

## Chapter 7

# Configuring Profiles

This chapter describes how to configure profiles and associate them with ATM subinterfaces, PPP interfaces, and PPPoE interfaces.

This chapter contains the following sections:

- Overview on page 103
- Configuration Tasks on page 104
- Creating a Profile on page 104
- Associating Profiles on page 109

## Overview

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Profiles allow you to manage many interfaces easily and efficiently by configuring them dynamically. A profile contains a specific set of characteristics that can be assigned to multiple interfaces; you do not have to create identical interfaces separately.

The NMC-RX application enables you to assign IP, PPP, and Point to Point Protocol over Ethernet (PPPoE) parameters to a profile and associate the profile with an ATM subinterface, PPP interface, or PPPoE interface on an E-series device.

Profiles can support a network running different versions of JUNOS software. These dynamic interfaces are currently supported:

- IP over ATM
- IP over Bridged Ethernet over ATM
- IP over PPP over ATM
- IP over PPPoE over ATM
- IP over PPP

For additional information about dynamic interfaces for E-series routers, see *JUNOS Link Layer Configuration Guide, Chapter 13, Configuring Dynamic Interfaces*.

### **Profiles with PPP Interfaces**

For static PPP interfaces, you can assign a profile only for IP encapsulations. If a PPP interface has a profile associated with it, you cannot create an IP interface on top of that PPP interface and any encapsulation.

### **Profiles with ATM Subinterfaces**

For static ATM 1483 subinterfaces, you can assign one profile for each IP, Bridged Ethernet, PPP, and PPPoE encapsulation. You can also use the default Any for any autoconfigured encapsulation that does not have a specific profile assignment.

If a profile is specified for PPPoE or PPP, then the attributes of the lower layers (IP and possibly PPP) of that profile are used.

If a profile is assigned for any one of the encapsulation types on an ATM subinterface, nothing can be created on top of that ATM subinterface. If either the Auto Configure or Subscriber option is enabled, with the exception of an ATM circuit, you cannot create anything on top of that ATM subinterface. Also, if anything is already stacked on top of the ATM subinterface (such as an IP address), a profile cannot be associated with the subinterface, and the Auto Configure and Subscriber options cannot be enabled.

### **Devices with Different Versions**

You can use profiles when your network is running devices with different versions of JUNOS software. You can create a profile from the Device Workshop.

## **Configuration Tasks**

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To create profiles from the Network Workshop or Device Workshop:

1. Name the profile and select which device it will be created on.
2. Set IP, Bridged Ethernet, PPP, and PPPoE settings.

## **Creating a Profile**

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The configuration tasks are described in the following sections.

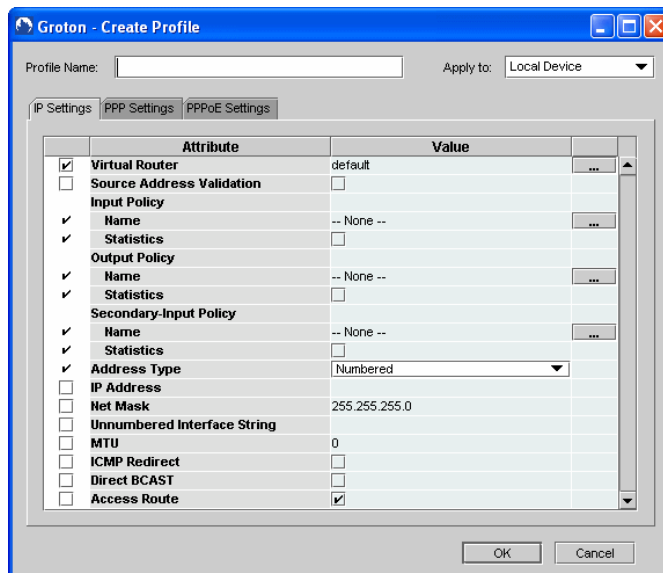
### **Task 1: Name and Apply the Profile**

Each profile must have a name; therefore, the Profile Name field cannot be left empty. The name must be unique for each profile. If you try to create a profile with the same name as an existing profile, an error message appears. Use the Apply to drop-down list to apply the profile on just one device or on all routers being managed by the NMC-RX application.

To name and apply the profile:

1. In the Device Workshop, right-click the system folder, select Create, and then click Profile.

The Create Profile dialog box appears.



2. Enter a unique profile name in the Profile Name field.
3. From the Apply to list, select where you want to create the profile:
  - Local Device—Profile is created only on the device that the Profile creation command was initiated from (the current device).
  - All Devices—Profile is created on all devices being managed by the NMC-RX application.


