CDM-625/A Packet Processor
Release 1.4.9

Software Release Notification

CDM-625/A Packet Processor Option Card 1.4.9 Release

Applicability
Release 1.4.9 (FW-0000342T) for the CDM-625/A Packet Processor Card.

Rev #	Description	Date
-	Release Version 1.1.1	04/15/2008
A	Release Version 1.2.1	09/13/2010
B	Release Version 1.3.1	09/30/2011
C	Release Version 1.3.2	11/10/2011
D	Release Version 1.3.3	04/23/2012
E	Release Version 1.3.4	09/04/2012
F	Release Version 1.3.5	11/02/2012
G	Release Version 1.3.6	01/03/2013
H	Release Version 1.4.1	07/16/2013
J	Release Version 1.4.2	08/14/2013
K	Release Version 1.4.3	11/08/2013
L	Release Version 1.4.4	11/22/2013
M	Release Version 1.4.5	01/09/2014
N	Release Version 1.4.6	06/11/2014
P	Release Version 1.4.7	10/28/2014
R	Release Version 1.4.8	01/07/2015
T	Release Version 1.4.9	05/20/2015

FSCM No. 4J515

This Release

This Packet Processor release has the following changes:

1.4.9 Features
- Assured forwarding class, precedence based priority.

- Assured forwarding class, service rate based on percentage of modem transmit data rate.

- SNTP support.

- Unicast mode PTP support.

1.4.9 Fixes
- Fixed issue of Access list functionality not blocking Ping, Telnet, or FTP.

- Fixed issue of misreporting of long term header compression statistics.

Valid Configurations of Modem Firmware

The tables below identify the valid configurations of CDM-625/A base modem and Packet Processor Firmware. Modems that are configured with firmware that does not match these configurations may not function as expected.

Compatible Bulk Versions

CDM-625/A Packet Processor Bulk	CDM-625 Modem Bulk	CDM-625A Modem Bulk
FW-0000342- (v1.1.1)	FW/12864AA (v1.5.1)	N/A
FW-0000342A (v1.2.1)	FW/12864AB (v1.5.2)	N/A
FW-0000342B (v1.3.1)	FW-0020534- (v2.0.1)	N/A
FW-0000342B (v1.3.1)	FW-0020534A (v2.0.2)	N/A
FW-0000342C (v1.3.2)	FW-0020534A (v2.0.2)	N/A
FW-0000342C (v1.3.2)	FW-0020534B (v2.0.3)	N/A
FW-0000342D (v1.3.3)	FW-0020534C (v2.1.0)	N/A
FW-0000342D (v1.3.3)	FW-0020534D (v2.1.1)	N/A
FW-0000342E (v1.3.4)	FW-0020534E (v2.1.2)	N/A
FW-0000342F (v1.3.5)	FW-0020534F (v2.2.0)	N/A
FW-0000342G (v1.3.6)	FW-0020534G (v2.2.1)	N/A
FW-0000342H (v1.4.1)	FW-0020534L (v2.3.1)	N/A
FW-0000342J (v1.4.2)	FW-0020534L (v2.3.1)	N/A
FW-0000342K (v1.4.3)	FW-0020534M (v2.3.2)	FW-0020731- (v1.1.1)
FW-0000342L (v1.4.4)	FW-0020534M (v2.3.2)	FW-0020731- (v1.1.1)
FW-0000342M (v1.4.5)	FW-0020534P (v2.4.1)	FW-0020731A (v1.2.1)
FW-0000342N (v1.4.6)	FW-0020534R (v2.4.2)	FW-0020731D (v1.2.4)
FW-0000342P (v1.4.7)	FW-0020534T (v2.4.3)	FW-0020731E (v1.3.1)
FW-0000342R (v1.4.8)	FW-0020534T (v2.4.3)	FW-0020731E (v1.3.1)
FW-0000342T (v1.4.9)	FW-0020534U (v2.5.1)	FW-0020731F (v1.4.1)

Compatible SNMP MIB

MIB Name	Filename	Date
CDM-625/A Packet Processor MIB	FW-0000345K.mib	04/09/2015

Note: The SNMP MIB files are not needed for upgrading the unit; they are only needed if using an SNMP NMS / browser for SNMP monitor and control of the CDM-625/A modem.

Change History

This section shows the change history over previous versions.

1.4.8 Features
- None.

1.4.8 Fixes
- Fixed issue of minimum bandwidth not being met in L3 QoS Min/Max mode.

- Fixed issue of standby modem (1:1 redundancy) losing QoS rules when a QoS rule was deleted on the online modem (1:1 redundancy).

- Fixed issue of unavailability of compression in IP-ACM mode.

1.4.7 Features
- Added Dedicated Management Port support.

- Added Antenna Handover support for Kymeta ACU.

