Lab LC21: Deploying Systems Management Server Version 4

Objectives
After completing this lab, you will be able to:

- Extend the Active Directory schema for SMS specific data.
- Create an Active Directory site for integration with Microsoft® Systems Management Server (SMS) version 4.
- Install SMS v4 using a custom setup.
- View status message activity related to site server installation.
- Discover computer resources from Active Directory.
- Install an SMS v4 Advanced Client on the Windows XP Professional client.

Prerequisites
Before working on this lab, one virtual computer should be started as a Microsoft Windows Server 2003® SP1 computer running as an Active Directory domain controller (Deploy AD Server VPC). A second virtual computer is started as a Microsoft Windows Server 2003® SP1 member server to install as an SMS primary site server (Deploy SMS Server VPC). This computer has Microsoft SQL Server 2005 installed. The third virtual computer should be started as a Windows XP Professional SP2 client to be installed as an Advanced Client in the SMS v4 site (Deploy Client VPC).

The requirements for implementing SMS version 4 (which have all been installed in the lab VPC images, include:

- Microsoft Windows Server 2003 SP1 or later in an Active Directory domain
- Internet Information Server (IIS) 6.0 or later, with BITS Server Extensions installed (for management points and BITS-enabled distribution points)
- Microsoft SQL Server 2005 (Standard or Enterprise Edition)
- Microsoft Management Console 3.0 or later

Estimated time to complete this lab: 75 minutes
Exercise 1
Preparing Active Directory for SMS v4 Integration

In this exercise, you will prepare Active Directory for use with SMS v4. You will use a utility to extend the Active Directory schema for use by SMS (which could also be done during SMS Setup). You will also grant rights for the SMS site server to publish data to Active Directory. Finally, you will create an Active Directory site that will be added to the SMS Site Boundaries for client management.

**Note** Complete this exercise on the virtual computer running as a Windows Server 2003 SP1 Active Directory domain controller only (Deploy AD Server VPC).

فك To extend the Active Directory schema

1. Log on as administrator with a password of password.
2. Run C:\Smscd\Extadsch.exe.
   
   A command prompt window appears as you extend the Active Directory schema for use by SMS. When the schema extension process has completed, the command prompt window closes.
3. Open C:\Extadsch.log.
   
   Notepad displays the contents of the Extadsch.log file. This file is created by the Extadsch.exe utility and reports on the Active Directory schema extension process.
4. Was the schema extension process successful?
   
   Yes

5. How many classes and attributes were added to Active Directory as a result of extending the schema for SMS v4?
   
   There were 4 classes and 14 attributes added to Active Directory.

6. Verify that there are no errors listed in the log, and then close Notepad.

فك To grant the SMS site server rights to Active Directory

1. On the Start menu, point to Administrative Tools, and then click Active Directory Users and Computers.
   
   The Active Directory Computers and Users window appears.
2. On the View menu, click Advanced Features.
   
   The Active Directory Computers and Users window displays additional Active Directory information, including displaying the System container. You will grant rights to the System container to allow the SMS site server to publish data to Active Directory.
3. In the console tree, expand smsdomain.smsdemo.microsoft.com, and then click System.
4. On the **Action** menu, click **Properties**.
   The **System Properties** dialog box appears.

5. Click the **Security** tab.
   The **System Properties** dialog box displays the security permissions on the System container. Notice that the SMS site server computer (SMSServer) is not listed.

6. Click **Add**.
   The **Select Users, Computers, or Groups** dialog box appears.

7. Click **Object Types**.
   The **Object Types** dialog box appears.

8. Under **Object types**, click **Computers**, and then click **OK**.
   The **Select Users, Computers, or Groups** dialog box appears.

9. In the **Enter the object names to select** field, type `smsserver` and then click **OK**.
   The **Select Users, Computers, or Groups** dialog box appears. Notice that the SMS site server computer (SMSSERVER) is now listed with Read rights.

10. Under **Permissions for SMSSERVER**, click **Full Control** under **Allow**, and then click **Advanced**.
    The **Advanced Security Settings for System** dialog box appears displaying the rights for various accounts.

