

## Chapter 7

# Configuring Profiles

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

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## 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 or PPP 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 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.

### **Profiles with ATM Subinterfaces**

For static ATM 1483 subinterfaces, you can assign one profile for each IP, 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**

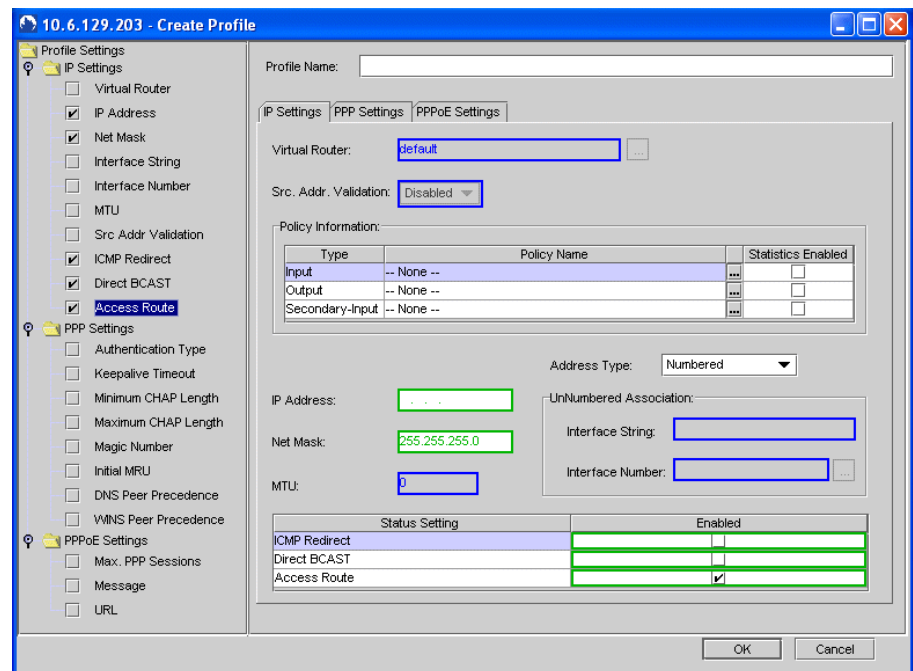
You can use profiles when your network is running devices with different versions of JUNOS software. You can create a profile from both the Network Workshop and the Device Workshop; however, there are differences. Only the Device Workshop takes into account the JUNOS software version.

### **Profile Color Codes**

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When you create a profile, the NMC-RX application uses a color-coded system to indicate which parameters you can add to the profile. Different parameters may be available depending on the software version that is running on each device. The Create Profile dialog box uses the following color codes:

- Blue border—Indicates that the parameter is valid for the currently running software. You can select this parameter from the Profile Settings list.
- Green border—Indicates that you have selected the field from the Profile Settings list. You can edit this parameter.
- Grayed out or no border—Indicates that the attribute is not supported by the currently running software. You cannot check or clear these attributes in the Profile Settings list.



## Configuration Tasks

To create profiles from the Network Workshop or Device Workshop:

1. Name the profile.
2. Choose profile settings.
3. Assign IP settings.
4. Assign PPP settings.
5. Assign PPPoE settings.

## Creating a Profile

The configuration tasks are described in the following sections.

### Task 1: Create and Name 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 defined within the NMC-RX application. If you try to create a profile with the same name as an existing profile, an error message appears.

If two differently configured profiles were created from different network devices and the same profile name was used, the NMC-RX application differentiates between the two. When you list profiles, the identical names appear. The first profile in the list is the *network* version, and the second is the *device* version (local). Unlike the network version, which can be used on any device, the local version is locally scoped to the device on which the profile was discovered and can be used only by that device.

