

AutoFS With LDAP Support Release Notes

HP-UX 11i v2

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1 AutoFS With LDAP Support

Announcement

AutoFS is a client-side service that supports automatic mounting and unmounting of file systems when users request access to them. If an automounted file system has been idle for a period of time, AutoFS unmounts it. LDAP is a directory service that stores information to be retrieved by clients throughout a network.

Support for storing and managing AutoFS maps in an LDAP directory server requires a functionality enhancement in LDAP-UX Client Services and an enablement in AutoFS. The LDAP-UX Integration product version B.04.00 supports the automount service under the AutoFS subsystem. This product also provides the migration scripts that can be used to migrate AutoFS maps from files, NIS+ servers or NIS servers into an LDAP directory server. AutoFS patch PHNE_33100 for HP-UX 11i v2 provides support for retrieving AutoFS maps from an LDAP database. The upcoming release of Enhanced AutoFS version B.11.11.0509.1 will provide the same functionality for HP-UX 11i v1.

The LDAP-UX Integration product supports the new automount schema defined in RFC 2307-bis. This schema defines new `automountMap` and `automount` structures to represent the AutoFS maps and their entries in the LDAP directory. The `nisObject` automount schema defines `nisMap` and `nisObject` structures to represent the AutoFS maps and their entries in the LDAP directory. The `nisObject` automount schema can be used if configured via attribute mappings. LDAP-UX does not support the obsolete automount schema which is shipped with Netscape Directory Server 6.x. For details, refer to the “Automount Schemas” section of Chapter 2 of the *LDAP-UX Client Services B.04.00 Administrator’s Guide* available at the following web site:

<http://docs.hp.com/hpux/internet>

Installation Requirement

To enable AutoFS for LDAP support on HP-UX 11i v2, you must install the following products:

- **Netscape Directory Server for HP-UX**

Use the following steps to download and install Netscape Directory Server 6.11 or 6.21 for HP-UX on your server system:

Step 1. Go to the following URL:

<http://h20293.www2.hp.com/portal/swdepot/displayProductInfo.do?productNumber=J4258CA>

Step 2. Click on the Receive for Free button.

Step 3. Select one of the following product versions in the software specification box, then click on the Next button:

— HP-UX 11i v2 B.06.11.30.001

— HP-UX 11i v2 B.06.21.20

Step 4. If you want to download Netscape Directory Server 6.21, click on the J4258CA B.06.21.20 HP-UX B.11.23 IA+PA depot link in the download software box. Otherwise, click on the J4258CA B.06.11.30.001 HP-UX B.11.23 IA+PA depot link.

Step 5. Run `swinstall` and follow the installation instructions for this product on the product web page to install Netscape Directory Server for HP-UX.

Step 6. Remember that you run the setup program with the typical installation as documented in the installation instructions on the product web page to configure Netscape Directory Server for HP-UX.

- **LDAP-UX Integration product**

You must install the LDAP-UX Integration product version B.04.00 on your client systems. Use the following steps to download and install the LDAP-UX Integration product on your client systems:

Step 1. Delete the obsolete automount schema. Netscape Directory Server 6.11 or 6.21 ships with an obsolete schema which must be removed before the setup program can successfully import the new automount schema into the Netscape Directory Server. For detailed information on how to delete the obsolete automount schema, refer to “Removing The Obsolete Automount Schema” part of the “Automount Schemas” section of Chapter 2 of the *LDAP-UX Client Services B.04.00 Administrator’s Guide* available at the following web site:

<http://docs.hp.com/hpux/internet>

Step 2. Go to the following web site:

<http://h20293.www2.hp.com>

Search for LDAP-UX Integration.

Step 3. Click on the LDAP-UX Integration link on the product catalog web page.

Step 4. Click on the Receive for free button.

Step 5. Select HP-UX 11i v2 Workstation and Server B.04.00 in the software specification box, then click on the Next button.

Step 6. Click on the J4269AA B.04.00 HP-UX B.11.23 IA+PA depot link in the download software box to download this product.

Step 7. Run `swinstall` and follow the installation instructions for this product on the product web page to install the LDAP-UX Integration product which includes LDAP-UX Client Services (LdapUxClient subproduct), the LDAP-UX Client administrator’s tools and migration scripts.

