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Installing SAP Afaria

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1 Installing Afaria

Use the Afaria Setup program to install a new installation of an Afaria component such as an Afaria Server, Enrollment Server, Package Server, or Self-Service Portal.

You must install the Afaria Server before you install any other Afaria components. You can install the Afaria Server as either a standalone server or as the master server in a server farm configuration. When installing Afaria components, use the same Windows account and database for all Afaria Servers.

Install Afaria components in the following order:

1. Afaria Server
2. API Server and Admin Console
3. Enrollment Server
4. Any other required servers and software components including:
 - Additional Afaria Servers as farm servers
 - Package Server
 - Self-Service Portal
 - Access Control filter for Email
 - SMS Gateway
 - Network Access Control component

Before you install Afaria, verify all requirements and complete all required tasks in *Preparing to Install Afaria*.

To upgrade an existing installation to a later service pack or hot fix, see *Upgrading Afaria*.

1.1 Launching the Afaria Setup Program

Extract Afaria software files and launch the Afaria Setup program. Use the Setup program to enter your license key, run the readiness checker, and install Afaria components. Most of the component installation options launch wizards that step you through the setup process.

Context

The Setup program is located in the root directory when you extract Afaria software files. When you launch it, you see a main Afaria 7 Setup screen that includes these options:

- License Key
- Readiness Checker
- Install
- Documents

Procedure

1. Copy the Afaria software package to a location that is accessible from your planned Windows Server, and extract the files to the server.
2. Launch the Afaria Setup program from the root directory.
3. Select a language (English or Japanese).
You see the Afaria Setup screen.

1.2 Installing the Afaria Server

During installation, you must specify the database you created during your preparation to install, and the user name and password for the Windows Domain account you created.

Context

If you are using SQL Anywhere, manually restart the database server to pick up the most up-to-date client drivers.

Procedure

1. From the Afaria Setup menu, select ► **Install** ► **Install Afaria Server** ► to launch the Afaria Server Setup wizard.
2. Follow the instructions in the wizard.

The following table describes all of the screens in the Afaria Server Setup wizard, however, depending on your installation selections, the wizard displays different screens. For example, if you select the Microsoft SQL Server database engine, the wizard displays the SQL Server Setup and SQL Server Database screens.

Screen	Action
Select Database Engine	Specify the type of database you are using: Microsoft SQL Server or SAP SQL Anywhere.
SQL Server Setup	If you selected SQL Server as your database engine, select the database server where you created your database, and set the authentication type for connecting to the SQL Server database. Options are: ◦ Windows Authentication – use a Windows account with SQL Server privileges.

Screen	Action
	◦ SQL Server Authentication – use a SQL Server account. Enter the user name and password of the SQL Server account you created previously.
SQL Server Database	If you selected SQL Server as your database engine, select the database you created for use with Afaria. Use the same database for all instances of the Afaria server. If you are installing a farm server, you must select the database in use by the master Afaria server.
SQL Anywhere Server Setup	If you selected SQL Anywhere as your database engine, specify the SQL Anywhere server and database name for the database you created for Afaria. The SA Server Name list includes only SQL Anywhere servers on the same subnet. To use a server outside the subnet, select Edit Host/Port and provide the host name and port of the server. The host name may be a machine name or IP address. The installation program validates the database you specify. If you type the database name incorrectly or type the name of the wrong database, you may see a <code>Request to start/stop database denied</code> error. You also use this screen to select a login type: ◦ Integrated login – integrate your Windows login with your SQL Anywhere login. ◦ SA user login – enter the login information for the database user with DBA authority that you created for your Afaria database.
Confirm Master or Standalone Server Install	If you want to install a farm server for an existing Afaria installation, return to the previous screen and select the database in use by the master Afaria Server.
Directory Selection	Specify where you want to install the Afaria Server.
Service Account	Enter the user name and password of the Windows Domain account you created for Afaria. Use the same account for all Afaria Servers and components you install.
Enable SSL	Enable SSL for secure device communication using XNETS and HTTPS protocols. You can enable SSL for device communication later using the Afaria Administration console. See <i>Configuring Afaria</i>.
Ready to Start Installation	Select Install .
Setup Complete	Select whether to start the service at this time. If you intend to install additional Afaria components, do not start the service.

1.3 Installing Afaria API Service and Administrator

Install the Afaria API Service and the Afaria Administration console. You can install these components on the same server as the Afaria Server or on a different server.

