T1 PRI Troubleshooting Flowchart

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Contents

Introduction

This document shows the flowchart for T1 PRI troubleshooting.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

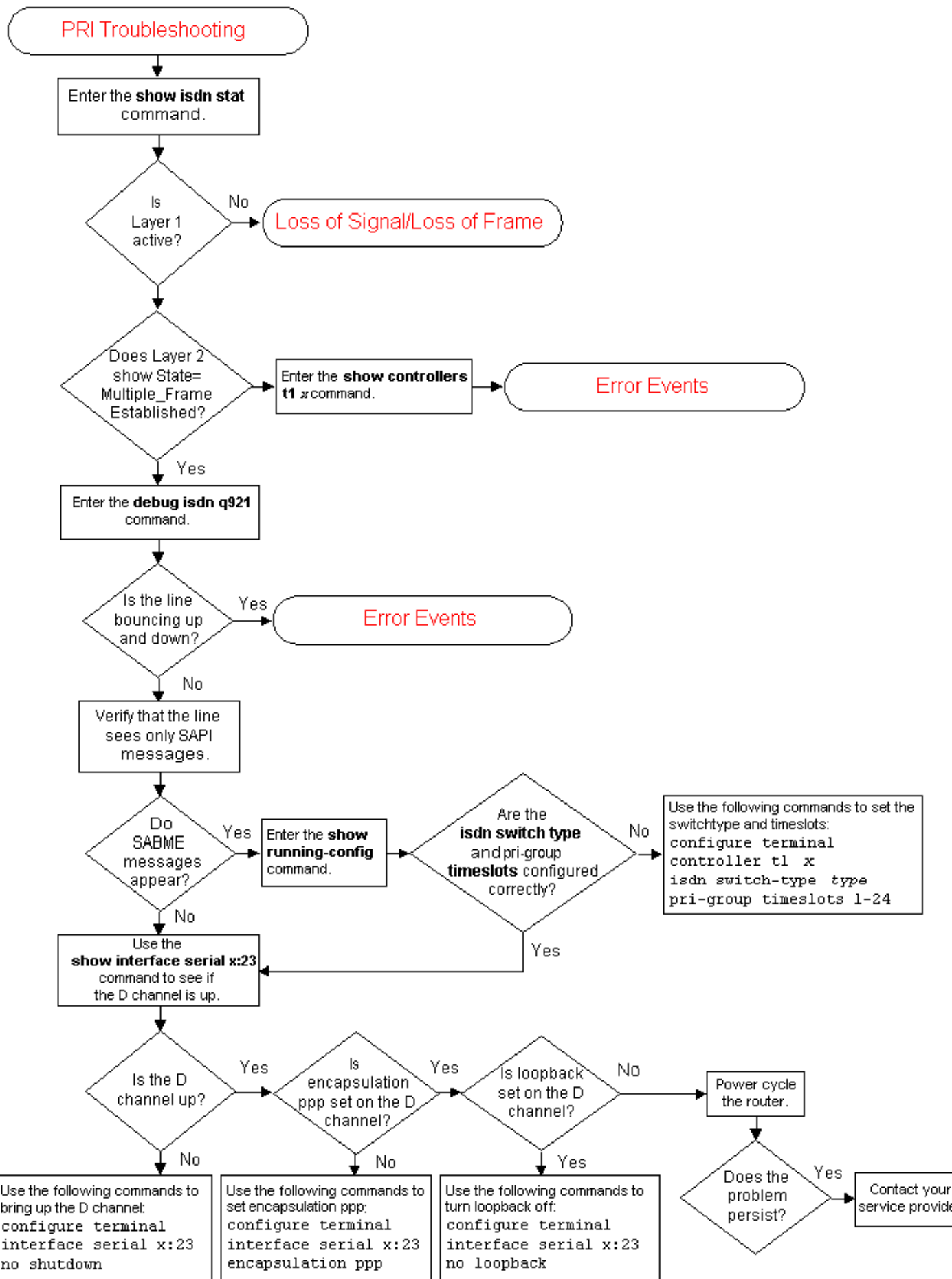This document is not restricted to specific software and hardware versions.

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

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

Flowchart

To see more information, click the command boxes. Click the infomation in red to go to the next flow chart.

PRI Troubleshooting

Enter the **show isdn stat** command.

Is Layer 1 active? — **No** → Loss of Signal/Loss of Frame

Does Layer 2 show State= Multiple_Frame Established? — → Enter the **show controllers t1** *x* command. → Error Events

Yes

Enter the **debug isdn q921** command.

Is the line bouncing up and down? — **Yes** → Error Events

No

Verify that the line sees only SAPI messages.

Do SABME messages appear? — **Yes** → Enter the **show running-config** command. → Are the **isdn switch type** and pri-group **timeslots** configured correctly? — **No** → Use the following commands to set the switchtype and timeslots:
```
configure terminal
controller tl x
isdn switch-type type
pri-group timeslots 1-24
```

No (from SABME)

Yes (from switch type) →

Use the **show interface serial x:23** command to see if the D channel is up.

Is the D channel up? — **Yes** → Is encapsulation ppp set on the D channel? — **Yes** → Is loopback set on the D channel? — **No** → Power cycle the router. → Does the problem persist? — **Yes** → Contact your service provider

No (D channel up):
Use the following commands to bring up the D channel:
```
configure terminal
interface serial x:23
no shutdown
```

No (encapsulation ppp):
Use the following commands to set encapsulation ppp:
```
configure terminal
interface serial x:23
encapsulation ppp
```

Yes (loopback):
Use the following commands to turn loopback off:
```
configure terminal
interface serial x:23
no loopback
```

Related Information

- **T1 Troubleshooting**
- **T1 Layer 1 Troubleshooting**
- **T1 Alarm Troubleshooting**
- **T1 Error Event Troubleshooting**
- **Hard Plug Loopback Test**
- **Technical Support – Cisco Systems**

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