

June 2016, Eldorado do Sul - Brazil

DATACOM notifies the launching of the 14.10 firmware version for the DM4000 and DM4100 series products.

Changes from firmware version 14.8.

Firmware Upgrading Procedure

- The firmware upgrade in devices or stacking topologies must be performed in all interface cards simultaneously, observing the supported versions, in order to avoid undesirable inconsistencies.
- For firmware upgrading from version 12.x (or less) to 14.x, it is required to perform a two-stages procedure, applying an upgrade to 13.8.6 (intermediate recommended version) and then to the final version 14.x.

Stage 1: firmware upgrade from version 12.x to 13.8.6 with subsequent reboot.

Stage 2: firmware upgrade from version 13.8.6 to 14.x with subsequent reboot.

- The MPLS access interfaces must not be configured with the feature QinQ external mode. As an exception, is a combination of untagged access with vc-type vlan parameter in the VPN. Check the current configurations before upgrading from versions earlier than 14.2, in order to avoid traffic loss.
- The meters in *srTcm* and *trTcm* must be configured and associated again to the respective filters in the end of the firmware upgrade with 12.x and 13.x versions to the 14.x version.

Any doubt about the procedure above, get contact with DATACOM Technical Support.

- In the versions earlier than 14.2 do not support VPN TE (mplstype te). In a firmware downgrade the VPN configuration, besides signaling as VPN TE, it will work as NON-TE, remaining only an adjustment via neighbor reconfiguration.
- Configurations of OSPFv3 authentication are not compatible with early versions than 13.0 anymore. During upgrade/downgrade procedure, the authentication configuration must be removed before the procedure and rebuilt after the new firmware version becomes active.
- Before perform the firmware downgrade from FW 14.10, it is required to ensure that do not exist RSVP tunnels with higher IDs than 100 (one hundred) and that the access port numbers in a VPN VPLS are limited in 8 interfaces.

New Features and Improvements

- Unicast mode negotiated for IEEE 1588v2 (PTP - Precision Time Protocol).
- In order to ease the troubleshooting, new logs for VPNs MPLS are available: *mpls rsvp logging path-status* - when a change of status occurs in the RSVP tunnels: *mpls l2vpn logging pw-status* - when a change of status occurs in the PWs: *mpls l2vpn logging redundancy* - when a PW commutation occurs for a given VPN.
- Allow to name the tunnels/path RSVP (not only IDs). For the IDs, allow numbers higher than 100.
- Allow add and remove interfaces to a port-channel that is being used as access L2VPNs without the need to disable VPN. This action causes a small unavailability of traffic due to a transition state of the VPN (down/up), and logged, only the change to the up state.
- Allow add up to 16 access ports in a VPN VPLS. Before FW14.10, the maximum was 8 ports.
- New command: *clear mpls ldp*, reset the LDP sessions of all equipment. Should be used in low-traffic times, preferably in maintenance

windows, it causes a small unavailability of traffic on VPNs due to learning new labels LDP. After using this command, it should be checked if all VPNs returned to normal operation. Otherwise, execute disable and enable the VPN that has not become operational.

- The *cpu protocol priority hardware* command makes the tunneled packets through the tunnel l2protocol-feature (L2TP) have marking QoS (802.1p) equals the interface configuration *switch port priority default x*. Also enables marking of BPDUs tunneled through filters (having priority over the marking of the interface).
- The functionality *cpu protocol priority tunnel*

Corrections

- Meters were not applied and end up being removed after the configuration unit reboot.
- Filters with the same match parameters and different priorities, could not be created.
- Fix the problem caused by configuration of *no ip igmp snooping flood-unknown*, which modified the default operating mode of VLANs, causing some multicast packets were dropped, harming the operation of the OSPF protocol.
- Correction feature Adaptive Clock Recovery-ACR in DM4000-PWE3 H Series cards. Recovers the clock through the bundles, using the interface configuration G704/E1C with *sync-source adaptive bundle*.
- Log messages originated by broadcast address origin were shown without the MAC indication of origin.
- Correction of the logical block (e.g. OAM) in port-channel when interfaces that were originally blocked were added to a port-channel.
- Fix the command *show interfaces table*

<packet priority> causes the marking of all control packets tunneled by l2protocol-tunnel functionality (L2TP), use the global value set, packet priority. This setting has no effect if the functionality *cpu protocol priority hardware* is being used.