Procedure

1. From the Afaria Setup menu, click [Install](#) and then [Install Afaria API Service and Administrator](#) to launch the Afaria API Service Setup wizard.
2. Follow the instructions in the wizard.

Screen	Description
Select Database Engine	Select the SQL Anywhere or Microsoft SQL Server database you created for Afaria If you use SQL Anywhere 16, the wizard displays the default option Execute the system procedures as the invoker. Select this option.
SQL Anywhere Server Setup	Select the database server and database used for Afaria and enter all required values. If the Afaria Server is installed on the same server, the wizard displays the values used for the Afaria Server.
SQL Server Setup	If you selected SQL Server in the SQL Anywhere Server Setup screen, select the database server where you created your database and choose the account Afaria server will use to connect to the database. You must have created either a Windows or SQL Server account with the appropriate permissions when you prepared your database. The authentication options are: ◦ Windows Authentication to use a Windows account with SQL Server privileges. If you select Windows Authentication, you will be prompted to select and configure the authentication type later in the install. ◦ SQL Server Authentication to use a SQL Server account. If you select SQL Server Authentication, enter the user name and password of the SQL Server account you created previously.
SQL Server Database	If you selected SQL Server in the SQL Anywhere Server Setup screen, select the database you created for use with Afaria. Use the same database for all instances of the Afaria server. If you are installing a farm server, you must select the database in use by the master Afaria Server.

Screen	Description
Directory Selection	Specify where you want to install the Afaria API Service.
Service Account	Enter the user name and password of the Windows account created for Afaria. Use the same account you used when you installed the Afaria Server.
Ready to Start Installation	Select Install .
Setup Complete	Select whether to start the service at this time. The Admin installation automatically stops the API Service automatically if required. Select Finish to close the Afaria API Service Setup wizard. Select Yes to acknowledge the SSL warning that appears and launch the Afaria Admin Setup wizard.

3. Follow the instructions in the Afaria Admin Setup wizard.

Screen	Description
Select Virtual Directory	Select the virtual directory for the Afaria Administration console. If you have not created a directory, type the name for the directory to create it. The directory appears in the IIS directory under Default Web Site.
Select Physical Directory	Specify where you want to install Afaria Administration console files. If you are installing the Afaria Administration console on the same server as the Afaria Server, choose a different directory.
Service Account	Enter the user name and password of the Windows account created for Afaria. Use the same account you used when you installed the Afaria Server.
Authentication Method	Select one of the following authentication methods: ○ Windows ○ Active Directory ○ LDAP (Active Directory)
Default Administrator Account Name	Enter a user name and password to create an administrator account for the Afaria Administration console. You will use this account to log in to the Afaria Administration console and create additional accounts.
Domain Selection	Enter the domain for selecting the Afaria Administration console users to administer the Afaria Server. To limit selection to only local users, keep <none> as the domain.
Ready to Start Installation	Select Install .

Screen	Description
Setup Complete	Select Finish. A shortcut for the Afaria Administration console appears on the desktop. i Note If you used a predefined virtual directory for this installation rather than allowing the setup program to create one for you, verify the API Service and Admin settings in the directory before operating the Afaria Administration console.

1.4 Installing the Enrollment Server

Install the Enrollment Server which enrolls devices into device management and delivers MDM payloads to iOS devices.

Procedure

1. Click ► [Additional Installations and Resources](#) ► [Enrollment Server](#) ► to launch the Enrollment Server Setup wizard.
2. Follow the instructions in the wizard.

Screen	Description
Select Database Engine	Specify the type of database you are using: Microsoft SQL Server or SAP SQL Anywhere.
SQL Server Setup	If you selected SQL Server as your database engine, select the database server where you created your database, and set the authentication type for connecting to the SQL Server database. Options are: ◦ Windows Authentication – use a Windows account with SQL Server privileges. ◦ SQL Server Authentication – use a SQL Server account. Enter the user name and password of the SQL Server account you created previously.
SQL Server Database	If you selected SQL Server as your database engine, select the database you created for use with Afaria. Use the same database for all instances of the Afaria server. If you are installing a farm server, you must select the database in use by the master Afaria server.

