Technical white paper

HP Device Manager 4.7

Configuring DHCP tags

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Overview

This white paper demonstrates how to configure DHCP tags.

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If problems occur when using PXE, verify that the DHCP server settings do not conflict with PXE. These issues rarely occur. The PXE boot ROM uses the DHCP server to get an IP address, as well as other basic networking information such as a subnet mask or a default gateway.

Note
The network must be configured using DHCP to use the PXE service.

To configure the DHCP server:

1. Make sure that the DHCP server has not been previously configured for a PXE bootstrap.
2. If DHCP options 43 and 60 are set, remove them.

Note
The HPDM PXE service detects the DHCP packets sent by any PXE boot ROMs and offers PXE network parameters without disturbing the standard DHCP negotiation process. This is called DHCP Proxy.

The DHCP server is now be ready to be used with PXE.

Configuring a DHCP servier with the HPDM Server installed on the same machine

If the HPDM Server is installed with a DHCP server on the same machine, it requires some manual configuration. The HPDM Server installation process installs the HP PXE service, which provides the PXE remote-imaging function. The service automatically starts and stops with the operating system. The DHCP server is used by the PXE boot ROM to get an IP address, as well as other basic networking information such as a subnet mask or a default gateway.

These instructions assume the following:

- The network has already been configured using DHCP.
- The DHCP server has not been previously configured for a PXE bootstrap.
- There are no other TFTP servers running on the same network.

By default, options 60 and 201 are not set in Windows 2000. Add these options to tell PXE clients where to find the HPDM Server.

To configure the DHCP server:

1. If DHCP option 43 is set, remove it because the HPDM Server is installed on the same machine as the DHCP server.
2. Add option 60, and set the value to **PXEClient**. If option 60 does not exist, use the following procedure.
    A. Select **Start > Run**.
    B. Type `Cmd` in the box. A Command shell appears.
    C. Type `netsh`, and then press the **Enter** key.
    D. Type `dhcp`, and then press **Enter**.
    E. Type `server \\<server_name>` (using the UNC name for the DHCP server).
       —or—
       Type `server <IP_address>` (using the IP address of the DHCP server).
       A <dhcp server> prompt appears in the command window.
    F. Type `add optiondef 60 <custom_option_name> STRING 0`, and then press **Enter**.

G. Type `set optionvalue 60 STRING "PXEClient"`, and then press **Enter**.

H. To confirm that the settings are correct, type `show optionvalue all`, and then press **Enter**.

3. Add option 201 using the following procedure.

A. Type `add optiondef 201 <custom_option_name> STRING 0`, and then press **Enter**.

B. Type `set optionvalue 201 STRING '<HPDM_Gateway_ IP >' '40003'`, and then press **Enter**.

Note

Replace the items in brackets with the appropriate value.

When setting optionvalue 201, the syntax must be written exactly as shown, including the single quotes and single space, otherwise errors will occur. See the following example:

`'192.168.1.1' '40003'`

C. To confirm that the settings are correct, type `show optionvalue all`, and then press **Enter**.

The DHCP server should then be ready to be used with PXE.

Configuring a DHCP server on Linux

1. Edit the DHCP server configuration file dhcpd.conf. Add the following lines to the beginning of the file, exactly as shown:

```
ddns-update-style ad-hoc;
Authoritative;
Option NDM code 201 =string;
Option vendor-class-identifier "PXEClient";
Option NDM "'<HPDM_Gateway_IP>' '40003'";
```

2. Restart **dhcpd** to use the new configuration.

Configuring options 202 and 203

Option 202 is used to set the IP address for the HPDM Server and HPDM Gateway.

To set option 202:

1. Select **Start > Run**.

2. Type `Cmd` in the box. A command shell appears.

3. Type `netsh`, and then press **Enter**.

4. Type `dhcp`, and then press **Enter**.

5. Type `server \\<server_name>` (using the UNC name for the DHCP server).

—or—

Type `server <IP_address>` (using the IP address of the DHCP server).

A <dhcp server> prompt appears in the command window.

6. Type `add optiondef 202 <custom_option_name> STRING 0`, and then press **Enter**.

7. Type `set optionvalue 202 STRING <HPDM_Server_IP> <HPDM_Gateway_IP>`, and then press **Enter**.

8. To confirm that the settings are correct, type `show optionvalue all`, and then press **Enter**.

Note

Replace the items in brackets with the appropriate value.

When setting optionvalue 202, the syntax must be written exactly as shown above, separated by a single space, otherwise errors occur. See the following example:

```
192.168.1.100 192.168.1.200
```

Option 203 is used to set up to six grouping parameters (P1–P6), which can be used as part of a dynamic grouping scheme, and a special parameter labeled MG, which is used for manual grouping. The instructions are the same as option 202, and the option value format is as follows:

```
P1='value';P2='value';P3='value';P4='value';P5='value';P6='value';MG='value'
```

See the following example:

```
add optiondef 203 CustomName STRING 0

set optionvalue 203 STRING
P1='Asia';P2='China';P3='Shanghai';MG='Company/Department/Group'
```

Note

All of the grouping parameters (P1–P6 and MG) are optional, but those specified must be assigned a value.

To allow users to input multiple groups using option 203 on the command line, HPDM supports using single quotes. Double-quotes are still supported.

Configuring options for scopes (scope options)

All of above options are server options. If you want to set different options for scopes:

1. Follow the 1 – 5 steps of "Configuration option 202 and 203".
2. Type `add optiondef <option_code> <custom_option_name> STRING 0`, and then press **Enter**.
3. Type `scope <scope-ip-address>`, and then press **Enter**.
4. Type `set optionvalue <option_code> STRING <option_value>`, and then press **Enter**.

For example: set option 202 under the scope192.168.1.0.

1. netsh dhcp server> add optiondef 202 HPDM_SERVER_GATEWAY
2. netsh dhcp server> scope 192.168.1.0
3. netsh dhcp server scope> set optionvalue 202 STRING "192.168.1.10 192.168.1.10"

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