analysis – Secure AFHCAN Server2.inf	<input type="checkbox"/>
NIC Settings	
Firewall Ports 80, 443,6869, 123 and Remote Desktop	<input type="checkbox"/>
Security Logging and ICMP	<input type="checkbox"/>
Deselect Client for Microsoft Networks, File & Print Sharing	<input type="checkbox"/>
Disable Netbios	<input type="checkbox"/>
Disable unused NICs	<input type="checkbox"/>
System32 Changes	
ACL.bat applied – Imageversion.txt verified	<input type="checkbox"/>
Partitions Secured	
ACLS changed on all partitions	<input type="checkbox"/>
Permissions set on Inetpub\WWWRoot	<input type="checkbox"/>
Indexing Service	
Indexing service turned off on all partitions	<input type="checkbox"/>
Registry Changes – RecSecChanges.reg applied	<input type="checkbox"/>
User Accounts	
Deletion of user accounts/disabling of INET accounts/clear out descriptions	<input type="checkbox"/>
Terminal and Remote services disabled on all but OSBA# and AFHCANAdmin#	<input type="checkbox"/>
Group Accounts – remove IWAM User account from IIS-WPG Group	<input type="checkbox"/>
Disable Netbios over TCP/IP in Device Manager	<input type="checkbox"/>
Disable Dump File Creation	<input type="checkbox"/>
Create/Set Pagefile Parameters	<input type="checkbox"/>
Disable Application Dump files	<input type="checkbox"/>
Configure RDP-TCP Properties with Terminal Services Configuration	
Client Compatible	<input type="checkbox"/>
Client Settings (Only mapped drives allowed)	<input type="checkbox"/>
Sessions Parameters	<input type="checkbox"/>
Network Adapter set for 2	<input type="checkbox"/>
Disable Active Desktop	<input type="checkbox"/>
IIS	
Web Sites settings	
Active Log Format	<input type="checkbox"/>
Directory Security – Integrated Authentication Only	<input type="checkbox"/>

Home Directory	<input type="checkbox"/>
AFHCAN Software Web Site	
Home Directory – Scripts Only	<input type="checkbox"/>
Directory Security – tConsultX account	<input type="checkbox"/>
Documents Tab – Default.aspx	<input type="checkbox"/>
Web Service Extensions	
ASP.NET v1.1.4322 allowed	<input type="checkbox"/>
ASP.NET v2.0.50727 allowed	<input type="checkbox"/>
Active Server Pages Disabled	<input type="checkbox"/>
Web Sites	
Ensure ASP.NET v1.1.4322 is selected	<input type="checkbox"/>
Cleanup Server	
No FTP	<input type="checkbox"/>
Event Viewer Cleaned Out	<input type="checkbox"/>
Adobe Reader and Security Configuration Wizard Shortcuts removed	<input type="checkbox"/>
Recycle Bin Cleaned Out	<input type="checkbox"/>
Partitions Defragged	<input type="checkbox"/>
Set Boot Sequence	<input type="checkbox"/>
Configuration Management documentation posted within Document Locator	<input type="checkbox"/>
After AFHCAN tConsult Software installed and configured, ServerGUID noted on documentation	<input type="checkbox"/>

End of procedure.