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Release Notes for FDDI Version 1.14

August 21, 1996

These release notes describe the changes made to the FDDI module firmware between versions 1.13 and this version, 1.14. It also contains a log of the changes made to the FDDI module firmware since its initial release.

Version 1.14

This version supports RFC 1191 Path MTU Discovery. When the FDDI module cannot forward an IP datagram because it exceeds the MTU of the next-hop (1500 bytes) and the Don't-Fragment bit is set, the FDDI module returns a Destination-Unreachable message to the datagram source. The message code is *fragmentation needed and DF set*. The Next-Hop MTU is set to 1500 in the ICMP header.

For this release, the source IP address is set to 0 in the ICMP message. This does not affect the operation of the MTU Discovery. The Catalyst 2800 IP address is used as the source IP address in the ICMP message in future releases of the Catalyst 2800 firmware.

Version 1.13

This release fixes the problems described in the following sections.

Loss of FDDI/Ethernet Connectivity

If an FDDI network has IP frames with an IP datagram larger than 1500 bytes and there is at least one error in the IP header or the Don't Fragment bit is set to drop oversized frames, the FDDI module might reset. FDDI/Ethernet connectivity is lost for about 15 seconds. This condition might also result in the loss of Ethernet/FDDI connectivity until the FDDI module is manually reset.

Loss of FDDI/Ethernet Connectivity for 15 Seconds

If an FDDI network has IP frames with the actual size of the FDDI frame larger than 1525 bytes (including FC and FCS) and the Total Length field in the IP header is equal to or less than 1500 bytes, the FDDI module resets. FDDI/Ethernet connectivity is lost for about 15 seconds.

Poor FDDI/Ethernet Performance

When the traffic on all the Ethernet ports is less than 10 packets per second, the switch might perform poorly after a few days. This light traffic causes a loss of FDDI/Ethernet connectivity or extremely poor FDDI/Ethernet performance. The switch needs to be rebooted to resume normal operation.

Elastic Buffer Error Counter Goes up During Reconfiguration

Elastic Buffer Error happens when a fiber-optic cable is connected to an inactive port on the FDDI module or when there is a reconfiguration. This is normal behavior. The Elastic Buffer Error counter should not increment because the port is inactive. The Elastic Buffer Error counter should only increment if the error occurs on an active port.

FDDI Module Disconnects Itself Permanently from FDDI Network after Beacon and Trace Conditions

When there is a Beacon or Trace condition on a FDDI network and the Requested Target Token Rotation Time of the FDDI module's upstream neighbor is better, the FDDI module detects a duplicate MAC address condition incorrectly and disconnects itself from the network. The FDDI module needs to be rebooted to resume normal operation.

Banyan Vines for Translational Bridging Not Supported

Banyan Vines requires a translational bridge to translate FDDI SNAP frames with 0x80C4 as the protocol type to an Ethernet II frame with 0x0BAD as the protocol type. The FDDI module does not perform the translation.

Version 1.11

This release fixes the following problem.

When a source routing frame is received on FDDI, the FDDI module might reset itself or stop receiving user data frames from FDDI.

Version 1.10

This release fixes the problems listed in the following sections.

IPX Communication Packets Between Two FDDI IPX Hosts Are Flooded to the Ethernet Ports

The FDDI module learns the source MAC address of an IPX frame only if the destination MAC address of the frame is unknown.

Assume there are two IPX stations with MAC addresses A and B on the FDDI network. When A sends a frame to B, the FDDI module learns source address A and forwards the frame to the Catalyst 2800 switch. The switch learns that address A is on the FDDI network. When B sends a frame to A, the FDDI module does not learn the address B, as the destination address A is known. As A is known to be on the FDDI network, the frame is dropped and not forwarded to the Catalyst 2800 switch.

When A sends a frame to B, the FDDI module does not know where B is and the frame is forwarded to the switch. As the switch does not know where B is, the frame is flooded to all the Ethernet ports.

All frames sent to B from A are flooded to all Ethernet ports.

The FDDI Module Causes a Network Management Station to See Incorrect FDDI Topology Map.

The FDDI module does not set the A (Address Recognized) and C (Copied) symbols in the frame status for frames that have a broadcast address (FF-FF-FF-FF-FF-FF) as their destination address.

Version 1.08

This release fixes the following problem: FDDI module performance drops when a few thousand error-packets-per-second, intermixed with good frames, are forwarded from Ethernet ports to the FDDI network.

Version 1.07

This release fixes the problems described in the following sections.

An Optical Bypass Is Not Detected

The FDDI module does not detect an optical bypass if it is inserted after the FDDI module becomes active.

IP Communication Between Ethernet and FDDI Hosts Might Not be Established

When an IP ARP packet is received from the FDDI network, the hardware type is not translated from 6 to 1 before the packet is forwarded to Ethernet. Some older IP implementations on Ethernet might not support the hardware type of 6 and drop the packet.

Version 1.06

This release fixes the following problem: the FDDI module power on self test fails when the Catalyst 2800 receives more than 60 packets-per-second of broadcast packets.

Version 1.05

This is the first release of the FDDI module.