### Task 2: Select Profile Attributes

Next you can select the IP, Bridged Ethernet, PPP, or PPPoE attributes that you want to become part of the profile. If an attribute is not selected, the corresponding field used to set the attribute is disabled. Also, if the attribute is not selected when a dynamic interface is being created, that attribute either is set by the RADIUS authentication server or uses the defaults on the E-series device.



**NOTE:** If a profile setting has been configured on the E-series router through the CLI, it will be selected in the dialog box already. Once an attribute is configured and saved on an E-series router (through the CLI or the NMC-RX application), you cannot change it by using the NMC-RX application.

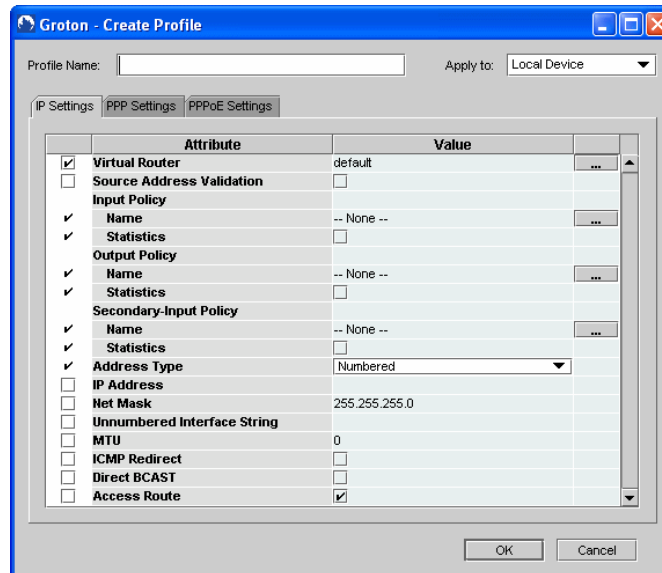
To choose profile settings:

1. On each tab, select each attribute you want to become part of the new profile and select values when applicable. Note that for some attributes, you have to click the  button and select a value.

See the following sections for more information on each tab.

2. Click OK to create the profile.

### IP Settings Tab



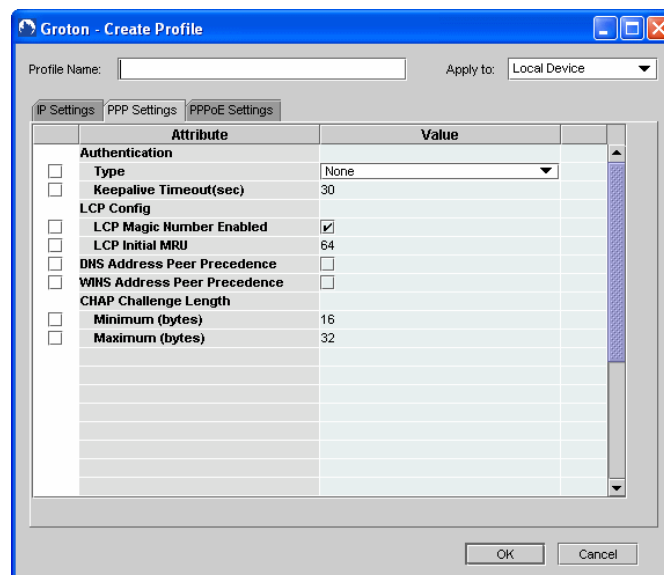
**Table 41: IP Settings Parameters**

Field	Description
Virtual Router	<ul style="list-style-type: none"> <li>Virtual router assigned to this profile.</li> <li>Either type in a name up to 16 characters, or select a virtual router from the list defined on this device by clicking </li> </ul>
Source Address Validation	Verifies that a packet has been seen from a valid source address
Input Policy	<ul style="list-style-type: none"> <li>Name—Policy applied to data arriving at this interface. Select a policy name by clicking .</li> <li>Statistics—Select the check box to enable statistics logging.</li> </ul>
Output Policy	<ul style="list-style-type: none"> <li>Name—Policy applied to data leaving this interface. Select a policy name by clicking .</li> <li>Statistics—Select the check box to enable statistics logging.</li> </ul>
Secondary-Input Policy	<ul style="list-style-type: none"> <li>Name—Policy applied to secondary data arriving at this interface. Select a policy name by clicking .</li> <li>Statistics—Select the check box to enable statistics logging.</li> </ul>
Address Type	<p>Determines how or whether or not an association is made between an interface and the profile</p> <ul style="list-style-type: none"> <li>Numbered—Enables the IP Address and Net Mask fields. You do not need to select an IP interface.</li> <li>UnNumbered—Enables the Interface String and Interface Number fields.</li> </ul>
IP Address	Valid IP address for this profile
Net Mask	Valid net mask for the IP address

**Table 41: IP Settings Parameters (continued)**

Field	Description
UnNumbered Interface String	Become active when UnNumbered is selected from Address Type. Identification of the IP interface; associate an IP interface by typing the same IP interface identifier used in the CLI  At least one IP interface is needed on this device to complete an association. However, you can use an IP interface that you intend to create later. For information about creating an IP interface, see <i>Chapter 6, Configuring IP</i> .
MTU	Maximum transmission unit; range 512–10240
ICMP Redirect	■ Select to enable transmission of ICMP redirect messages.
Direct BCAST	■ Select to enable direct broadcast forwarding.
Access Route	■ Select to enable creation of host access routes on an interface.