- Added Telnet CLI support for VersaFEC-2.

- Added WAN data rate stats to WAN page.

1.4.7 Fixes
- Flow controlling 100 ICMP destination unreachable messages per second.

- Freezing the web under heavy packets per second load condition.

- Fixed configuring trap IP address to any valid IP address.

- Fixed mismatched payload compression pre and post bytes.

1.4.6 Features
- Added Radius support for Packet Processor web pages.

1.4.6 Fixes
- ICMP responses (like TTL expired for tracert) now correctly have the external IP address instead of the internal address.

- Fixed an issue where rejected QoS rules would still use a slot in the QoS table.

1.4.5 Features

- Added support for FTP get/put for config: file.

- Added Carrier ID support.

- Added RADIUS proxy.

1.4.5 Fixes
- Resolved upgrade issue on CDM-625A that prevented uploading the Packet Processor firmware until reboot, after the base modem firmware is updated.

1.4.4 Fixes
- Fixed slow/no ping response issue.

1.4.3 Features
- Support for CDM-625A.

1.4.3 Fixes
- Fix for occasionally not booting up the packet processor at low data rates in router mode with traffic on.

- Added recovery for infrequent issue where SNMP proxy stops passing data.

- Administration > Link to FAST page changed from "FAST Codes" to "FAST Options."

- Removed UDP port 5004 and 5005 as default RTP streams for header compression classification.

- Fixed Telnet CLI bug on variables with compound ranges (such as Rx/Tx data rate).

- Fixed several issues with number rounding when setting decimal values in Telnet CLI.

1.4.2 Features
> None

1.4.2 Fixes
- Merged in fix from 1.3.6 that addressed slow TCP performance when using L3 header compression.

1.4.1 Features
- New telnet interface for managing the modem and Packet Processor card. Telnet to port 107 to use it.
- DNS Caching support, configurable via the web under Configuration | Routing | DNS or through telnet under Network | DNS.
- New ability to drop all unencrypted packets received over the WAN link, configurable via the web under Configuration | WAN | Encryption or through telnet under WAN | Encryption.
- PTP is now supported when the Packet Processor is enabled.
- Added VLAN support to QoS rules.
- Added Type of Service (ToS) support to QoS rules.

1.4.1 Fixes
- IE 7 and IE 8 compatibility added to performance graphs.
- Resolved issue preventing management access in VLAN trunk mode.
- Increased remote-control telnet (port 23) timeout to five minutes.

1.3.6 Features
- Added support for the O3b Antenna Control Unit.
- Added the ability to clear the entire routing table and QoS table through any of the user interfaces. The SNMP OIDs are ppRouteEntryDeleteAll and ppQosRulesDeleteAll.

1.3.6 Fixes
- The Payload Compression statistics no longer computes an incorrect compression ratio when the feature switches from on to off.
- SNMP now properly rejects requests to turn on encryption through SNMP when the hardware is not capable of encryption.
- Improved Antenna Handover so that there are very few duplicate packets when switching antennas.
- The L3 header compressor now respects trailing padding on packets with a payload less than 64 bytes. This issue was causing slow TCP performance when L3 compression was on.

1.3.5 Features: None

1.3.5 Fixes
- Fixed an issue that resulted in missing TCP packets when L3 header compression was enabled, causing TCP retransmissions and slow performance.

- The Assured Forwarding (ASFD) class QoS queue can now handle larger bursts to prevent lost traffic.

- Improved Antenna Handover switching time to be in the range of milliseconds.

- Reduced communication overhead during switchover when in a 1:N redundancy configuration.

- When in 1:1 redundancy mode, the modem will no longer convert WAN routes to LAN routes when coming online.

- When doing a redundancy switchover, the modem no longer loses traffic when L3 Diffserv QoS is enabled.

1.3.4 Features
- Antenna Handover support for Medium Earth Orbit satellites.

- Layer 2 header compression for multiple MPLS labels and multiple VLAN tags.

- New diagnostics:

- Status | Traffic Statistics | WAN: WAN Utilization. Shows the percent of WAN bandwidth that the modem used over the last 5 seconds.

- Status | Performance: Shows the percentage of CPU that the Packet Processor is using.

- Status | Performance | Graphs: Shows a graphical history of CPU usage. Requires Internet Explorer 9 or equivalent alternative browser.

- New SNMP OIDs: ppTxWANUtilization, ppCPUUsageTotal, ppCPUUsageKernel, and ppCPUUsageApps.

1.3.4 Fixes
- Packet Processor now decrypts received encrypted traffic even if transmit encryption is off in managed switch mode.

- Fixed an issue when Payload Compression is enabled where traffic stopped passing on networks with many distinct flows.

