

Multiprotocol Inverse ARP

Functional Description

The Multiprotocol Inverse ARP subfeature allows you to configure Inverse Address Resolution Protocol (Inverse ARP) on ATM PVCs running IP or IPX. Once configured, a protocol mapping between an ATM PVC and a network address are learned dynamically as a result of the exchange of ATM Inverse ARP packets.

Protocol Mapping Behaviors

This section describes the following protocol mapping behaviors when Inverse ARP is enabled:

- Generation
- Inheritance
- Aging

Generation

If a receiving device is configured to run Inverse ARP and it receives an ATM Inverse ARP request, it will both respond to the Inverse ARP request and generate a local protocol mapping to the requesting device.

Inheritance

When an ATM Inverse ARP request or ATM Inverse ARP response is received that contains information that conflicts with a protocol mapping, and the mapping was learned from Inverse ARP, the mapping will be overwritten according to the new information. If the mapping was manually configured, the manual configuration will prevail. When a mapping is overwritten and the **debug atm arp** command is enabled, the debug output will display a warning message.

Aging

Address mappings learned through Inverse ARP are aged out. However, mappings are refreshed periodically. This period is configurable using the **inarp** command which has a default of 15 minutes.

Configuration Tasks

To enable Inverse ARP on an ATM PVC, perform the following tasks starting in global configuration mode:

Task	Command
<p>Step 1 Specify the ATM interface or subinterface for one of the following:</p> <ul style="list-style-type: none"> • AIP on Cisco 7500 series routers and ATM port adapter on the Cisco 7200 series routers • NPM on Cisco 4500 and 4700 routers • ATM port adapter on Cisco 7500 series routers 	<p>interface atm slot/0[.subinterface-number] {multipoint point-to-point}}</p> <p>interface atm number[.subinterface-number] {multipoint point-to-point}}</p> <p>interface atm slot/port-adapter/0[.subinterface-number] {multipoint point-to-point}}</p>
<p>Step 2 Specify an ATM PVC by name (optional) or VPI/VCI numbers.</p>	<p>pvc [name] vpi/vci</p>
<p>Step 3 Configure AAL5 LLC-SNAP encapsulation if it is not already configured.</p>	<p>encapsulation aal5snap</p>
<p>Step 4 Enable Inverse ARP on a PVC.</p>	<p>protocol protocol inarp [[no] broadcast]</p>
<p>Step 5 (Optional) Adjust the Inverse ARP time period.</p>	<p>inarp minutes</p>

When this subfeature is enabled on an active ATM PVC, the device that terminates that PVC will generate an ATM Inverse ARP request. This allows the PVC to resolve its own network addresses without configuring a static map. A PVC is considered active when the PVC is either first configured or when it changes state from inactive to active (This change in state may be through VC Integrity Management. See the “VC Integrity Management” chapter for further information).

Inverse ARP is enabled by default for IP and IPX if the protocol is already running on the ATM interface or subinterface and no static map is configured. You will disable Inverse ARP if you configure a static map for IP or IPX.

Refer to the “Enhanced ATM VC Configuration and Management Commands” chapter for command reference and debug command information.

Configuration Examples

The following example configures Inverse ARP for IPX running on an ATM PVC.

```
interface atm 2/0
 pvc routerA 0/32
 protocol ipx inarp
 exit
 ipx network AA
```