11. Under **Name**, click `SMSSERVER`, and then click **Edit**.
    The **Permission Entry for System** dialog box appears displaying the rights for SMSServer$.

12. In the **Apply onto** field, click **This object and all child objects**, and then click **OK**.
    The **Advanced Security Settings for System** dialog box appears.

13. Click **OK**.
    The **System Properties** dialog box appears.

14. Click **OK**.
    The Active Directory Computers and Users window appears. You can leave this window open if you want to view information that SMS publishes to Active Directory after installation.

In the following procedure, you will create an Active Directory site to integrate with SMS as part of its site boundaries.

**To create an Active Directory site**

1. On the **Start** menu, point to **Administrative Tools**, and then click **Active Directory Sites and Services**.
   The Active Directory Sites and Services window appears.

2. In the console tree, click **Sites**.
   The list of AD sites appears in the results pane. Notice the default site name of Default-First-Site-Name.
3. On the Action menu, click New Site.
   The New Object – Site dialog box appears.
4. In the Name box, type SMSSite
5. Under Link Name, click DEFAULTIPSITELINK, and then click OK.
   An Active Directory message box appears listing steps that may be required to complete the creation of the new site.
6. Click OK.
   The list of sites appears in the details pane. Notice the new site is listed.
7. In the console tree, expand Sites, click Subnets, and then on the Action menu, click New Subnet.
   The New Object – Subnet dialog box appears.
8. In the Address box, type 192.168.1.0
9. In the Mask box, type 255.255.255.0
10. Under Select a site object for this subnet, click SMSSite, and then click OK.
    The list of subnets appears in the details pane. Notice the new subnet and its associated site.
11. In the console tree, expand SMSSite, and then click Servers.
    The list of servers for this site appears in the details pane. Notice that there are no servers in this new site.
12. In the console tree, expand Default-First-Site-Name, expand Servers, and then click ADServer.
    This is your PDC. You will move this to your new site as its server.
13. On the Action menu, click Move.
    The Move Server dialog box appears displaying all sites available.
14. Under Site Name, click SMSSite, and then click OK.
    The list of servers for the default site appears in the details pane. Notice that there are no servers in the default site.
15. In the console tree, expand Sites, expand SMSSite, and then click Servers.
    The list of servers for the new site appears in the details pane. Notice that your PDC has been moved to the new site.
Exercise 2
Installing Microsoft SMS v4

In this exercise, you will install SMS v4 using a custom installation. SQL Server 2005 is already installed on the computer SMSServer. The installation will use advanced security.

Note Complete this exercise on the virtual computer running as a Windows Server 2003 SP1 member only. This is the computer that will be installed as the SMS site server (Deploy SMS Server VPC).

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To install SMS v4
1. Start C:\SMSCD\autorun.exe.
   The Systems Management Server Version 4 Setup dialog box appears.
2. Click SMS Version 4.
   The Welcome to the Microsoft Systems Management Server Setup Wizard dialog box appears.
3. Click Next.
   The Systems Management Server Setup Wizard System Configuration dialog box appears indicating Setup did not find any existing SMS installation on the computer.
4. Click Next.
   The Systems Management Server Setup Wizard Setup Options dialog box displays options for installation.
5. Click Install an SMS primary site, and then click Next.
   The Systems Management Server Setup Wizard Installation Options dialog box appears prompting to perform an express or custom setup.
6. Click Custom Setup, and then click Next.
   The Systems Management Server Setup Wizard License Agreement dialog box appears. Read the licensing information.
7. Click I Agree, and then click Next.
   The Systems Management Server Setup Wizard Product Registration dialog box requests registration information.
8. In the Name box, type your name.
9. In the Organization box, type your company name.
10. In the Product Key box, type your product key, and then click Next.

Note For the beta 1 version of SMS v4, you do not have to supply any information on the Product Registration wizard page.

The Systems Management Server Setup Wizard SMS Site Information dialog box appears prompting for site information.
11. Type the following configuration information in the appropriate boxes.

