

Configuring Profiles

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

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Overview

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 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 E-series 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 the *E-Series Link Layers 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, and the Auto Configure and Subscriber options cannot be enabled.

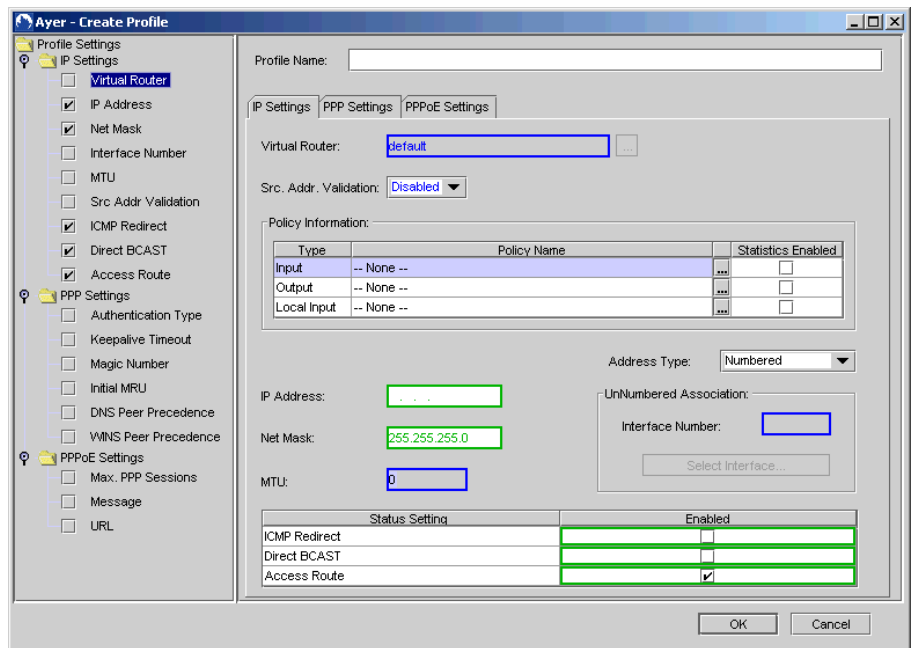
Devices with Different Versions

You can use profiles when your network is running devices with different versions of E-series 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 E-series software version.

Profile Color Codes

The NMC-RX application uses a color-coded system to indicate which parameters can be added to the profile you are creating. 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

You can create profiles from the Network Workshop or Device Workshop by following these basic steps.

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

Creating a Profile

You can create a profile from the Network Workshop or the Device Workshop by performing the following tasks:

- 1 Create and name the profile.
- 2 Choose profile settings.
- 3 Assign IP settings.
- 4 Assign PPP settings.
- 5 Assign PPPoE settings.

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.

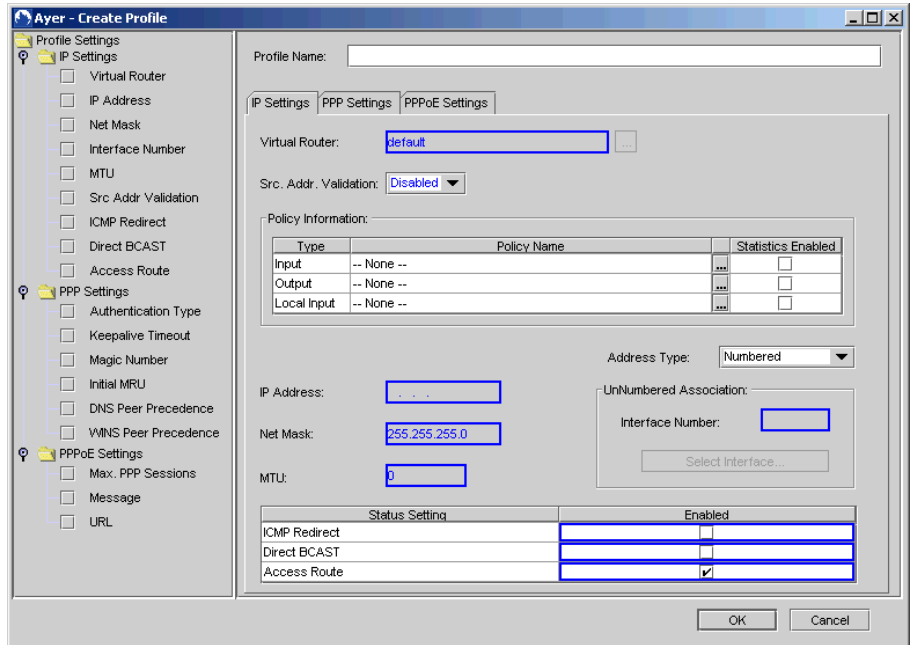
If two differently configured profiles were created from different network devices and the same profile name was used, the NMC-RX application differentiates between the two. When you list profiles, the identical names appear. The first profile in the list is the *network* version, and the second is the *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: All parameters in the Create Profile dialog box, except Profile Name, can be changed. 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.