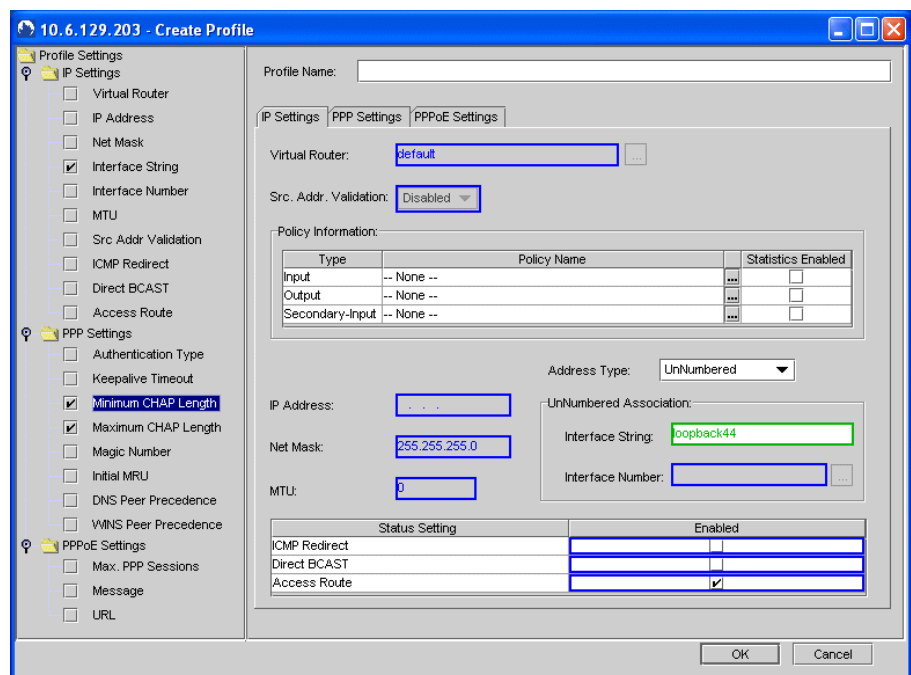


**NOTE:** To change the profile name, you must delete the profile and create a new one.

To create and name the profile:

1. From the Configuration menu, select Create, and then click Profile.

The Create Profile dialog box appears.



2. Enter a unique profile name in the Profile Name field.

## Task 2: Choose Profile Settings

Next, you can select the IP, PPP, or PPPoE attributes that you want to become part of the profile. If an attribute is not selected, the corresponding component used to set the attribute is disabled. 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.



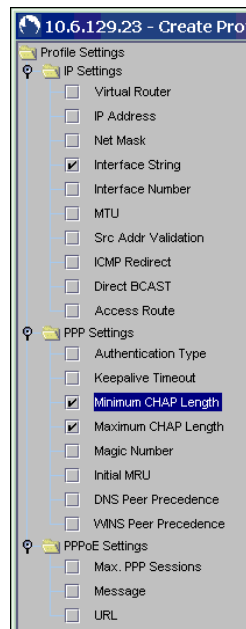
**NOTE:** For information about why some fields have blue and green borders, see *Profile Color Codes* on page 98.

**NOTE:** If a profile setting is configured on the E-series router through the CLI, it is already selected in the list. 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:

- Under Profile Settings in the left pane, click each attribute you want to become part of the new profile.

Note that when an attribute is selected, the border around the corresponding field changes to green.



### Task 3: Assign IP Settings

To assign the IP settings:

1. Click the IP Settings tab.

The screenshot shows the 'IP Settings' configuration window. At the top, there are three tabs: 'IP Settings', 'PPP Settings', and 'PPPoE Settings'. The 'IP Settings' tab is selected. Below the tabs, there are several configuration sections:

- Virtual Router:** A text field containing 'default'.
- Src. Addr. Validation:** A dropdown menu set to 'Disabled'.
- Policy Information:** A table with three columns: 'Type', 'Policy Name', and 'Statistics Enabled'. The rows are 'Input', 'Output', and 'Secondary-Input', each with a dropdown menu set to '-- None --' and a 'Statistics Enabled' checkbox.
- Address Type:** A dropdown menu set to 'UnNumbered'.
- IP Address:** A text field.
- Net Mask:** A text field containing '255.255.255.0'.
- MTU:** A text field containing '0'.
- UnNumbered Association:** A section with 'Interface String' (containing 'loopback44') and 'Interface Number' (a text field).
- Status Setting:** A table with two columns: 'Status Setting' and 'Enabled'. The rows are 'ICMP Redirect', 'Direct BCAST', and 'Access Route'. The 'Access Route' checkbox is checked.