<table>
<thead>
<tr>
<th>In this box</th>
<th>Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site code</td>
<td>SV4</td>
</tr>
<tr>
<td>Site name</td>
<td>SMS v4 Primary Site</td>
</tr>
<tr>
<td>Site domain</td>
<td>Leave at default (should be SMSDomain)</td>
</tr>
</tbody>
</table>

12. Click Next.

The Systems Management Server Setup Wizard SMS Active Directory Schema dialog box appears providing information regarding extending the Active Directory schema for Advanced Client use. You manually extended the schema in the previous exercise, so this is not necessary at this point. If the Active Directory schema had not been extended prior to the SMS installation, you could select this option to have SMS perform the schema extension.

13. Click Next.

The Systems Management Server Setup Wizard Installation Options dialog box appears prompting for the components to install on the site server. Notice that the only optional component is Remote Tools.

14. Under Options, select Remote Tools, and then click Next.

The Systems Management Server Setup Wizard Database Information dialog box appears prompting for the SQL Server computer to use as well as the name of the database for SMS.

15. Click Next to accept the default values of the SMS site server’s installation of SQL Server and SMS_SV4 for the database name.

The Systems Management Server Setup Wizard Creation of the SMS Site Database dialog box appears prompting to automatically create the SMS site database.

16. Verify that Yes is selected, and then click Next.

The Systems Management Server Setup Wizard SQL Server Directory Path for SMS Site Database dialog box appears prompting for the location to create the SMS site database.

17. Click Next to accept the default path of C:\SMSDATA.

The Completing the Systems Management Server Setup Wizard dialog box appears displaying the complete set of installation information that will be used to install SMS v4.

18. Click Finish to complete the installation.

The SMS Setup program installs SMS v4.

When complete, a Systems Management Server Setup Wizard message appears indicating that Setup completed successfully.

19. Click OK.
In the following procedure, you will use SMS status messages generated by the site server installation to verify that the site server installation was successful. You can use this same procedure to view status messages generated by any SMS processes.

To view SMS status messages

1. On the Start menu, point to All Programs, point to Systems Management Server, and then click SMS Administrator Console.
   The Microsoft Management Console (MMC) starts, and then the smsconsole - [Systems Management Server] window appears.
2. In the tree pane, click SMS Console – SMSSERVER.
   The SMS Administrator Console connects to the SMS provider on the local SQL Server to provide access to the SMS site SV4.
3. In the tree pane, expand SMSSERVER, expand System Status, expand Site Status, expand SV4, and then click Site System Status.
   The list of SMS site system roles appears in the results pane with the current status of each site system. Verify that each site system has a status of OK.
4. In the tree pane, click Component Status.
   The list of SMS components and their status appears in the results pane.
5. In the results pane, click SMS_SITE_COMPONENT_MANAGER, and then in the Actions pane, click Show Messages.
   A new menu appears.
6. Click All.
   The SMS Status Message Viewer for <SV4> window appears. Notice the message with the ID of 1027. It mentions that the site server was configured to receive SMS server components.
7. Click the message, and then on the View menu, click Detail.
   The Status Message Details dialog box appears. Notice the header information for the message, as well as the text under Description.
8. Click OK.
   The SMS Status Message Viewer for <SV4> window appears.
   The list of SMS components appear in the results pane.
10. Display the status messages for SMS_SITE_CONTROL_MANAGER.
    The SMS Status Message Viewer for <SV4> window appears. Notice the message with a message ID of 2819. This message indicates that SMS retain the 100 most recent copies of the site control file. At this point, SMS has just been installed, however there will have been some site control file modifications.
    Notice the message with an ID of 2866. This message indicates the actual site control file copy has been sent to the SMS Hierarchy Manager for addition to the SMS site database.
    From here, you should notice many sets of site control file images being modified. You should see messages with IDs of 2808, 2814, 2813, 2811, and 2865 in each set of site control file modification requests. You will view these messages in later labs.
11. Display the status messages for **SMS_HIERARCHY_MANAGER**.

   The SMS Status Message Viewer for <SV4> window appears. Notice the messages with message IDs of 3306. These messages indicate that Hierarchy Manager has successfully processed a site control file modification and updated the site database.