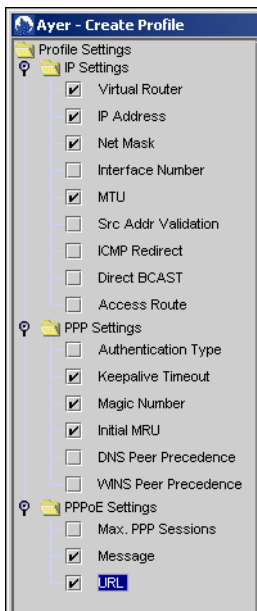


Note: See the earlier section, *Profile Color Codes*, for information on why some fields have blue and green borders.

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.

- 2 Set the IP Settings parameters. See Table 7-1.

Table 7-1 IP parameters

Field	Description
Virtual Router	<ul style="list-style-type: none"> The virtual router assigned to this profile 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). See <i>Related Dialog Boxes</i> later in this chapter.
Src Addr Validation	Verifies that a packet has been seen from a valid source address
Policy Information	<ul style="list-style-type: none"> Input - apply policy to data arriving at this interface Output - apply policy to data leaving this interface Local Input - apply policy to local data arriving at this interface <p>Select a policy name by clicking (Device Workshop only). See <i>Related Dialog Boxes</i> later in this chapter.</p> <p>To enable statistics logging, select the Statistics Enabled check box after selecting a policy name.</p>

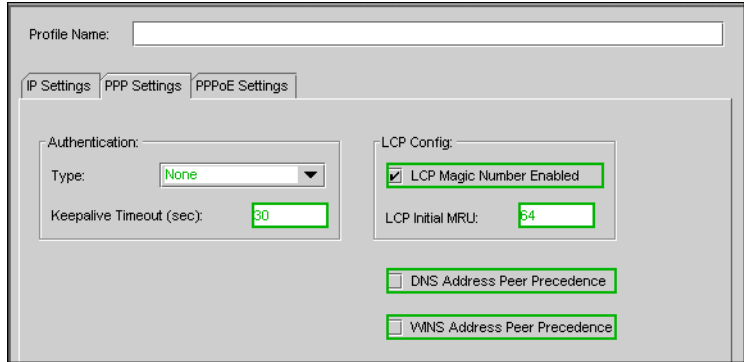
Table 7-1 IP parameters (continued)

Field	Description
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	Determines how or whether or not an association is made between an interface and the profile <ul style="list-style-type: none">• Numbered – enables the IP Address and Net Mask fields. You do not need to select an IP interface• UnNumbered – enables the Interface Number field and the Select Interface button
UnNumbered Association	Elements become active when UnNumbered is selected from Address Type. <ul style="list-style-type: none">• Interface Number – number of the IP loopback interface. Associate an IP interface by typing the IP interface number, or use the Select Interface button. Note: At least one IP loopback interface is needed on this device to complete an association. However, you can use an IP loopback interface number that you intend to create later. For information on creating an IP interface, see <i>Chapter 6, Configuring IP</i>.• Select Interface button – click to select an IP loopback interface to associate the profile with. See <i>Related Dialog Boxes</i> later in this chapter. Note: The Select Interface button is available only in the Device Workshop.
Status Setting	<ul style="list-style-type: none">• 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

Task 4: Assign PPP Settings

To assign the PPP settings:

- 1 Click the PPP Settings tab.



- 2 Set the PPP settings parameters. See Table 7-2.

Table 7-2 PPP parameters

Fields	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
DNS Address Peer Precedence	Indicates which takes precedence when the E-series router and the PPP peer system have the primary and secondary 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 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. See Table 7-3.

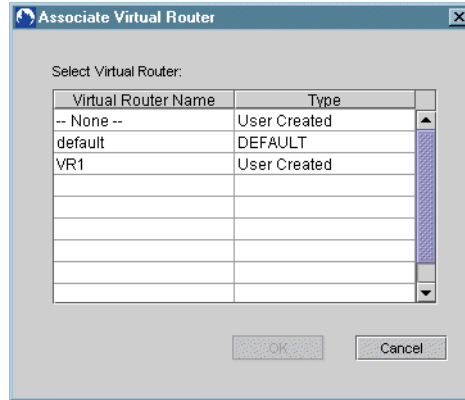
Table 7-3 PPPoE parameters

Fields	Description
Max. PPP Sessions	<ul style="list-style-type: none"> • Specifies the number of PPP sessions permitted on the PPPoE major dynamic interface; range 0–4094 • Enter 0 to indicate no limit of maximum PPP sessions
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"> • %U - user and domain name • %u - username • %d - domain name • %D - profile name • %% - %

Related Dialog Boxes

Associate Virtual Router

The Associate Virtual Router dialog box appears when you click  to the right of the Virtual Router field on the IP Settings tab of the Create Profile dialog box. Use it to select a virtual router.