Screen	Description
SQL Anywhere Server Setup	If you selected SQL Anywhere as your database engine, specify the SQL Anywhere server and database name for the database you created for Afaria. The SA Server Name list includes only SQL Anywhere servers on the same subnet. To use a server outside the subnet, select Edit Host/Port and provide the host name and port of the server. The host name may be a machine name or IP address. The installation program validates the database you specify. If you type the database name incorrectly or type the name of the wrong database, you may see a Request to start/stop database denied error. You also use this screen to select a login type: ◦ Integrated login – integrate your Windows login with your SQL Anywhere login. ◦ SA user login – enter the login information for the database user with DBA authority that you created for your Afaria database.
Directory Selection	Specify where you want to install the Enrollment Server.
Specify Credentials	Enter the user name and password of the Windows account used to run the Afaria service on the Afaria Server. The Enrollment Server uses these credentials to contact the Afaria Server for database credentials.
Specify Virtual Directory Names	Enter authorized and unauthorized virtual directory names. The unauthorized directory accepts an initial device connection and processes any required user authentication. The authorized directory accepts device connections in the connection series after the device connects to the unauthorized directory.
Specify SSL Certificate	Select the SSL certificate and, if required, change the port for HTTPS.
Specify Server Address	Enter the IP or fully qualified domain name of the Afaria Server
Specify Certificates for Signing	Select Sign Messages sent to iOS. In the CA Certificate Filename field, browse to the location of the root certificate. In the Signing Certificate Filename field, browse to the location of the signing certificate. In the Signing Certificate Password field, type the password for the signing certificate. If you are a self-signing entity and managing iOS devices, select the certificate that is bound to IIS for SSL. By selecting the certificate, the Afaria Server can traverse the certificate chain and ensure that iOS devices that need an intermediate certificate for operations get them seamlessly from the enrollment server. Your APNs certificate is not valid for this step.

Results

The Enrollment Server installation is now complete. The service, Afaria iPhoneServer, appears on the Windows service list. The installation process also populates the Enrollment Server configuration page with corresponding values if the Afaria Server is on the same server.

For more information, refer *Configuring Afaria Components* in *Configuring SAP Afaria* guide.

1.5 Installing the Self-Service Portal

Install the Self-Service Portal to enroll Android, iOS, Windows DM (Windows 8.1), Windows Phone, or Windows Mobile devices in Afaria management, view device information, and issue commands such as remote lock or remote wipe a device.

Context

Consider these items when installing the portal:

- The portal is for deployment inside the enterprise network in the DMZ configured to accept device connections and pass traffic to the portal.
- The portal can coexist with the Afaria server, Afaria Administration console, package server, or enrollment server.
- You can also install the portal on a server without any other Afaria components.
- If you plan to install using LDAP authentication, rather than other authentication options, the installing domain user account must have Active Directory access account permissions for ongoing operations.
- The server where you install and run the portal should be configured to use only HTTPS connections (SSL required).
- SSP connections will not go through a relay server or a load balancer.
- Only one Self-Service Portal installation hosts all Self-Service Portals in the enterprise network.

The Self-Service Portal can coexist with the Afaria Server, Afaria Administration console, Package Server, or Enrollment Server on the same server. You can also install the Self-Service Portal on a server that does not host any other Afaria components, as long as the Self-Service Portal has the proper network access to the Afaria API services. Install the Self-Service Portal after you have installed the Afaria API services: during portal installation, the installer verifies that it can successfully reach the API services before it completes.

Procedure

1. Click  [Install](#)  to launch the Self-Service Portal Setup wizard.
2. Follow the instructions in the wizard.

Screen	Description
Virtual Directory	Enter the SSP root virtual directory name to be used for all Self-Service Portals. The SSP root directory must be new and cannot match any preexisting virtual directories, either from older-version Self-Service Portals or any other Web site. The SSP root directory value is part of each URL that accesses every Self-Service Portal, and uses the following format: <code>http://[host]/[ssp root dir]/[Relative URL]</code>. Once you have specified the root directory, you cannot change it, except by uninstalling and reinstalling every Self-Service Portal that uses it. i Note By default, the root virtual directory name is "ssp" unless otherwise changed during the Self-Service Portal installation. The "Relative URL" uniquely identifies each portal, and is managed within the Afaria Administration console. See <i>Configuring Afaria</i>. Modify the physical path for the location of the Self-Service Portal files, if desired. You cannot install the Self-Service Portal in the same physical directory as a pre-SP6 Self-Service Portal.
Afaria API Server	Enter the user name, password, and address to access the Afaria API server for enrollment code information. The address is required but the port number is optional. When you select Next, the Setup program verifies that the portal has access to the API services. Ensure the services are running before continuing. If the Setup program cannot reach the API services, then installation cannot continue. Resolve the connectivity issue between the SSP and the API services before continuing.
Base HTTP URI	Enter a custom HTTP path to the Self-Service Portal virtual directory if it is needed for proxy support. This is only set for use with iOS6 devices that will download a custom-signed Afaria Client IPA file through the Self-Service Portal during enrollment where the proxy server has a different base URI.
Ready to Start Installation	Select Install.