12. Display the status messages for **SMS_WINNT_SERVER_DISCOVERY_AGENT**.

   The SMS Status Message Viewer for <SV4> window appears. Notice the message with a message ID of 4202. This message indicates one server was discovered and discovery data was written for it. This occurred as a result of installing SMS site components on the site server computer.

In the following procedure, you will add the Active Directory site to the SMS v4 Site Boundaries.

<table>
<thead>
<tr>
<th>To configure SMS to use the new AD site boundary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In the tree, expand SMSSERVER, expand Site Management, and then click SV4.</td>
</tr>
<tr>
<td>2. In the Actions pane, click Properties.</td>
</tr>
<tr>
<td>The <strong>SV4 – SMS v4 Primary Site Properties</strong> dialog box appears.</td>
</tr>
<tr>
<td>3. Click the Site Boundaries tab.</td>
</tr>
<tr>
<td>The <strong>SV4 – SMS v4 Primary Site Properties</strong> dialog box appears displaying the configured boundaries for the local site. Notice that the local IP subnet is listed as the default boundary.</td>
</tr>
<tr>
<td>4. Click New (resembles a starburst).</td>
</tr>
<tr>
<td>The <strong>New Boundary</strong> dialog box appears allowing the creation of a new site boundary.</td>
</tr>
<tr>
<td>5. In the Boundary type box, click Active Directory site.</td>
</tr>
<tr>
<td>6. In the Site name box, type SMSSite and then click OK.</td>
</tr>
<tr>
<td>The <strong>SV4 – SMS v4 Primary Site Properties</strong> dialog box appears displaying the configured boundaries for the local site. Notice the new Active Directory site boundary is now listed as a site boundary for your local Active Directory site along with the default IP subnet.</td>
</tr>
<tr>
<td>7. Click OK.</td>
</tr>
<tr>
<td>The SMS Administrator Console appears.</td>
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</tbody>
</table>
Exercise 3
Installing an Advanced Client

In this exercise, you will install the SMS v4 Advanced Client on the Windows XP Professional client computer. You will begin by using Active Directory System Discovery to discover the computer from Active Directory.

Note  Complete this exercise on the virtual computer running as a Windows Server 2003 SP1 SMS site server (Deploy SMS Server VPC) unless directed to use another VPC image.

To discover computers from Active Directory
1. In the tree pane, expand SV4, expand Site Settings, and then click Discovery Methods.
   The list of discovery methods for the local site appears in the results pane. Notice that there are four discovery methods related to Active Directory.
2. In the results pane, click Active Directory System Discovery, and then in the Actions pane, click Properties.
   The Active Directory System Discovery Properties dialog box appears.
3. Select Enable Active Directory System Discovery, and then click New.
   The Browse for Active Directory dialog box appears allowing you to specify the use of a local domain, local forest, or custom query for the discovery.
4. Verify that Local domain is selected, and then click OK.
   The Select New Container dialog box appears allowing you to specify the container to use for discovery.
5. Select smsdomain, and then click OK.
   The Active Directory System Discovery Properties dialog box appears. Notice the distinguished name for the container to search. Also notice that a recursive search will be performed on that container.
6. Click the Polling Schedule tab.
   The Active Directory System Discovery Properties dialog box displays the default polling schedule for Active Directory System Discovery. Notice that by default, this polling will occur daily.
7. Click Schedule.
   The Schedule dialog box appears.
8. Under Recurrence pattern, click None, and then click OK.
   The Active Directory System Discovery Properties dialog box appears displaying the new schedule.
9. Click Run discovery as soon as possible and then click OK.
   The SMS Administrator Console window appears.
In the following procedure, you will verify the results of the Active Directory System Discovery process.

