OSPF and EIGRP Neighbor Loss, RIP and IGRP Update Loss after Upgrading to Cisco IOS 11.2 or Later

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Contents

Introduction

This document explains an issue with OSPF, EIGRP, RIP, and IGRP over Frame–relay, when upgrading from Cisco IOS® 10.3 to 11.2 or later for Year 2000 compliance.

After an upgrade to Cisco IOS 11.2 or later in order to be Year 2000 compliant, intermittent loss of routes learned via these routing protocols is observed, when operating over a Frame Relay connection.

Prerequisites

Requirements

Readers of this document should be knowledgeable of the following:

- Basic understanding of OSPF, EIGRP, IGRP and RIP routing protocols.

Components Used

The information in this document is based on the software and hardware versions:

- Devices running Cisco IOS version 11.2 or later
- The output shown is this document is based on Cisco IOS version 12.3(3).

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

For more information on document conventions, see the Cisco Technical Tips Conventions.

Problem

This problem occurs because broadcasts are handled by a separate queue in Frame Relay called the Frame Relay broadcast queue. The **frame–relay broadcast–queue** command is used in the interface mode to create a special queue to hold broadcast traffic.

OSPF and EIGRP hellos can drop in the broadcast queue, which causes the neighbor loss.

Note: A similar problem can occur with RIP and IGRP networks as well the routes may be constantly put into holdown mode if the updates are not received for a certain period of time.

Symptoms

The **show interface serial** command output displays a significant amount of drops on the Frame Relay broadcast queue. Sample output is shown below:

```
Serial0 is up, line protocol is up

 Hardware is MK5025

 Description: Charlotte Frame Relay Port DLCI 100

 MTU 1500 bytes, BW 1024 Kbit, DLY 20000 usec,

 reliability 255/255, txload 44/255, rxload 44/255

 Encapsulation FRAME−RELAY, loopback not set, keepalive set (10 sec)

 LMI enq sent 7940, LMI stat recvd 7937, LMI upd recvd 0, DTE LMI up

 LMI enq recvd 0, LMI stat sent 0, LMI upd sent 0

 LMI DLCI 1023 LMI type is CISCO frame relay DTE

 Broadcast queue 64/64, broadcasts sent/dropped 1769202/1849660, interface broadcasts 3579

 !--- Output suppressed
```

Solution

To avoid this problem, tune the broadcast queue accordingly. Refer to the Frame Relay Broadcast Queue section of Configuring and Troubleshooting Frame Relay.

Refer to the release notes for bug CSCdk45863 (registered customers only) for more information.

Related Information

- **Frame Relay Frequently Asked Questions**
- **OSPF Technology Support Page**
- **EIGRP Technology Support Page**
- **IGRP Technology Support Page**
- **RIP Technology Support Page**
- **Technical Support – Cisco Systems**

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