1.6 Installing the Package Server

Install the Package Server either on the same computer as the Afaria Administration console, or on a separate computer.

Procedure

1. Click ► [Additional Installations and Resources](#) ► [Package Server](#) ► to launch the Afaria Portal Package Server Setup wizard.
2. Follow the instructions in the wizard.

Screen	Description
Select Database Engine	Specify the type of database you are using: Microsoft SQL Server or SAP SQL Anywhere.
SQL Server Setup	If you selected SQL Server as your database engine, select the database server where you created your database, and set the authentication type for connecting to the SQL Server database. Options are: ◦ Windows Authentication – use a Windows account with SQL Server privileges. ◦ SQL Server Authentication – use a SQL Server account. Enter the user name and password of the SQL Server account you created previously.
SQL Server Database	If you selected SQL Server as your database engine, select the database you created for use with Afaria. Use the same database for all instances of the Afaria server. If you are installing a farm server, you must select the database in use by the master Afaria server.
SQL Anywhere Server Setup	If you selected SQL Anywhere as your database engine, specify the SQL Anywhere server and database name for the database you created for Afaria. The SA Server Name list includes only SQL Anywhere servers on the same subnet. To use a server outside the subnet, select Edit Host/Port and provide the host name and port of the server. The host name may be a machine name or IP address. The installation program validates the database you specify. If you type the database name incorrectly or type the name of the wrong database, you may see a Request to start/stop database denied error.

Screen	Description
	You also use this screen to select a login type: ◦ Integrated login – integrate your Windows login with your SQL Anywhere login. ◦ SA user login – enter the login information for the database user with DBA authority that you created for your Afaria database.
Directory Selection	Specify where you want to install the Package Server.
Specify Credentials	Enter the user name and password of the Windows account that is used to run the Afaria service on the Afaria Server. The Package Server uses these credentials to contact the Afaria Server for database credentials.
Specify Virtual Directory Name	Enter a virtual directory name, or use the default value.
Specify Server Address	Enter the IP or fully qualified domain name of the Afaria Server.

See *Configuring Relay Server for Package Server* in *Configuring SAP Afaria*.

1.7 Installing SMS Gateway

Install the SMS Gateway on the Afaria Server to deliver outbound notifications and remote wipe commands.

Prerequisites

Ensure you have access to the Internet.

Context

You must download SMS Gateway software and resources from the Cygwin site. SMS Gateway operations use only some of the Cygwin product components. Therefore, these installation steps describe a manual process for installing only the component that the SMS Gateway requires, rather than using the Cygwin installation program.

Procedure

1. **Note**

All paths shown below are relative to the Cygwin FTP site. Relative paths on other mirrors may differ from the download location shown.

Download the archives listed below and extract them to a single, local folder on your Afaria Server:

Component	Version	Download location and archive name
Unix Emulation Engine cygwin1.dll	Current version (minimum version 2.6.1-1)	ftp://cygwin.com/pub/cygwin/x86/release/cygwin  cygwin-<version>.tar.xz
GNU character set conversion library and utilities cygiconv-2.dll	Current version (minimum version 1.14-2)	ftp://cygwin.com/pub/cygwin/x86/release/libiconv/libiconv2/  libiconv2-<version>.tar.xz
XML C parser and toolkit cygxml2-2.dll	Current version (minimum version 2.9.3-1)	ftp://cygwin.com/pub/cygwin/x86/release/libxml2/  libxml2-<version>.tar.xz
OpenSSL runtime environment cygcrypto-1.0.0.dll cygssl-1.0.0.dll	Current version (minimum version 1.0.2j-1)	ftp://cygwin.com/pub/cygwin/x86/release/openssl/libopenssl100/  libopenssl100-<version>.tar.xz
Zlib compression and decompression libraries cygz.dll	Current version (minimum version 1.2.8-2)	ftp://cygwin.com/pub/cygwin/x86/release/zlib/zlib0/  zlib0-<version>.tar.xz
GCC Release series 4 compiler: GCC compiler support shared runtime cyggcc_s-1.dll	Current version (minimum version 5.3.0-5)	ftp://cygwin.com/pub/cygwin/x86/release/gcc/libgcc1/  libgcc1-<version>.tar.xz
XZ Utils compression and decompression libraries cyglzma-5.dll	Current version (minimum version 5.2.2-1)	ftp://cygwin.com/pub/cygwin/x86/release/xz/liblzma5/  liblzma5-<version>.tar.xz

2. Extract the downloaded .xz archives.

For each archive, the decompression yields one extracted file with file extension .tar.