**Note** You will need to wait for a moment for the discovery process to complete.

**To verify Active Directory System Discovery**

1. In the tree pane, expand **Computer Management**, and then click **Collections**.
   The list of collections appears in the results pane.
2. In the tree pane, expand **Collections**, and then click **All Systems**.
   Notice that there are no members of the All Systems collection at this time.
3. In the **Actions** pane, click **Update Collection Membership**.
   An **All Systems** message box appears prompting to update subcollection membership.
4. Click **OK**.
   The collection is updated.
5. In the **Actions** pane, click **Refresh**.
   The collection membership is updated, and the current membership of the All Systems collection is displayed.
6. Are there any new members in the All Systems collection?
   **Yes, the local site server (SMSServer), the domain controller (ADServer) and the Windows XP Professional client (SMSClient) should have been discovered.**
7. Are each of the systems assigned to the site?
   **Yes, all are listed as being assigned to the site.**
   **Note** If the assigned status still remains listed as No, then verify that you have correctly listed SMSSite as a site boundary for the site.
8. In the results pane, click the Windows XP Professional client, and then in the **Actions** pane, under **SMSClient**, click **Properties**.
   The **SMSClient Properties** dialog box appears displaying discovery properties.
9. What is the discovered AD site name?
   **SMSSite, which is the AD site you added as a site boundary.**
10. Click **Close**.
In the following procedure, you will configure a management point for the SMS site to support Advanced Clients.

To configure a management point
1. In the tree pane, expand SMSSERVER, expand Site Management, expand SV4, and then expand Site Settings.
   The list of configurable site settings appears in the results pane.
2. In the tree pane, expand Site System Roles, and then click \SMSSERVER.
   The list of site system roles for the site server appears in the results pane. Notice that there are five site system roles assigned to the site server computer.
3. In the Actions pane, click New Roles.
   The New Site Role Wizard General dialog box appears.
4. Click Specify a fully qualified host name for this site system.
5. Type smsserver.smsdomain.smsdemo.microsoft.com in the text box below Specify a fully qualified host name for this site system.
6. Click Next.
   The New Site Role Wizard System Role Selection dialog box appears displaying the list of site system roles that can be assigned to this computer.
7. Under Available Roles, select Management Point, and then click Next.
   The New Site Role Wizard Management Point dialog box appears allowing you to configure the management point as a device management point, as well as to configure whether or not to use the local site database or a SQL replica of the SMS site database.
8. Verify that Use the site database is listed, and then click Next.
   A Default Management Point Configuration message box appears indicating that installation of the management point role will stop and restart the Windows Management Instrumentation (WMI) service, as well as prompting to make this management point the default management point for the site.
9. Click Yes.
   The New Site Role Wizard dialog box appears indicating that you have successfully completed the wizard.
10. Click Next.
    The New Site Role Wizard Summary dialog box appears indicating that SMS is now ready to begin installation of the management point.
11. Click Close.
    The SMS Administrator Console window appears displaying the site system roles for the computer SMSServer. Notice that the management point role has been added to the list.
In the following procedure, you will verify that the site server has been configured as an SMS management point.

**Note** It may take a few moments for the installation of the management point to complete. If you wish, you can start Task Manager and watch for Ccmexec.exe to appear. This is your indication that the management point has been successfully installed.

**To verify management point configuration**
1. From **Administrative Tools**, start **Services**.
   The Services window appears.
2. Verify that the SMS Agent Host service has been installed and is running.
3. Close **Services**.

In the following procedure, you will create the account necessary to remotely install the SMS v4 Advanced Client on your Windows XP Professional client computer.

**Note** Complete this procedure on the virtual computer running as a Windows Server 2003 SP1 Active Directory domain controller only (Deploy AD Server VPC).

**To create the account required to install the advanced client**
1. From **Administrative Tools**, start **Active Directory Users and Computers**.
   The Active Directory Users and Computers window appears.
2. Create a new user with the name of **ACInstall**, assign it a password of **password**, and then make this user a member of **Domain Admins**.
   This is the account that will be used to push the Advanced Client installation to the Windows XP Professional client. It must be a local admin on the client computer. Being a member of Domain Admins is not a requirement, but simplifies the configuration in the lab environment.

In the following procedure, you will configure the account in the SMS Administrator Console to allow installation of the Advanced Client.