## PPP Settings Tab

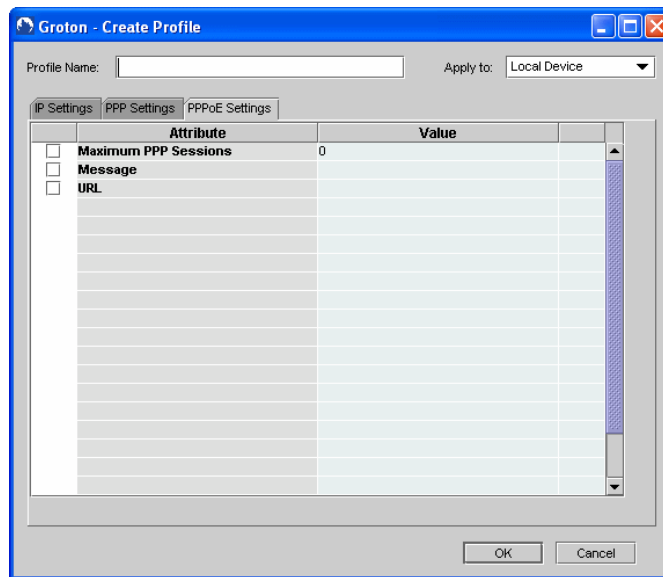
**Table 42: PPP Settings Parameters**

Parameters	Description
Authentication	<ul style="list-style-type: none"> <li>■ Type—Specifies the primary authentication protocol and possibly an alternate protocol</li> <li>■ Keepalive Timeout (sec)—Range 30–300 seconds; enter 0 to disable</li> </ul>
LCP Config	<ul style="list-style-type: none"> <li>■ LCP Magic Number Enabled—Select to enable the negotiation of the local magic number</li> <li>■ LCP Initial MRU—Configures the maximum receive unit (MRU) size for the PPP interface; range 64–65535</li> </ul>

**Table 42: PPP Settings Parameters (continued)**

Parameters	Description
DNS Address Peer Precedence	Indicates which takes precedence when the router and the PPP peer system have the primary and secondary Domain Name Service (DNS) name server addresses configured with different values
WINS Address Peer Precedence	Indicates which takes precedence when the E-series router and the PPP peer system have the primary and secondary Windows Internet Name Service (WINS) name server addresses configured with different values
CHAP Challenge Length	<ul style="list-style-type: none"> <li>■ Minimum (bytes)—Challenge Handshake Authentication Protocol minimum setting (bytes); a value is required; range 8-63; default 16</li> <li>■ Maximum (bytes)—Challenge Handshake Authentication Protocol maximum setting (bytes); a value is required; range 8-63; default 32</li> </ul>

### PPPoE Settings Tab



**Table 43: PPPoE Settings Parameters**

Parameter	Description
Max. PPP Sessions	<ul style="list-style-type: none"> <li>■ Specifies the number of PPP sessions permitted on the PPPoE major dynamic interface; range 0–4094.</li> <li>■ Enter 0 to indicate no limit of maximum PPP sessions.</li> </ul>
Message	If set, the PPPoE application sends this string to the new client created when the profile is dynamically attached to an IP interface.

**Table 43: PPPoE Settings Parameters (continued)**

Parameter	Description
URL	<p>If set, the PPPoE application sends this string to the new client created when the profile is dynamically attached to an IP interface.</p> <p>Certain characters in the string are substituted:</p> <ul style="list-style-type: none"> <li>■ %U—User and domain name</li> <li>■ %U—Username</li> <li>■ %d—Domain name</li> <li>■ %D—Profile name</li> <li>■ %%—%</li> </ul>

## Associating Profiles

Profiles are identified during the autodiscovery of a device. When the device being mapped has a profile on it with a name that matches a profile defined in the application, an association is created. If the profile names do not match, a new profile is saved in the database with the same name. This new profile can be associated with any device being discovered, as long as the profile is not “locally scoped.”

For static PPP interfaces, you can assign a profile only for IP encapsulations. If a PPP interface has a profile associated with it, you cannot create an IP interface on top of that PPP interface.