3. Extract the decompressed .tar files into the same download folder.

4. Modify the default system path on the server to include <download folder>\usr\bin.

You can also do this by copying the following files from the \bin folder to the <AfariaInstallation> \bin\SMSSGateway folder:

- cygwin1.dll
- cygiconv-2.dll
- cygxml2-2.dll
- cygcrypto-1.0.0.dll
- cygssl-1.0.0.dll
- cygz.dll
- cyggcc_s-1.dll
- cyglzma-5.dll

The default value for <AfarialInstallation> is C:\Program Files\Afaria.

1.8 Access Control

Access control regulates synchronization requests to email servers.

Access Control can prevent synchronization requests that do not meet the access control policies in SAP Afaria. Access control policies include a list of known devices, their associated policies, any remediation actions, and any defined policies for unknown devices.

In addition to synchronization requests from devices, Access Control Filter can regulate synchronization requests from desktop and Web email clients.

1.8.1 Access Control Filter Components

The Access Control Filter includes a filter, data handler services, and a filter listener.

Filter (XSISAPI.dll)

The filter accepts inbound synchronization requests from devices and passes them to the data handler. The filter must reside on a server that can accept inbound requests.

Data Handler Services (XSISAPIReversePipe.exe)

The Data Handler Services determine whether to allow or block incoming synchronization requests.

Filter Listener (XISAPIServer.exe)

The Filter Listener queries the SAP Afaria database for the access control list and sends it to the Data Handler Services. The filter listener resides on the SAP Afaria server.

1.8.2 Installing Access Control Components on a Single Machine

You can install access control components on one server behind the corporate firewall.

Context

If all components are installed on a single machine behind the corporate firewall, you can select the *Filter and data handler* option while running the Access Control for Email installation program on the IIS/ISA machine behind the firewall.

If components are installed on multiple IIS machines behind the corporate firewall and load balancer, you can select the *Filter and data handler* option while running the Access Control for Email installation program on each IIS/ISA machine.

Procedure

1. To install the Access Control filter, run the setup program (`setup.exe`) as administrator to launch the Afaria 7 Setup wizard.
2. From the first screen of the wizard, click *Install*.
3. From the second screen, click *Additional Installations and Resources*.
4. From the third screen, click *Install Access Control for Email*.

Choose the appropriate version of the filter for your operating system: *32-bit (x86)* or *64-bit (x64)* as required.

The setup wizard launches the Afaria 7 ISAPI Filter Setup wizard.

5. Click *Next*.
6. Select *Filter and data handler* and click *Next*.
7. From the Blocking Option screen, do the following, and then click *Next*:
 - a. Select *Allow all traffic but Microsoft-Active-Sync* to allow all traffic to the email server except from handheld devices. If this option is selected, all traffic is allowed. If you do not select this option, only ActiveSync traffic is allowed and all other traffic is blocked. Any other Web sites on the same IIS are also blocked.
 - b. Select an installation method – *Install ISAPI filter for IIS Server* or *Install ISAPI for ISA Server*.

i Note

The ISAPI filter affects Outlook Web Access (OWA) if the Allow all traffic but Microsoft-Active-Sync option is not selected and OWA is being accessed from Client Access System (CAS) on which the filter is installed.

8. From the Server Settings screen, enter the following and click *Next*:
 - o URL of the Afaria server

- Relay Server (RS) Prefix
 - Relay Server (RS) Farm ID
9. From the Ready to Start Installation screen, click [Install](#).
The filter (`XSISAPI.dll`) and data handler (`httpsclient.ps1` and `PipeServer.exe`) components are installed on one server behind the firewall.

1.8.3 Installing Access Control Components on Multiple Machines

When installing access control components on multiple machines, you can install the Filter and Data Handler Proxy service (Query Forwarder) on an IIS or ISA box in the DMZ. You can then install the data handler (Query Processor) on one or more CAS boxes behind an enterprise firewall.

1.8.3.1 Installing the Filter and the Data Handler Proxy Service

If an IIS or ISA machine is located in the DMZ and rest of the servers are hidden behind the inner firewall, you can select the [Filter and Data Handler Proxy Service](#) option while running the Access Control for Email installation program. This option installs `XSISAPI.dll` and `XSISAPIReversePipe.exe` on an IIS/ISA server.