**Note** Complete this procedure on the virtual computer running as a SMS site server only (Deploy SMS Server VPC).

**To configure Advanced Client account**
1. In the tree pane, expand **SMSSERVER**, expand **Site Management**, expand **SV4**, expand **Site Settings**, and then click **Client Installation Methods**.
   The list of client installation methods appears in the results pane.
2. In the results pane, click **Client Push Installation**, and then in the **Actions** pane, click **Properties**.

The **Client Push Installation Properties** dialog box appears. Notice that the installation method is not enabled. It does not need to be enabled for our push installation.

3. Click the **Accounts** tab.

The **Client Push Installation Properties** dialog box displays accounts to be used to push out the SMS client software. Notice that there are no accounts listed.

4. Click **New**.

The **Windows User Account** dialog box appears.

5. In the **User name** box, type `smsdomain\ACInstall`

6. In the **Password** and **Confirm password** boxes, type `password` and then click **OK**.

The **Client Push Installation Properties** dialog box displays accounts to be used to push out the SMS client software. Notice that the new account is listed.

7. Click **OK**.

The SMS Administrator Console window appears.

In the following procedure, you will use the SMS Administrator Console to push the installation of the Advanced Client to the Windows XP Professional client.

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**Note** Complete this procedure on the virtual computer running as a SMS site server only (Deploy SMS Server VPC).

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勀 **To install the Advanced Client**

1. In the tree pane, expand **Collections**, and then click **All Windows XP Systems**.

The members of the All Windows XP Systems collection appear in the results pane. Notice that there are no members of the collection.

2. In the **Actions** pane, click **Update Collection Membership**.

The **All Windows XP Systems** message box appears prompting to update subcollection membership.

3. Click **OK**.

The collection is updated.

4. In the **Actions** pane, click **Refresh**.

The collection membership is updated, and the current membership of the All Windows XP Systems collection is displayed. This should include the Windows XP Professional client computer, SMSClient.

5. In the **Actions** pane, click **Install Client**.

The **Client Push Installation Wizard** dialog box appears.
6. Click Next.
   The Client Push Installation Wizard Installation options dialog box appears displaying options for the type of clients to install.

7. Under Install the SMS client, click Advanced Client, and then click Next.
   The Client Push Installation Wizard Client Installation Options dialog box appears displaying options for what clients to install.

8. Click Next.
   The Client Push Installation Wizard dialog box appears indicating it is ready to complete the installation.

9. Click Finish.
   The Advanced Client is remotely installed on the Windows XP Professional client computer. It will take a few minutes before the installation completes.

In the following procedure, you will verify that the SMS v4 Advanced Client has been installed on the Windows XP Professional client.

Note Complete this procedure on the Windows XP Professional client computer only (Deploy Client VPC). It will take a few moments for the installation of the Advanced Client to complete. You can use Task Manager to verify the installation. While ccmsetup.exe is running, the client is being installed. When ccmsetup.exe terminates and Ccmexec.exe starts, the Advanced Client has been successfully installed.

To verify the Advanced Client installation

1. Log on as administrator with a password of password.
2. In Control Panel, double-click Administrative Tools, and then start Services.
   The Services window appears.
3. Verify that the SMS Agent Host service has been started.

In the following procedure, you will verify that the Windows XP Professional client has reported to the SMS site that it is installed as an Advanced Client.

Note Complete this procedure on the virtual computer running as a SMS site server only (Deploy SMS Server VPC).

To verify the reporting of the Advanced Client

1. In the tree pane, expand Collections, and then click All Windows XP Systems.
   The members of the All Windows XP Systems collection appear in the results pane. Notice that the Windows XP Professional computer appears. Also notice that the computer is not listed as being an SMS client.
2. In the **Actions** pane, click **Update Collection Membership**.
   
The **All Windows XP Systems** message box appears prompting to update subcollection membership.

3. Click **OK**.
   
The collection is updated.

4. In the **Actions** pane, click **Refresh**.
   
The collection membership is updated, and the current membership of the All Windows XP Systems collection is displayed. Notice that the Windows XP Professional client computer now is listed as being installed as an Advanced Client.