

Section 2 – IP/IPX PPP Issues

Document ID: 10245

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Related Information

Introduction

This document contains questions and answers related to IP/IPX PPP Issues.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

This document is not restricted to specific software and hardware versions.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Frequently Asked Questions

Q: How do I configure IPX unnumbered?

A: IPX unnumbered is typically supported as a 0 network number link. For instance:

```
PC----IPX Net#=111----7xx----IPX Net#=0-----IOS----IPX Net#999----
      ^                ^
      |_7xx's LAN      |_7xx's WAN
```

When you enable IPX routing, it is unnumbered by default, which means the IPX Network Number is 0. In order to change this, issue the **Set IPX NETWORKaddress <network number>** command.

Q: How can I get two Cisco IOS devices that are both connected to the same 700 Series router to talk to each other?

A: If routing and the two WAN User profiles are set up correctly, you can issue the **SET MULTIDESTINATION ON** command.

If you require the two routers to communicate through the 700, also issue the **SET PASSTHROU ON** command. This enables the 700 to pass data from one profile to another.

Q: Can the 700 Series handle classless IP addressing?

A: If you select Routing Information Protocol (RIP) version 1, the classful subnet mask is used in order to create the related route since this is not provided in the RIP version 1 packet. But, if you use RIP version 2, the subnet mask is available and the related route does not need to be classful, so it is based entirely on the subnet mask in the RIP version 2 packet.

In order to route a given packet, the Cisco 700 uses the destination IP address and looks up the routing table for a route that matches the full 32 bits in the destination address. If it does not find a route that matches, it uses the most significant 31 bits in the destination and continues until the most significant 1 bit in the destination. It does not assume a fixed or classful subnet mask in this look-up, so it can handle the classless situation. But, it still needs to have the route that matches the destination before it knows to which interface to send the packet.

If you set up the LAN profile to use an IP address of 32.2.17.21 with a subnet mask of 255.255.255.252, a route of 32.2.17.20 is created that is associated with the LAN interface. Packets destined for host 32.2.17.22 match this route and are sent to the LAN interface. Packets destined for 32.2.2.2 need another route, which must be learned from RIP version 2 or entered by the user for a given interface or profile before it knows to which interface to send the packet.

Q: Can I connect to two different locations and respond differently when I'm CHAP-challenged?

A: Not currently, as of 4.0(2). In order to work around this, Telnet to the router and change the system-name/password(secret) when the second call is made.

Q: I use a Netware server that runs Iware connect. My 700 Series router cannot see SAP type 7c2. Why?

A: The 4.0 version that you run does not learn SAP entries that have a SAP type > 300 hex and a socket value between 4000 hex and 7fff hex. You can issue **set ipx sap helper net:node** in order to point to the other router. If that does not work, set an IPX static route to point to the other router.

Q: Do I need to configure an IPX network number on my LAN profile if I have servers there?

A: No. If the LAN profile is set to IPX NETWORK 0, it allows the router to dynamically learn the IPX network number on the LAN. But, if there is no server on the LAN, you must configure a number.

Q: How many static or dynamic SAP entries can I have?

A: The maximum number of dynamic and static SAPs that are allowed is 200. But, since static SAPs use NVRAM space, it also depends on the available NVRAM space on your system.

Q: How do I keep IP RIP from bringing up the ISDN connection?

A: Use **set ip rip update linkup** on the WAN profile. **Linkup** configures the Routing Information Protocol (RIP) packets to be sent only if the link is up. Use this for WAN connections to avoid bringing up the ISDN line unnecessarily. The RIP packets are sent as soon as a connection is established and every 30 seconds thereafter as long as the connection exists. If the connection does not exist, no RIP data is sent. This prevents the line from being brought up by RIP packets, as in the case of the periodic update.

Q: Why does my router crash when IPZ routing is done with rather large, fragmented updates?

A: When **IPX DEMAND RIP** is used with updates from the remote device that are large and fragmented, it causes the packets to be queued before they can be re-assembled and processed, which fills up the receiving queue. If you have such a situation, it is best to use IPX static routes, or use the **default IPX gateway** and **IPX SAP Helper** features as opposed to **DEMAND RIP** updates.

Q: Is there any way to configure the Cisco 760 so that it has a default gateway of the physical BRI interface and not a next hop address, for example, to route to a PPP interface in Cisco IOS?

A: Yes, if multi-destination is not done simultaneously, the one WAN interface profile can be defined to be the default interface through the default static route entry:

```
SET IP ROUTE DE 0.0.0.0 GA 0.0.0.0
```

As you can see, this says that packets with unknown route/destination are routed through this interface, so there is no need to know the IP address of the remote device. Because this is a PPP link, bits are thrown onto the wire and the far end does not know what to do with it.

Q: What does "2nd Link Not Allowed in Non-MLP" mean?

A: *Second link not allowed in Non-MLP* means that the router believes the second link connects to the same destination but does not negotiate multilink PPP. Be sure that you use two different profiles to place the calls

to two different destinations. This is required. You cannot connect the Standard profile to two different sites at the same time. Enable authentication between these two sites, and use bidirectional authentication if the remote device supports it.

Q: How can I set up a UDP filter on my LAN to block MS Broadcasts?

A:In order to do this, issue these commands:

```
CD LAN
SET IP FILTER UDP IN SOURCE=207.81.17.0/27:137-139 BLOCK
```

Refer to the set pattern command description for more information.

Q: When I try to use IP Unnumbered, I get an address assigned to my router in the Internet Profile. Why?

A: A new command is added in 4.0(2): **SET PPP ADDRESS NEGOTIATION LOCAL ON | OFF.**

When set to ON, this command forces the negotiated IP address to be assigned to the WAN/User profile. Enable this command in the WAN/User profile, making sure that the initial IP address is 0.0.0.0 and that IP routing is on. Also, make sure that the Internal profile is back to the default setting, which means that bridging is on.

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Related Information

- **Cisco 700 Series Frequently Asked Questions**
 - **700 – ISDN Issues**
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Updated: Sep 09, 2005

Document ID: 10245