- The modem no longer experiences receive CRC errors and dropped frames that could occur when Payload Compression was enabled.

- The event log no longer gets cleared after rebooting.

- Reworded error message that appears when a route contains a destination IP that is not in the same subnet.

- Added MAC Table tab to the packet processor web tabs.

- Packet Processor now properly upgrades firmware to the slot opposite the running image instead of whichever slot was configured as the "boot from" image.

- Packet Processor no longer drops frames larger than 2048 bytes (including frame CRC) in managed switch mode when header compression is enabled.

- Payload Compression refresh rate now properly limits inputs from 1 through 255.

- Fixed issue where the actual header compression and payload compression settings weren't matching what the management interface showed.

- If L2 header compression is off, the user interface will correctly ensure that L3 header compression is off, too.

- The Packet Processor no longer accumulates duplicate QoS rules that slow down redundant-modem configuration exchanges.

- Route table no longer improperly allows the user to edit a multicast route to make it a LAN route because IGMP handles multicast LAN routes.

- Improved event log by removing some unnecessary messages.

- Event log no longer shows only "Booting" when the system time is set to a date far in the past or future.

- Event log now prints a message once the boot sequence is complete so that there is always a timestamp to use as a reference instead of only "booting" timestamps.

- The hyperlink text on the Encryption page in managed switch mode is now accurate.

- Changed text on IGMP page to reflect more accurately that the page is showing active IGMP streams.

1.3.3 Features
- Added web tabs for new base modem features in 2.1.0 such as PTP and web-based ping.

- Users can now view and select packet processor firmware from the front panel.

- New web-based IP ping utility to ping a network address from the modem.

1.3.3 Fixes
- The modem properly reboots after the user resets factory defaults from the web page or SNMP.

- The packet processor no longer stops responding if you use "bulk:" as the target file when performing a firmware upload.

- The web page and SNMP show 99999 instead of 0 to represent "unlimited" bandwidth in QoS rules.

- If a user adds a default route in managed switch mode (presumably in anticipation of switching to router mode), then the packet processor now properly does not use the route while in managed switch mode.

- QoS no longer reaches artificial limits on maximum bandwidth in ACM mode.

- Fixed an issue that could prevent remote management over the WAN interface in managed switch mode.

1.3.2 Features: None
1.3.2 Fixes

- Fixed an issue where sometimes the offline modem would take the traffic IP address, or would not come up with an IP address at all.

- Fixed the default MTU to be 1500 instead of 1522.

- The Packet Processor on an offline modem no longer inadvertently sends ARP packets for the traffic IP address of the online modem.

- The Packet Processor on an offline modem no longer sends ARP packets for the SNMP trap IP address.

- The Packet Processor no longer enables encryption or compression for managed switch mode when upgrading from older firmware.

- Programmed routes no longer become invalid during boot time when in a 1:1 redundancy configuration.

1.3.1 Features

- Managed Switch mode.

- CRS 500 M:N redundancy support in Managed Switch mode.

- 2048-byte Ethernet jumbo frame support.

- DHCP relay agent.

- New web look and feel with better consistency between web browsers.

1.3.1 Fixes

- IGMP tables for joined groups and active multicast streams.

- Support for real-time IQ monitoring with iqmon.exe.

- Reorganized web pages, including consolidating redundancy settings into a single tab and moving firmware information under the Admin tab.

- Access list now works consistently whether or not the packet processor is installed.

- The route and QoS pages now display a reason if they reject a new rule.

Known Issues

<u>Functional Issues</u>

Issue: Statically added ARP entry gets relearned dynamically if seen in traffic. This eventually ends up with an entry in static table and another in dynamic table.
Workaround: Delete the static one.
Estimated Resolution: Defect 3582, 3787

Issue: Not able to access Web/SNMP interface while firmware upgrade is in process for the packet processor card.
Workaround: Restrict configuration/monitoring of the unit during upgrade process. The upgrade usually takes a couple of minutes.
Estimated Resolution: Defect 3374

Issue: Restoring factory defaults on packet processor card leaves the unit IP Address, Working mode & QoS mode unchanged.
Workaround: If need to be changed, issue "Restore Factory Defaults" to CDM-625 base unit.
Estimated Resolution: None

<u>User Interface Issues</u>

Issue: Web interface requires password to be entered twice.
Workaround: None.
Estimated Resolution: None

Issue: Compression ratio on Payload compression statistics page refreshes slowly.
Workaround: Refresh the same page multiple times to get accurate ratio.
Estimated Resolution: None

Issue: Not able to get to Web interface of the unit under heavy traffic processed through router card.
Workaround: None.
Estimated Resolution: None

Issue: Read Only User cannot access Packet Processor pages
Workaround: Use the admin login and password to access the Packet Processor pages.
Estimated Resolution: None