Context

Run the procedure on each IIS/ISA box.

Procedure

1. Run the setup program (`setup.exe`) as administrator to launch the Afaria 7 Setup wizard.
2. From the first screen of the wizard, click [Install](#).
3. From the second screen, click [Additional Installations and Resources](#).
4. From the third screen, click [Install Access Control for Email](#).

Choose the appropriate version of the filter for your operating system: [32-bit \(x86\)](#) or [64-bit \(x64\)](#) as required.

The setup wizard launches the Afaria ISAPI Filter Setup wizard.

5. Click [Next](#).
6. Select [Filter and data handler proxy service](#) and click [Next](#).
7. From the Proxy Settings screen, type the host name and port for the PowerShell proxy server and click [Next](#).

8. From the Blocking Option screen, do the following, then click [Next](#):
 - a. Select [Allow all traffic but Microsoft-Active-Sync](#) to allow all traffic to the email server except from handheld devices.
 - b. Select an installation method – [Install ISAPI filter for IIS Server](#) or [Install ISAPI for ISA Server](#).
9. From the Ready to Start Installation screen, click [Install](#).

The filter and data handler proxy (XSISAPI.dll and XSISAPIReversePipe.exe) components are installed on an IIS or ISA box in the DMZ.

1.8.3.2 Installing Only the Data Handler

After installing the filter and data handler proxy service on an IIS or IAS box in the DMZ, you can install the data handler on a CAS behind the firewall.

Context

If there are multiple CAS servers, run the procedure below on each CAS.

Procedure

1. Run the setup program (setup.exe) as administrator to launch the Afaria 7 Setup wizard.
2. From the first screen of the wizard, click [Install](#).
3. From the second screen, click [Additional Installations and Resources](#).
4. From the third screen, click [Install Access Control for Email](#).

Choose the appropriate version of the filter for your operating system: [32-bit \(x86\)](#) or [64-bit \(x64\)](#) as required.

The setup wizard launches the Afaria ISAPI Filter Setup wizard.
5. Click [Next](#).
6. Select [Data handler only](#) and click [Next](#).
7. From the Proxy Settings screen, type the host name and port for the PowerShell proxy server and click [Next](#).
8. From the Server Settings screen, enter the following and click [Next](#):
 - URL of the Afaria server
 - Relay Server (RS) Prefix
 - Relay Server (RS) Farm ID
9. From the Ready to Start Installation screen, click [Install](#).

The data handler (httpsclient.ps1 and PipeServer.exe) files are installed on the CAS box behind the enterprise firewall.

1.9 Installing Afaria Network Access Control Service

Install Afaria Network Access Control (NAC) services to respond to NAC router requests to enforce device compliance.

Prerequisites

You can install the Afaria NAC web service on any or all servers in an Afaria farm (Master server or otherwise), depending on the level of redundancy you want to implement. You can also install the NAC service or on its own server without any other Afaria components. Ensure that the NAC service can reach the Afaria database for device information retrieval, and reach the Afaria API service for device MDM actions. In addition, the Afaria NAC web service responds only to secure HTTPS connections, so to support HTTPS traffic, ensure that IIS is configured with a valid SSL certificate.

Procedure

1. On the server you will use for Network Access Control, start the Network Access Control setup program (`setup.exe`), which is located in the `NetworkAccessControlService` folder of the Afaria installation media.

Alternatively, on the overall Afaria system setup menu, click ► [Additional Installations and Resources](#) ► [Install Afaria Support for Network Access Control](#) ►.

2. Click [Next](#) on the Welcome dialog.
3. Select the type of database engine used for the Afaria server installation.
4. Enter the server connectivity information required so NAC can connect directly to the Afaria database.
5. Accept the default location for the directory, or click [Browse](#) to navigate to a different location.

If the directory you specify does not exist, the setup program creates it.

6. Enter the API service account name and password (the same ones you used to install the Afaria API) to set up the service. Enter the server address and port number so NAC can reach the API service.

If the API service exists on a separate server, the port on the API server must be opened to allow TCP traffic inbound.

7. Click [Install](#).

After installing NAC, the setup program creates two virtual directories in IIS: `\CiscoISE` and `\NetworkAccessControl`. Use the `\CiscoISE` directory for Cisco NAC equipment, otherwise, use the `\NetworkAccessControl` directory.

