HP OpenView Select Identity

Connector for
Microsoft Active Directory LDAP Servers

Installation Guide

Software Version: 3.0.1

October 2004

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- Commons-logging.
- Commons-digester.
- Commons-httpclient.

- Element Construction Set (ecs).

- Jakarta-poi.

- Jakarta-regexp.

- Logging Services (log4j).

Additional third party software used by Select Identity includes:

- JasperReports developed by SourceForge.

- iText (for JasperReports) developed by SourceForge.

- BeanShell.

- Xalan from the Apache XML Project.

- Xerces from the Apache XML Project.

- Java API for XML Processing from the Apache XML Project.

- SOAP developed by the Apache Software Foundation.

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Installing the Connector

The Active Directory LDAP connector enables HP OpenView Select Identity to manage user data on Active Directory LDAP servers. It is a one-way connector and pushes changes made to user data in the Select Identity database to a target LDAP server. The mapping file controls how Select Identity fields are mapped to LDAP fields.

The Active Directory LDAP connector is packaged in the following files:

- schema.jar – contains the attribute mapping files for this system
- TALDAPv3.rar – contains the connector binary files

These files are located in the LDAP Active Dir directory on the Select Identity Connector CD.

Deploying on the Web Application Server

To install the Active Directory LDAP connector on the Select Identity server, complete these steps.

➤ Perform this procedure after the Select Identity product installation. Also, the application server in this example is WebLogic 8.1, therefore you must be familiar with the WebLogic platform.

1 A `Select_Identity` directory was created on the web server during the product installation. Create a `connector` folder in this directory.

2 Copy the `TALDAPv3.rar` file to the `connector` folder in the `Select_Identity` directory.

3 Copy `schema.jar` file from the Select Identity Connector CD to a temporary directory.

4 Extract the `schema.jar` contents to the `Select_Identity` directory.

5 Ensure that the CLASSPATH environment variable in the WebLogic server startup script references the `Select_Identity` directory.

6 Modify the mapping file, if necessary. This file is described in detail in Understanding the Mapping File on page 10.

7 Start the application server if it is not currently running.

8 Log on to the WebLogic Server Console.

9 Navigate to *My_domain* → **Deployments** → **Connector Modules**.

10 Click **Deploy a New Connector Module**.

11 Locate and select the `TALDAPv3.rar` file from the list. It is stored in the `Select_Identity\connector` directory.

12 Click **Target Module**.

13 Select the **My Server** (your server instance) check box.

14 Click **Continue**. Review your settings.

15 Keep all default settings and click **Deploy**.

The Status of Last Action column should display Success.

After installing the connector, log on to the Select Identity client and deploy the connector using the Connector pages. Then, create a resource that represents the connector, and configure a Service that relies on the Active Directory LDAP resource. See the *HP OpenView Select Identity Administrator Guide* for procedures. The Resource Access Information appendix provides detailed information about creating an Active Directory LDAP resource.

Using Secure LDAP

You must use secure LDAP (ldaps) to connect to Windows Active Directory for user password changes. Without this, the Active Directory LDAP connector cannot update passwords in Active Directory.

Download and install the required certificate from the CA for MS Active Directory. Perform the following steps to install this certificate:

1 Access `%JAVA_HOME%\jre\lib\security`.

2 Copy the certificate to this directory.

3 Import the certificate into the `cacerts` keystore, under an alias such as CA123 using the keytool command:

```
keytool -import -alias CA123 -file adcert.cer
 -keystore cacerts
```

4 Ensure that the certificate is imported by listing it:

```
keytool -list -alias CA123 -keystore cacerts
```

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Understanding the Mapping File

The Active Directory LDAP connector provides the `ActiveDir.xml` mapping file. This file was created in XML, according to SPML standards, and it is bundled in the `schema.jar` file. The `ActiveDir.xml` file contains the attributes required by the resource application. It maps user account additions and modifications from Select Identity to Active Directory LDAP. When you deploy a resource using the Select Identity Resources pages, you can review this file.

You can create attributes that are specific to Select Identity using the Attributes page in the Select Identity client. These attributes can be used to associate Select Identity user accounts with system resources by editing the connector mapping file described in this chapter. This process becomes necessary because, for example, a single attribute "username" can have a different name on different resources, such as "login" for UNIX, "UID" for a database, and "userID" on a Windows server.

This file does not need to be edited unless you want to map additional attributes to your resource. If attributes and values are not defined in this mapping file, they cannot be saved to the resource through Select Identity.

General Information

The following operations can be performed in the mapping file:

- Add a new attribute mapping
- Delete an existing attribute mapping
- Modify attribute mappings

Here is an explanation of the elements in the XML mapping files provided by the Active Directory LDAP connector:

- **<Schema>**, **<providerID>**, and **<schemaID>**

  Provides standard elements for header information.

- **<objectClassDefinition>**

  Defines the actions that can be performed on the specified object as defined by that name attribute (in the <properties> element block) and the Select Identity-to-resource field mappings for the object (in the <memberAttributes> block). For example, the object class definition for users defines that users can be created, read, updated, deleted, reset, and expired in LDAP.

