Configuring DHCP Tags for HP Device Manager

Demonstrates how to configure DHCP tags

Technical white paper

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Overview

This white paper demonstrates how to configure DHCP tags.

Configuring DHCP tags

Configuring a DHCP server for use with PXE

HPDM Server is installed on a different machine from the DHCP server

Should problems occur when using PXE, the DHCP server may need to be checked for settings that may conflict with PXE. However, on most networks, these issues should not occur. The DHCP server is used by the PXE boot ROM to get an IP address, as well as other basic networking information (subnet mask, default gateway, etc.).

NOTE:

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

To configure the DHCP server:

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

NOTE:

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

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

HPDM Server is installed on the same machine as the DHCP server

If the Server is installed with a DHCP server on the same machine, it requires some manual configuration. The Server installation process installs the HP PXE service, which provides the PXE remote-imaging function. The service is automatically started and stopped 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 (subnet mask, default gateway, etc.).

The following instructions assume that:

- The network is already 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. These options will have to be added to tell PXE clients where to find the Server.

To configure the DHCP server:

1. If DHCP option 43 is set, remove it (due to the HPDM Server being 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, see the following instructions on setting this option.
   a. From the Windows Start menu, select **Start > Run**.
   b. Type **Cmd** in the field. A Command shell appears.
   c. Type **netsh**, then press the Enter key.
   d. Type **dhcp**, then press the Enter key.
   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**, then press the Enter key.
   g. Type **set optionvalue 60 STRING "PXEClient"**, then press the Enter key.
   h. To confirm that the settings are correct, type **show optionvalue all**, then press the Enter key.
3. Add option 201 by following these steps:
   a. Type in **add optiondef 201 <custom_option_name> STRING 0**, then press the Enter key.
   b. Type in **set optionvalue 201 STRING '<HPDM_Gateway_ IP >' '40003'**, then press the Enter key.

      NOTES:

      Replace the **red** items above with the appropriate value.

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

      ```
      '192.168.1.1' '40003'
      ```

   c. To confirm that the settings are correct, type **show optionvalue all**, then press the Enter key.

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

Configuring a Linux DHCP server

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 Gateway. To do this, follow these steps:.

1. From the main Windows menu select Start > Run.
2. Type **Cmd** in the field. A Command shell appears.
3. Type **netsh**, then press the Enter key.
4. Type **dhcp**, then press the Enter key.
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**, then press the Enter key.
7. Type **set optionvalue 202 STRING <HPDM_Server_IP> <HPDM_Gateway_IP>**, then press the Enter key.
8. To confirm that the settings are correct, type **show optionvalue all**, then press the Enter key.

> **NOTES:**
>
> Replace the **red** items above with the appropriate value.
>
> When setting optionvalue 202, the syntax must be written exactly as shown above, separated by a single space, otherwise errors will occur. For example:
> `192.168.1.100 192.168.1.200`

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

P1="value";P2="value";P3="value";P4="value";P5="value";P6="value";MG="value"

For 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.