2. Set the IP parameters (Table 37).

**Table 37: IP 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  (Device Workshop only).</li> </ul>
Src Addr Validation	Verifies that a packet has been seen from a valid source address
Policy Information	<ul style="list-style-type: none"> <li>Input—Applies policy to data arriving at this interface</li> <li>Output—Applies policy to data leaving this interface</li> <li>Secondary-Input—Applies policy to secondary data arriving at this interface</li> </ul> <p>Select a policy name by clicking  (Device Workshop only).</p> <p>To enable statistics logging, select the Statistics Enabled check box after selecting a policy name.</p>
IP Address	Valid IP address for this profile
Net Mask	Valid net mask for the IP address
MTU	Maximum transmission unit; range 512–10240
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>

**Table 37: IP Parameters (continued)**

Field	Description
UnNumbered Association	Fields become active when UnNumbered is selected from Address Type.  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> .
Interface String	Identification of the IP interface; associate an IP interface by typing the same IP interface identifier used in the CLI
Interface Number	Number of the IP loopback interface; used for versions before JUNOS Release 5.0
Status Setting	<ul style="list-style-type: none"> <li>■ ICMP Redirect—Select to enable transmission of ICMP redirect messages.</li> <li>■ Direct BCAST—Select to enable direct broadcast forwarding.</li> <li>■ Access Route—Select to enable creation of host access routes on an interface.</li> </ul>

#### Task 4: Assign PPP Settings

To assign the PPP settings:

1. Click the PPP Settings tab.

The screenshot displays the configuration interface for PPP settings. At the top, there is a 'Profile Name' field. Below it are three tabs: 'IP Settings', 'PPP Settings' (which is active), and 'PPPoE Settings'. The 'PPP Settings' tab contains several sections:

- Authentication:**
  - Type: A dropdown menu set to 'None'.
  - Keepalive Timeout (sec): A text input field containing '30'.
- CHAP Challenge Length:**
  - Minimum (bytes): A text input field containing '16'.
  - Maximum (bytes): A text input field containing '32'.
- LCP Config:**
  - LCP Magic Number Enabled: A checked checkbox.
  - LCP Initial MRU: A text input field containing '24'.
  - DNS Address Peer Precedence: An unchecked checkbox.
  - WINS Address Peer Precedence: An unchecked checkbox.

2. Set the PPP parameters (Table 38).

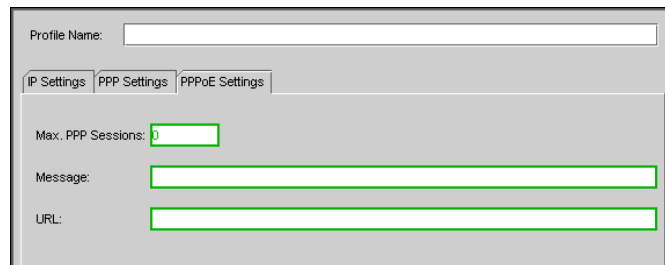
**Table 38: PPP Parameters**

Parameters	Description
Authentication Type	Specifies the primary authentication protocol and possibly an alternate protocol
Keepalive Timeout	Range 30–300 seconds; enter 0 to disable
LCP Magic Number	Enables or disables the negotiation of the local magic number
LCP Initial MRU	Configures the maximum receive unit (MRU) size for the PPP interface; range 64–65535
CHAP Challenge Length: Minimum (bytes)	Challenge Handshake Authentication Protocol minimum setting (bytes); a value is required; range 8-63; default 16
CHAP Challenge Length: Maximum (bytes)	Challenge Handshake Authentication Protocol maximum setting (bytes); a value is required; range 8-63; default 32
DNS Address Peer Precedence	Indicates which takes precedence when the E-series 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

**Task 5: Assign PPPoE Settings**

To complete the PPPoE settings:

1. Click the PPPoE Settings tab.



2. Set the PPPoE parameters (Table 39).

**Table 39: PPPoE 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.
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.