  - **<properties>**
    Defines the operations that are supported on the object. This can be used to control the operations that are performed through Select Identity. The following operations can be controlled:

    — Create (CREATE)

    — Read (READ)

    — Update (UPDATE)

    — Delete (DELETE)

    — Enable (ENABLE)

    — Disable (DISABLE)

    — Reset password (RESET_PASSWORD)

    — Expire password (EXPIRE_PASSWORD)

    — Change password (CHANGE_PASSWORD)

The operation is assigned as the name of the <attr> element and access to the operation is assigned to a corresponding <value> element. You can set the values as follows:

— true — the operation is supported by the connector

— false — the operation is not supported by the connector and will throw a permission exception

— bypass — the operation is not supported by the connector but will not throw any exception; the operation is simply bypassed

Here is an example:

```
<objectClassDefinition name="User" description="Active
Directory User>
    <properties>
      <attr name="CREATE">
        <value>true</value>
      </attr>
      <attr name="READ">
        <value>true</value>
      </attr>
```

- **<memberAttributes>**
  Defines the attribute mappings. This element contains <attributeDefinitionReference> elements that describe the mapping for each attribute. Each <attributeDefinitionReference> must be followed by an <attributeDefinition> element that specifies details such as minimum length, maximum length, and so on.

  Each <attributeDefinitionReference> element contains the following attributes:

  — Name — the name of the reference.

  — Required— if this attribute is required in the provisioning (set to true or false).

  — Concero:tafield — the name of the Select Identity resource attribute.

  — Concero:resfield — the name of the physical resource attribute from the resource schema. If the resource does not support an explicit schema (such as UNIX), this can be a tag field that indicates a resource attribute mapping.

— Concero:isKey — An optional attribute that, when set to true, specifies that this is the key field to identify the object on the resource. Only one <attributeDefinitionReference> can be specified where isKey="true". This key field does not need to be the same as the key field of the identity object in Select Identity.

— Concero:init — An optional attribute that identifies that the attribute is initialized with the value of the attribute passed in from Select Identity.

Here is an example:

```
<memberAttributes>
  <attributeDefinitionReference name="User Name"
    required="true" concero:tafield="[User Name]"
    concero:resfield="cn" concero:isKey="true"
    concero:init="true" />
```

The interpretation of the mapping between the connector field (as specified by the Concero:tafield attribute) and the resource field (as specified by the Concero:resfield attribute) is determined by the connector. The Active Directory LDAP connector has code to interpret the mappings in one way, as follows:

— The connector attribute names are specified in square braces, like this: [xyz]. The value of attribute xyz is taken from the UserModel during provisioning.

— Composite attributes can be specified in the Active Directory LDAP connector mapping file. To do this, specify [attr1] xxxx [attr2] as the connector attribute. This specifies that the value of the attr1 and attr2 attributes should be combined with the string xxxx to form a mapping for the specified resource field. Active Directory LDAP connector has code to handle these composite mappings.

- **<attributeDefinition>**

Defines the properties of each object's attribute. For example, the attribute definition for the HomeDir attribute defines that it must be between zero and 100 characters in length and can contain the following letters, numbers, and characters: a-z, A-Z, 0-9, @, +, and a space.

Here is an excerpt from the `ActiveDir.xml` file:

```
<attributeDefinition name="HomeDir" description="User Home
directory" type="xsd:string" >
```

```
      <properties>
        <attr name="minLength">
          <value>0</value>
        </attr>
        <attr name="maxLength">
          <value>128</value>
        </attr>
        <attr name="pattern">
          <value><![CDATA[[a-zA-Z0-9@]+]]> </value>
        </attr>
      </properties>
</attributeDefinition>
```

- **<concero:entitlementMappingDefinition>**

  Defines how entitlements are mapped to users.

- **<concero:objectStatus>**

  Defines how to assign status to a user.

- **<concero:relationshipDefinition>**

  Defines how to create relationships between users.

Active Directory LDAP Mapping Information

The following are the attribute mappings supported for Active Directory LDAP. These are listed in the ActiveDir.xml mapping file. You can add, modify, or delete attributes once you are familiar with the contents of this file. You can edit the Select Identity resource attributes; they reflect the identity information as seen in Select Identity. The physical resource attributes are literal attributes of user accounts on Active Directory LDAP. These attributes cannot be changed. See the *HP OpenView Select Identity Connector Developer Guide* for more information about attributes and mapping information.

Select Identity Resource Attribute	Active Directory LDAP Attribute	Description
User Name	cn	Key field on the resource
Password	UnicodePwd	
First Name	givenname	
Last Name	sn	
User Name	samaccountname	
FirstName + LastName	displayname	
Directory	homeDirectory	
Last Name + First Name	userPrincipalName	
Address 1	streetAddress	
Address 2	postOfficeBox	
City	l	
State	st	
Zip	postalCode	
Title	title	
Business Phone	telephoneNumber	
Home Phone	homePhone	
Profile Path	profilePath	
Script Path	scriptPath	
Description	description	
Disable function	userAccountControl=514	Disables a user
Enable function	userAccountControl=512	Enables a user

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Uninstalling the Connector

If you need to uninstall a connector from Select Identity, make sure that the following are performed:

- All resource dependencies are removed.

- The connector is deleted using the Connectors pages on the Select Identity client.

Perform the following to delete a connector:

1   Log on to the WebLogic Server Console.

2   Navigate to *My_Domain* → **Deployments** → **Connector Modules**.

3   Click the delete icon next to the connector that you want to uninstall.

4   Click **Yes** to confirm the deletion.

5   Click **Continue**.