Validating DHCP Scopes

Introduction

NV9000 system controllers typically have two panel/router networks (1 and 2) but might occasionally have only one or more than two. The NV9000 uses DHCP to assign IP addresses to panels on each of the panel/router networks. The DHCP service must be configured properly.

Use the procedure in this note either to configure DHCP service or to correct problems in the DHCP service.

Definitions:

DHCP   Dyamic Host Configuration Protocol."

Scope   A range of addresses that can be generated for a network.

Lease   One of the addresses generated for a network. A lease matches a MAC address which is obtained transparently by the DHCP service.

An NV9000 system might be a stand-alone system or a redundant system having two system controllers. The allowable range of addresses for the primary controller (or for a stand-alone controller) is .41 to .150. The allowable range of addresses for the secondary controller is .151 to .254.
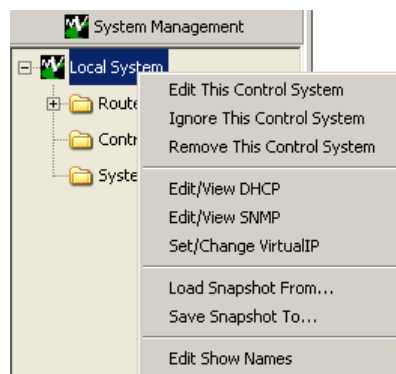
Each controller has a scope for each panel/router network. The scopes must not overlap.

NV9000-SE Utilities

You must define DHCP scopes in NV9000-SE Utiltities as well as in the registry.
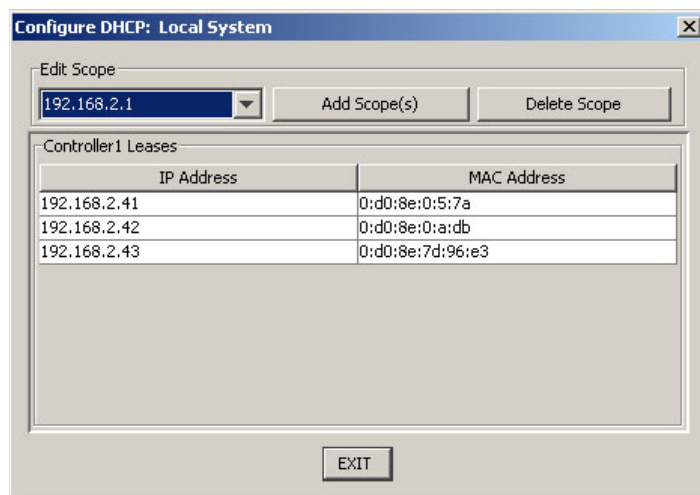
To do this, first launch NV9000-SE Utilities.

1 Right-click an NV9000 system under the 'System Management' pane:

Click 'Edit/View DHCP'.

2 The 'Configure DHCP' dialog appears:

You can add or delete scopes in this dialog. The scopes you define in NV9000-SE Utilities must match the scopes defined in the system registry.

For the typical NV9000, two scopes are defined and those are at IP addresses `192.168.2.1` and `192.168.1.1`. Each panel/router network must have such an address on each controller. If you have more than two, they should be `192.168.3.1`, `192.168.4.1`, and so on, for a stand-alone or primary controller, and `192.168.3.2`, `192.168.4.2`, and so on, for a secondary controller.

Any "leases" the DHCP service has created will appear in the 'Controller Leases' list. The IP addresses in the list should conform to the range defined in the registry.

▲ When you define scopes in NV9000-SE Utilities, it should set the registry variables properly. It might not. You should always verify that the registry and the scopes defined in NV9000-SE Utilities match.

▲ Because of a bug, it might be necessary to add a scope (in NV9000-SE Utilities) more than once. Always verify your results.

Registry

The scopes must be defined in the system registry:
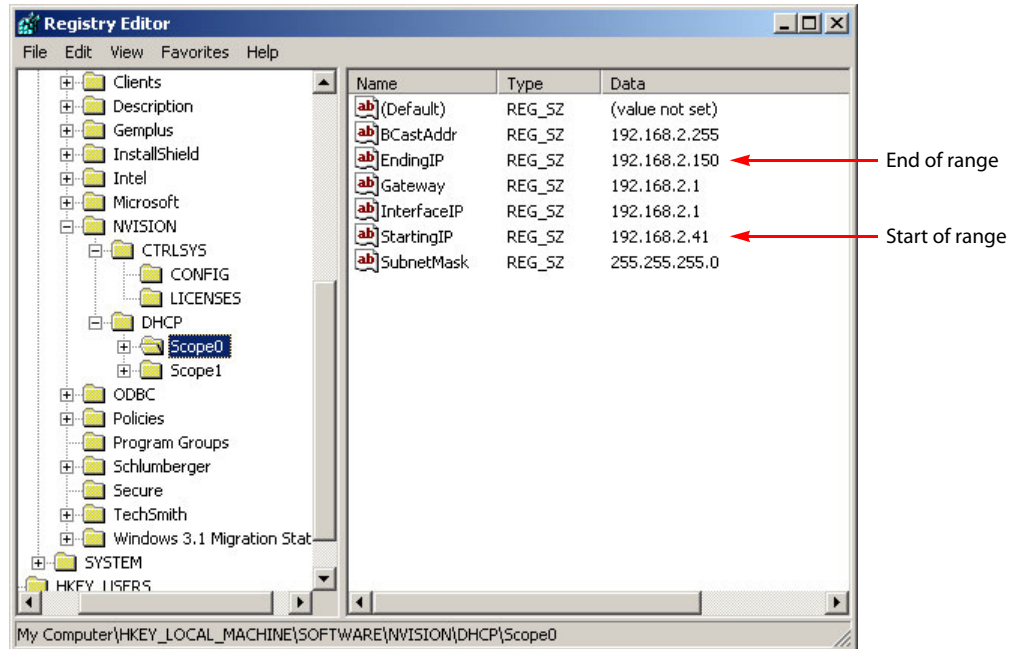
This illustration shows a stand-alone NV9000 with one panel/router network. There is an entry in the registry for 'Scope0' and another for 'Scope1'. Scope1 is unused. Scope0 uses the entire range of addresses available: 41 to 150.

There should be one scope defined for each panel/router net in your NV9000 system. Conceivably, as many as 5 scopes might be defined for each system controller. The scope ranges must not overlap.

A redundant system will have scopes defined in each of the system controllers. The allowable range for the primary controller is 41 to 150. The allowable range for the secondary controller is 151 to 254. The scope ranges across the system must not overlap.

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