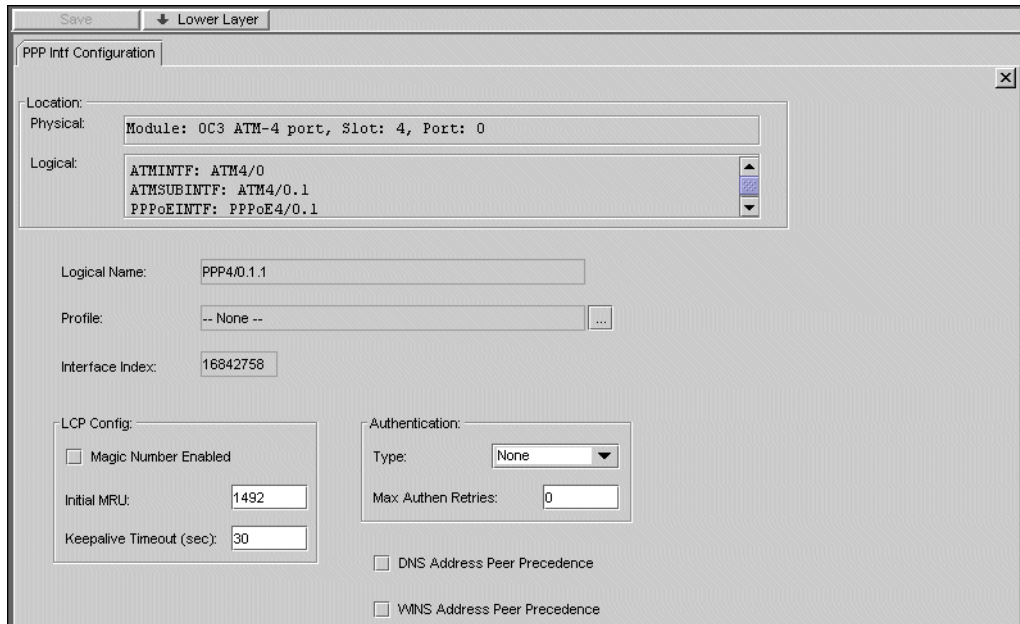
Before you can associate a profile with an interface, you must first create a profile.

### Associating a Profile with a PPP Interface


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

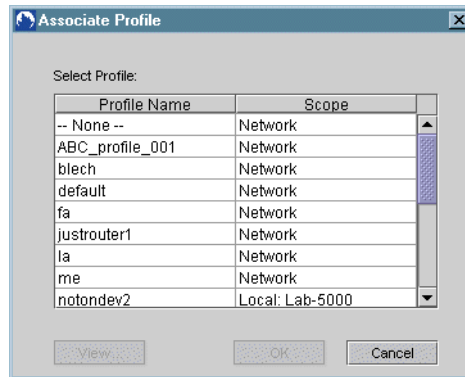
1. Select the PPP interface with which you want to associate a profile, right-click, and click Configure.

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.

6. 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:


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

The ATM Sub Interface Configuration tab appears.

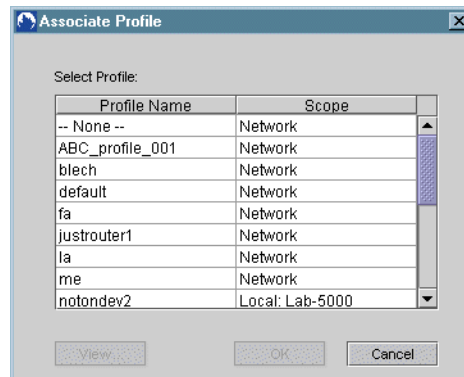
The screenshot shows the 'ATM Sub Interface Configuration' dialog box. At the top, there are buttons for 'Save' and 'Lower Layer'. The dialog is divided into several sections:

- Location:**
  - Physical: Module: 0C3 ATM-4 port, Slot: 4, Port: 2
  - Logical: ATMINTF: ATM4/2
- Sub Interface Name:** ATM4/2.3
- Dynamic Interfaces:** A table with the following structure:
 

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:** A large empty text area at the bottom.

2. 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.



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.