Step 8. Remember that you run the setup program as documented in the installation instructions on the product web page to configure the LDAP-UX Integration product.

The setup program will import the new automount schema into the LDAP directory server. For the complete procedures on how to run the setup program, refer to “Quick Configuration” section of Chapter 2 of the *LDAP-UX Client Services B.04.00 Administrator’s Guide* available at <http://docs.hp.com/hpux/internet>.

Installing Patch PHNE_33100

To retrieve AutoFS maps from an LDAP database on HP-UX 11i v2, you must install AutoFS patch PHNE_33100 along with the LDAP-UX Integration product B.04.00 on your client systems.

Use the following procedures to install patch PHNE_33100:

Step 1. Go to the following web site:

`http://www.itrc.com`

Click on Patch/Firmware database to get the patch.

Step 2. Back up your system before installing a patch.

Step 3. Log in to your system as root.

Step 4. Copy the patch to the `/tmp` directory.

Step 5. Go to the `/tmp` directory and unshar the patch as follows:

```
cd /tmp
sh PHNE_33100
```

Step 6. Run `swinstall` to install the patch as follows:

```
swinstall -x autoreboot=true -x patch_match_target=true \  
-s /tmp/PHNE_33100.depot
```

Installing and Configuring AutoFS with LDAP Support

This section summarizes the steps to install and configure AutoFS with LDAP support as follows:

- Step 1.** Install Netscape Directory Server 6.11 or 6.21 for HP-UX on your server system, if not already installed. See “Netscape Directory Server for HP-UX” part of “Installation Requirement” on page 4 for more information.
- Step 2.** Install LDAP-UX Integration product B.04.00 including the migration scripts and administrator’s tools on your client systems, if not already installed. See “LDAP-UX Integration product” part of “Installation Requirement” on page 5 for details.
- Step 3.** Install AutoFS patch PHNE_33100 on your client systems. See “Installing Patch PHNE_33100” on page 6 for details.
- Step 4.** Skip this step if AutoFS maps have been placed into Netscape Directory Server.

Otherwise, migrate your AutoFS maps to LDIF (LDAP Directory Interchange Format) files using the migration scripts and import LDIF files into the LDAP directory server using the `ldapmodify` tool. The migration scripts and the `ldapmodify` tool are delivered with the LDAP-UX Integration product B.04.00. For detailed information, refer to the “AutoFS Migration Scripts” section of Chapter 2 of the *LDAP-UX Client Services B.04.00 Administrator’s Guide* available at the following web site:

<http://docs.hp.com/hpux/internet>

After migrating your AutoFS maps to the LDAP directory, skip to step 6.

- Step 5.** Check the `/var/opt/netscape/servers/slapd-<server-instance>/config/schema/10rfc2307.ldif` file on your LDAP directory server to see whether the `nisObject` automount schema exists or not by looking for entries that contain the following fields:

- NAME ‘nisMapName’
- NAME ‘nisMapEntry’
- NAME ‘nisObject’
- NAME ‘nisMap’

The data in the following four entries defines the `nisObject` automount schema, the complete entries are:

- `attributeTypes:(1.3.6.1.1.1.1.26 NAME 'nisMapName' DESC 'Standard LDAP attribute type' SYNTAX 1.3.6.1.4.1.1466.115.121.1.15 X-ORIGIN 'RFC 2307')`
- `attributeTypes:(1.3.6.1.1.1.1.27 NAME 'nisMapEntry' DESC 'Standard LDAP attribute type' SYNTAX 1.3.6.1.4.1.1466.115.121.1.26 X-ORIGIN 'RFC 2307')`
- `objectClasses:(1.3.6.1.1.1.2.10 NAME 'nisObject' DESC 'Standard LDAP objectclass' SUP top STRUCTURAL MUST (cn $ nisMapEntry $ nisMapName)MAY (description) X-ORIGIN 'RFC2307')`
- `objectClasses:(1.3.6.1.1.1.2.13 NAME 'nisMap' DESC 'Standard LDAP objectclass' SUP top STRUCTURAL MUST (nisMapName)MAY (description) X-ORIGIN 'RFC2307')`

Skip this step if above four entries for the `nisObject` automount schema do not exist on the LDAP directory server.

