About MAC Address Filters

The appliance can filter an address request by the MAC address of a requesting host. Depending on how you apply the MAC filter, the appliance can grant or deny the address request if the requesting host matches the filter criteria. You can also define DHCP options that you want to return to the matching client if the options are so configured. The client can also request specific options to be returned through DHCP option 55. The appliance returns DHCP options to matching clients based on how you apply the filters. For information, see Applying Filters to DHCP Objects.

You can configure a MAC address filter or specific MAC addresses within a filter to expire after a certain amount of time has passed. Filter expiration is useful in situations where you want to keep filters running against updated MAC addresses. The permission to use the MAC addresses assigned to an IP address may become invalid after a certain period of time. For example, you can use a MAC address filter to restrict the right to use MAC addresses assigned to IP addresses for visiting guests or temporary workers. You can avoid removing invalid addresses from address filters manually by configuring the appliance to expire filters or to expire specific addresses within filters.

To apply a MAC address filter to an address range:

1. Define a MAC address filter. For information, see Defining MAC Address Filters.
2. Add a MAC address to the filter. For information, see Adding MAC Address Filter Items.
3. Apply the filter to a DHCP address range or range template, and specify that if the MAC address of a requesting host matches the filter definition, the appliance either grants or denies the address assignment. For information, see Applying Filters to DHCP Objects.

Defining MAC Address Filters

To define a MAC address filter:

1. From the Data Management tab, select the DHCP tab -> IPv4 Filters tab, and then expand the Toolbar and click Add -> IPv4 MAC Address Filter.
2. From any panel in the DHCP tab, expand the Toolbar and click Add -> IPv4 MAC Address Filter.
3. Define the DHCP options to return to the matching client:
   - Name: Enter a meaningful name for the filter. For example, if you want to filter address requests by department, you can name one filter “Marketing”, another “Finance”, and so on. The name must be unique within a specific network. If you want to specify option settings in the filter, the filter name must be unique among all MAC filters.
   - Comment: Enter useful information about the filter.
   - Option Space: Select an option space from the drop-down list. This field is displayed only when you have custom option spaces. The appliance uses the DHCP option space as the default.
   - Lease Time: Enter the value of the lease time in the field and select the time unit from the drop-down list.

   The lease time applies to hosts that meet the filter criteria.

4. Click Next and complete the following to configure the expiration setting:
   - Default MAC Address Expiration
   - Select one of the following to configure the expiration setting for the filter:
     - Never Expires: Select this if you want the MAC address filter to never expire. This is selected by default.
     - Automatically Expires in: Select this if you want the filter to expire after a specific time frame. You can specify the time in seconds, minutes, hours, or days.

   The filter expiration time you configure here affects how long the DHCP server grants a lease to a client. It has an upper limit of 15 minutes on the lease time you configure for the Grid. For example, if both the filter expiration time and the lease time are less than 15 minutes, the appliance uses the lease time. If both the filter expiration time and lease time are greater than 15 minutes, the appliance uses the filter expiration time. If the filter expiration time is less than 15 minutes and the lease time is greater than 15 minutes, the DHCP server grants a lease for 15 minutes. If the filter expiration time is greater than 15 minutes and the lease time is less than 15 minutes, the appliance uses the lease time.
   - Enforce Expiration Times: Select this to enable the expiration setting.
   - Enabled: The filter is enabled by default. Clear the check box to disable this filter.

5. Click Next to enter values for required extensible attributes or add optional extensible attributes. For information, see Using Extensible Attributes.

6. Save the configuration and click Restart if it appears at the top of the screen.

Adding MAC Address Filter Items

To add a MAC address to a MAC address filter:
1. From the Data Management tab, select the DHCP tab -> IPv4 Filters tab, and then expand the Toolbar and click Add -> IPv4 MAC Address Filter Item. From any panel in the DHCP tab, expand the Toolbar and click Add -> IPv4 MAC Address Filter Item.

2. In the Add IPv4 MAC Address Filter Item wizard, complete the following:
   - **MAC Address Filter**: Click Select Filter. In the DHCP Filter Selector dialog box, select the MAC address filter to which you want to add a MAC address, and then click the Select icon. If you are adding a MAC address to a filter that you have selected in the Filters panel, Grid Manager displays the selected filter in this field.
   - **MAC Address**: Enter the MAC address in one of the following formats: aa:bb:cc:dd:ee:ff, aa-bb-cc-dd-ee-ff, aabb:ccdd:eeff, aabbcc-dd:eeff, and aabbccddeeff. The appliance displays the address in the AA:BB:CC:DD:EE:FF format. You can also enter a vendor prefix in the three hexadecimal format using the same separators supported in the MAC address format. For example, you can enter aa.bb.cc as the vendor prefix. The appliance displays AA:BB:CC.
   - **Comment**: Enter useful information about the filter item.
   - **Expiration Time**: MAC addresses in a filter stay valid until you explicitly configure them to expire. You can enable expiration for specific MAC addresses in the filter. Select one of the following:
     - **Never Expires**: Select this if you want the MAC address to never expire. This is selected by default.
     - **Expires on**: Select this and specify the Date and Time for the expiration. The fields display the current date and time. If you have already configured an expiration time for the filter, the appliance displays the time here by adding the filter expiration time to the current time. For example, if the expiration time for the filter is two days and the current date is June 6, 2009, the appliance displays June 8, 2009 in the Date field.

3. Click Next and select one of the following to configure user registration (optional):
   - **Register as User**: Select this and enter a username in the field.
   - **Register as Guest**: Select this and enter the first name, middle name, last name, email address, and phone number of the guest user.

   The appliance displays the information you enter here in the lease viewers.

4. Click Next to enter values for required extensible attributes or add optional extensible attributes. For information, see Using Extensible Attributes.

5. Save the configuration and click Restart if it appears at the top of the screen.

After you define a MAC address filter and add MAC addresses to it, you can assign the filter to a DHCP range. The appliance filters IP address requests based on the filter criteria. For information, see Applying Filters to DHCP Objects.