The NAC web service is only accessible via HTTPS port 443 through IIS. Any requests to this service over unsecured HTTP port 80 will be denied.

1.10 Installing Afaria Server Farm

You can install an Afaria Server as a farm server in a farm environment after installing the main Afaria Server and the Afaria Administration console.

Prerequisites

Ensure that all farm servers are in the same domain, and that the domain user name and password matches the ones specified for Afaria Administration console and API services.

Procedure

1. Start the Afaria Setup program.
2. Enter the license key.
3. Install the Afaria Server using the same domain user account, database, and options as the main Afaria Server.
4. Start Afaria Server service on the main server, then on the farm servers.

2 Uninstalling Afaria Components

Remove Afaria software components using the Microsoft Add/Remove Programs utility.

2.1 Uninstalling Afaria Server

Uninstalling an Afaria Server also uninstalls the Afaria Administration console, if installed on the same server. Removing the Afaria Server deletes the software component, but preserves the Afaria database.

Procedure

1. If you are uninstalling a farm server, on the Afaria Administration console go to [Server > Configuration > Server Farm](#) and set the state to hidden.

Hiding the farm server removes it from the server selector list.

2. Close all Afaria programs on the server you are uninstalling.
3. Stop all Afaria-related services.
4. Using the Microsoft Add/Remove Programs utility, select the component and remove it.

The most common reasons for this step to fail include:

- An Afaria program or related service is still running. Stop the programs and related services and retry the step.
- Windows Explorer or some other program is using the Afaria installation directory. Close all programs, then restart the machine and retry the step.
- Afaria system folders are shared with device users. Remove the share from the folder and retry this step.

5. If you are uninstalling a farm server, delete the server entry from the A_SERVER database table.

If you do not delete this server from the database, it continues to appear on [Server > Configuration > Server Farm](#) page as an available server.

3 Upgrading Afaria

To upgrade Afaria, download the required version of the Afaria software and run the Afaria `setup` program for each Afaria server and component in your installation.

i Note

Do not upgrade the Afaria Server without upgrading all other components including all farm servers, the CA Proxy, the Enrollment Server, and the Package Server. To complete the upgrade, ensure that all managed devices have been upgraded to the latest version of the Mobile Secure client application.

Before you continue, review the upgrade considerations listed in the *Installing and Upgrading SAP Afaria* section of the *SAP Afaria Release Notes*. You should also ensure that all servers and network devices that are hosting or interacting with Afaria meet the system requirements. See the *SAP Afaria System Requirements* document.

[Supported Upgrade Paths \[page 22\]](#)

Select the appropriate upgrade path based on your current version of SAP Afaria.

3.1 Supported Upgrade Paths

Select the appropriate upgrade path based on your current version of SAP Afaria.

Based on the version of SAP Afaria you are running, do one of the following:

SAP Afaria 7 SP30 or SP31

Upgrade to SAP Afaria 7 SP32.

SAP Afaria 7 SP28 or SP29

1. Upgrade to SAP Afaria 7 SP30.
2. Upgrade to SAP Afaria 7 SP32.

SAP Afaria 7 SP27 or earlier

1. Upgrade to SAP Afaria 7 SP28.
2. Upgrade to SAP Afaria 7 SP30.
3. Upgrade to SAP Afaria 7 SP32.

Supported Android Clients

The following versions of the Android client are supported in this version of SAP Afaria:

- 15998 – Current shipping version
- 15567

- 14742

The best practice is to upgrade your users to the latest client version. Users may skip a version when upgrading the client. For example, users running 14742 may upgrade directly to the current version. Users running older clients need to re-enroll to get the new version.

4 Preparing to Upgrade Afaria

Before beginning an upgrade, validate all prerequisite and system requirements, create a system backup, and close all browsers that are currently logged in to the Afaria Administration console. If you are using a relay server, shut down the relay server (rsoe) before beginning an upgrade.

Context

A system backup includes the database, application software, and application data. Afaria only stores data in the database and on the Windows server hosting the Afaria Server. It is not necessary to back up data on servers hosting other Afaria components such as an Enrollment Server and Package Server.