Skip to step 6 if the `nisObject` automount schema exists on the LDAP directory, but you do not want to use it.

Otherwise, if the `nisObject` automount schema for storing AutoFS maps is being used on the directory server and you want to continue to use it, set up attribute mappings on your LDAP-UX client system. For more information, refer to the "Attribute Mappings" section of Chapter 2 of the *LDAP-UX Client Services B.04.00 Administrator's Guide* available at the following web site:

<http://docs.hp.com/hpux/internet>

Step 6. Configure the Name Service Switch (NSS) to enable AutoFS for LDAP support.

Save a copy of the `/etc/nsswitch.conf` file and modify the original to add an entry for LDAP support to the automount service as follows:

```
automount: ldap
```

The following shows the sample file, `/etc/nsswitch.ldap`:

```
passwd:      files ldap
group:       files ldap
hosts:       dns files ldap
networks:    files ldap
protocols:   files ldap
rpc:         files ldap
```

```
publickey:    ldap [NOTFOUND=return] files
netgroup:     files ldap
automount:    files ldap
aliases:      files
services:     files ldap
```

Step 7. Issue the following command to run the NFS client shutdown script:

```
/sbin/init.d/nfs.client stop
```

Step 8. If you have not enabled AutoFS, ensure that you set the `NFS_CLIENT` and `AUTOFS` variables to 1 in the `/etc/rc.config.d/nfsconf` file.

Step 9. Issue the following command to run the NFS client startup script:

```
/sbin/init.d/nfs.client start
```

Fixes in Patch PHNE_33100

This patch contains the following fixes:

- **AutoFS for LDAP support (SR#8606405774)**

This fix provides support for retrieving AutoFS maps from an LDAP database.

Limitations

The following are limitations for AutoFS with LDAP support:

- AutoFS with LDAP support can only retrieve automount maps from an Netscape Directory Server.
- The `nisObject` automount schema contains three attributes, `cn`, `nisMapEntry` and `nisMapName`. `cn` is an attribute that ignores case-matching. Consider the following example:

```
# an indirect map auto_test
test1    server1:/source
TEST1    server2:/source
```

In the above example, because the `cn` attribute is case-insensitive, the LDAP considers “`cn=TEST1, nisMapName=auto_test`” to be a redefinition of “`cn=test1, nisMapName=auto_test`”.

Using the `nisObject` automount map schema, capital letters are not significant. In other words, if two keys have names that are only different by the use of capital letters, then one of those entries will be rendered inoperable because the other one is the only one that can be retrieved.

Do not use any keys that have capital letters and only differ from other keys by those capital letters.

Known Problems and Workarounds

The following is a list of known problems and appropriate workarounds for AutoFS with LDAP support:

Problem

The positive and negative cache timeout lengths are fairly long. Therefore, if a map is changed, or a map is added or removed from the LDAP directory, the change may not take effect immediately. It may cause data inconsistency between the LDAP directory and the cache as the cache may have the previous state information.

Workaround

Each time a map is changed, use the `ldapclientd -f` command to flush all LDAP-UX caches. For more information, refer to the “Client Daemon Performance” section of Chapter 4 of the *LDAP-UX Client Services B.04.00 Administrator’s Guide* available at <http://docs.hp.com/hpux/internet>.

Problem

A problem occurs on the LDAP-UX Client setup program when asking to install the new automount schema or performing attribute mappings. When the window screen size is 24 lines, the prompt for asking the LDAP-UX service may not be given and is a blank line instead. For example, when initially running the setup, the profile schema, the LDAP printer schema and automount schema have not been imported into the LDAP directory, the prompt for asking to install the new automount schema is not given and is a blank line.

Workaround

You can increase the number of lines to more than 24 for a window screen when running LDAP-UX Client setup program.

Documentation References

For detailed information on how to configure AutoFS for use with LDAP, refer to the following documents available at <http://docs.hp.com/hpux/internet>:

- *LDAP-UX Client Services B.04.00 Administrator's Guide, Edition 3* (J4269-90051).
- *LDAP-UX Client Services B.04.00 Release Notes* (J4269-90045).
- *Netscape Directory Server 6.1 Administrator's Guide*.
- *Netscape Directory Server 6.2 Administrator's Guide*.