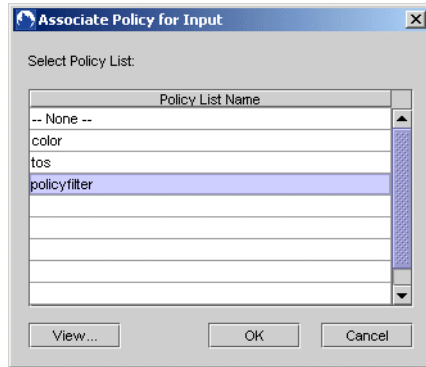
Note: You must create a virtual router before assigning it to a profile. You can, however, use a name for a virtual router that you intend to create in the future. See Chapter 3, *Configuring Virtual Routers*.

- 1 Click a virtual router in the list.
- 2 Click OK.

The virtual router name is added to the virtual router field of the Create Profile dialog box.

**Associate
Policy for
Input**

The Associate Policy for Input dialog box appears when you click  to the right of the Policy Name column for the type (Input, Output, and Local input) in the Policy Information group box on the IP Settings tab of the Create Profile dialog box. Use it to select a policy list.



Note: Policy lists can be assigned only when working in the Device Workshop.

- 1 Select a policy list name from the list.
- 2 Click OK.

The policy list name is added to the type row.

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.

Save Lower Layer

PPP Intf Configuration

Location:

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

Logical:

ATMINTF: ATM4/0
 ATMSUBINTF: ATM4/0.1
 PPPoEINTF: PPPoE4/0.1

Logical Name: PPP4/0.1.1

Profile: -- None --

Interface Index: 16842758

LCP Config:

Magic Number Enabled

Initial MRU: 1492

Keepalive Timeout (sec): 30

Authentication:

Type: None

Max Authen Retries: 0

DNS Address Peer Precedence

WINS Address Peer Precedence



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.

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.

The profile name is added to the Profile field.

- 6 Click Save (located above the PPP Intf Configuration tab).

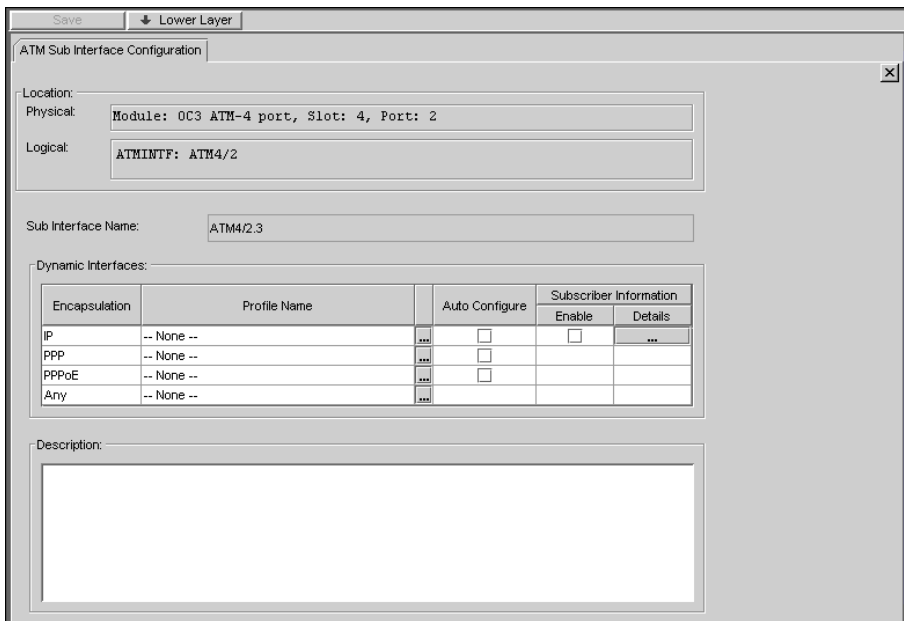
The PPP interface is now associated with the profile.


Associating a Profile with an ATM 1483 Subinterface

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

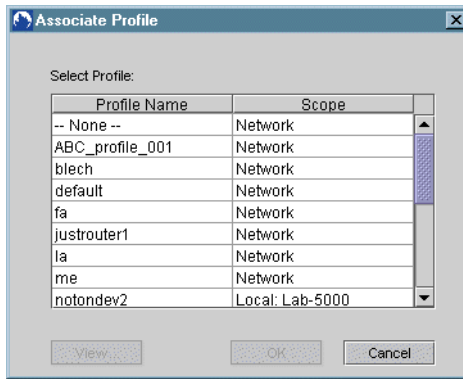
- 1 Select the ATM subinterface with which you want to associate a profile, right-click, and click Configure.

The ATM Sub Interface Configuration tab appears.



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

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.