Procedure

1. Back up your Afaria database.
2. Stop the Afaria Server services on each Windows server hosting an Afaria Server using the following commands:

```
net stop "Afaria Server" /y
net stop "AfariaIPhoneServer" /y
net stop "Afaria Backend Portal Package Server" /y
net stop "Afaria API" /y
net stop "Afaria Client Service" /y
```

3. Stop any Relay Server Outbound Enabler services. The names of these services are customized by the installer and may vary by environment.
4. Record the installed Afaria hot fixes and services packs listed in the registry at the following locations:
HKEY_LOCAL_MACHINE\SOFTWARE\AFARIA\AFARIA\PATCH\
5. Export all Afaria Channels. Ensure that the option to include the content and assignments for each channel are selected: `c:\program files (x86)\Afaria\bin\xaexport.exe \ c:\backup.cmx /r`
This process can be accomplished by executing the following command through a Session Manager channel or by using a simple batch file. Optional automation of channel export can be done by creating a Windows Task Scheduler task that executes the Channel Exports on a daily basis. More information about the xaexport and xaimport tools can be found by using the "/?" option.
6. Export HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432node\Afaria to a registry file (.reg). This preserves the unique Server ID (Transmitter ID) and server settings that stored in the registry.
7. Back up the following directories:
 - C:\PROGRAM FILES (X86) \AFARIA
 - C:\PROGRAM FILES (X86) \AFARIAAPISERVICE
 - C:\PROGRAM FILES (X86) \AFARIA COMMON
 - C:\PROGRAM FILES (X86) \AFARIAEUSSP

- C:\PROGRAM FILES\AIPS
- C:\PROGRAM FILES\PACKAGESERVER

Backing up the Afaria server installation directory preserves all Channel IDs, Channel worklists, any worklist assignments, worklist priorities, and so on.

8. Restart the Afaria Server service by running the following commands:

```
net start "Afaria Server" /y
net start "AfariaIPhoneServer" /y
net start "Afaria Backend Portal Package Server" /y
net start "Afaria API" /y
net start "Afaria Client Service" /y
```

9. If required, log in to the Afaria Administration console and delete devices, policies, and settings for discontinued platforms and features.

5 Upgrading an Afaria Component

Upgrade Afaria using the Afaria Setup program. When you run a setup wizard on a Windows server hosting an Afaria component, the wizard displays your current settings in the wizard screens. Click [Next](#) on each screen to accept the settings or make changes to the settings as required.

Context

Extract Afaria software files and launch the Afaria Setup program to upgrade Afaria components.

Procedure

1. Copy the Afaria software package to a location that is accessible from your Windows Server and extract the files to the server.
2. Launch the Afaria Setup program (`setup.exe`) which is located in the root directory.
3. From the Afaria Setup menu, select the appropriate option to launch the required wizard.
The wizard displays your current Afaria settings. Use the existing admin account credentials for the upgrade.
4. Make any changes to the selections and settings as required. See *Installing Afaria* for descriptions of the Afaria Setup wizards.
5. Select [Install](#) on the Ready to Start Installation screen to begin the upgrade.
The Afaria Server upgrade process may take more than 30 minutes to complete.

Caution

Do not interrupt the upgrade process. Doing so may result in a corrupted database and an inoperable system. If the upgrade is interrupted, restore your database and restart the Afaria Server setup.

6. Rerun the Setup program and, when prompted, change the service account to an account with normal privileges.
7. If APNs certificates were previously installed, reinstall them.
8. When the upgrade of all Afaria components is complete, reboot all Afaria components.

Caution

Failure to reboot after upgrade may result in fatal server errors.

6 Afaria Single-Server Upgrade

Upgrade an installation with one Afaria Server.

Procedure

1. Stop all Afaria services including Afaria Server, iPhone, back-end portal, and API services.
2. Upgrade the Afaria Server, but do not start the service.
3. Upgrade the Afaria Administration console application.
4. Start Afaria Server service.
5. Upgrade additional servers, such as the Enrollment Server.
6. Connect devices for upgrade.

7 Afaria Server Farm Upgrade

Upgrade a farm installation with a master Afaria server and one or more farm servers.

Procedure

1. Stop all Afaria services on the master (main) Afaria Server and on all farm servers.
Do not start the master and farm servers until after you have upgraded all components.
2. Upgrade the main Afaria server, but do not start the Afaria Server service.
3. Upgrade the farm servers. Do not start the Afaria Server service.
4. Upgrade the Afaria API and the Afaria Administration console application.
5. Upgrade additional servers, such as the Enrollment Server, Package Server, and Self-Service Portal.
6. Start Afaria Server service on the master server, then start the server service on the farm servers.
7. Start the remaining services on all servers.
8. Verify Afaria Client Service is running on all farm servers and replication is successful.
9. Connect devices for upgrade.

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