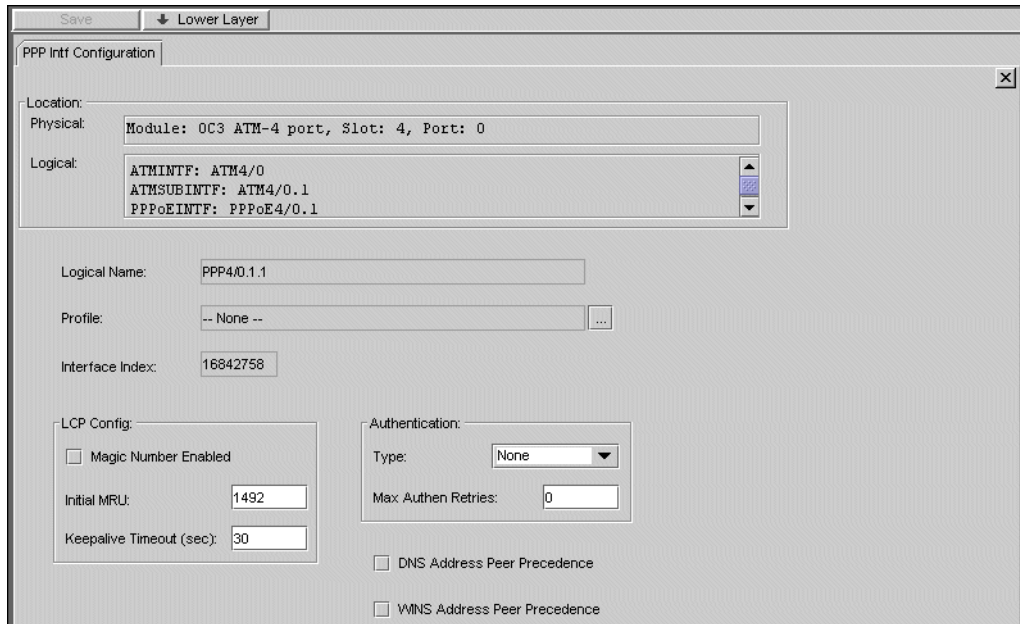
Before you can associate a profile with an interface, you must first create a profile.

### Associating a Profile with a PPP Interface


To associate or change the association of a profile with a PPP interface:

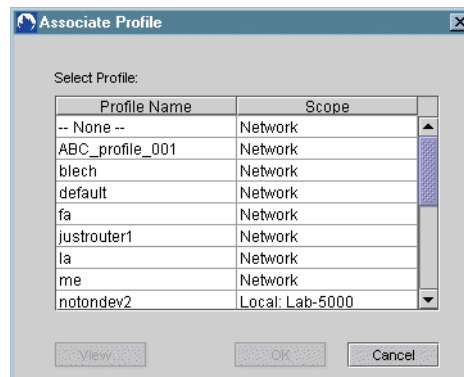
1. Select the PPP interface with which you want to associate a profile, right-click, and click Configure.

The PPP Intf Configuration tab appears.



**NOTE:** You can also make this association when you create the PPP interface.

2. Click  to the right of the Profile field.  
The Associate Profile dialog box appears.



3. Select a profile from the list.
4. (Optional) Click View to verify that the profile is the one you want.
5. Click OK.

The profile name is added to the Profile field.

- Click Save (located above the PPP Intf Configuration tab). The PPP interface is now associated with the profile.

### Associating a Profile with an ATM 1483 Subinterface

To associate or change the association of a profile with an ATM 1483 subinterface:

- Select the ATM subinterface with which you want to associate a profile, right-click, and click Configure.

The ATM Sub Interface Configuration tab appears.

ATM Sub Interface Configuration

Location:

Physical: Module: 0C3 ATM-4 port, Slot: 4, Port: 2

Logical: ATMINTF: ATM4/2

Sub Interface Name: ATM4/2.3

Dynamic Interfaces:

Encapsulation	Profile Name	Auto Configure	Subscriber Information	
			Enable	Details
IP	-- None --	<input type="checkbox"/>	<input type="checkbox"/>	...
PPP	-- None --	<input type="checkbox"/>		
PPPoE	-- None --	<input type="checkbox"/>		
Any	-- None --	<input type="checkbox"/>		

Description:

- Click to the right of a Profile Name field for the encapsulation type to which you want to assign a profile.

The Associate Profile dialog box is displayed.

Associate Profile

Select Profile:

Profile Name	Scope
-- None --	Network
ABC_profile_001	Network
blech	Network
default	Network
fa	Network
justrouter1	Network
la	Network
me	Network
notondev2	Local: Lab-5000

View... OK Cancel

3. Select a profile from the list.
4. (Optional) Click View to verify that the profile is the one you want.
5. Click OK in the Associate Profile dialog box.

The profile name is added to the Profile Name column.

6. Click Save (located above the ATM Sub Interface Configuration tab).

The ATM subinterface is now associated with the profile.