- The VRF-Lite feature has been enabled for the DM4100 + L3 models.
- Configuration possibility of sFlow feature in port-channel interfaces.
- Included OID in the MIB 28 DATACOM, Dmswitch.mib (.1.3.6.1.4.1.3709.3.5.201.1.28), allowing consult Digital Diagnostic information of supported transceivers.

utilization bandwidth presenting slowness in your display.

- Help the correction of filter egress command in CLI.
- Correction of help in the *show interfaces status sdh* command in CLI.

Compatibilities and Restrictions

- The use of the configuration *no ipv6 mld snooping flood-unknown* causes falling OSPFv3 sessions.
- This firmware version supports devices of DM4000 and DM4100 Family. The compatibility matrix between MPU and interface cards for DM4000 in chassis is displayed in the Annex 1.
- The lowest recommended version of DmView to use the CESoP feature is the 8.2.
- DATACOM recommends that the DM4100 devices, in stacking, operates with the same software license installed. The software licenses currently available are: Bridge (L2), Router (L3) and MPLS.
- It is not recommended to use VLAN 1 (default) of the equipment in L2 and L3 applications.

- Firmware Downgrade with vc-type setting different on the same physical interface is not supported.
- MPLS is not supported in pizza box stacking
- Using MPLS with external memory enabled L3 routes requires the configuration of the *memory external-resource vlan* command.
- There are some restrictions on the use of RSVP with MPLS (MPLS-TE). Consult Technical Support DATACOM.
- It commuting RSVP tunnels is not guaranteed below 50ms on DM4100 Series.
- Possibility of unwanted behavior in VPNs, if there is a feature that supports different vc-type in the same Ethernet interface or tunnels RSVP after switchover.
- Local tunnel and RFC 3107 are not supported for the DM4100 family.
- Local Tunnel is not supported by DM4000 PWE3 H Series 32E1 module.
- More than one RFC 3107 session (BGP address-family IPv4 with send-label) is supported on the same PE only when neighbors advertise different prefixes in each session.
- Metric cost and metric type manipulation in redistributed routes of RFC3107 for OSPF are not supported.
- Selective QinQ is not supported on VPN access ports to all DM4000 family.
- There may be momentary loss of traffic during graceful-restart period in LDP scenarios.
- Avoid using balance *src-dst-ip* or *enhanced* in port-channel external loop, related to MPLS L2VPN - QinQ.
- VRF-Lite does not allow overlapping of IP addresses.
- Improvements made in CPU-Protect functionality may require reconfiguration of functionality after a firmware upgrade to version 14.2 or higher. Consult Technical Support DATACOM.
- No support for multiple IPv6 network protection using VRRP.
- BGP IPv6 Peer-Groups is not supported.
- Removed blocking parameters for broadcast, multicast and arp request for the *block* functionality of CPU-DoS-Protect. From the FW14.2 version on, a more selective and flexible control was included to hold the lock and or the restriction of packets to the CPU, including broadcast, multicast, ARP and other protocols, a total of 48 control queues (command: *cpu-dos-protect queue*).
- Default originate OSPF when using VLAN link-detect, does not guarantee adequate convergence times and can cause momentary unavailability traffic during convergence in an environment BGP full routing.
- The *auto-cost reference-bandwidth* command should not be used in OSPFv3 configuration.
- Avoid RIP configuration with VLAN/31 IP.
- For interfaces 1GB and 10GB (multicast / broadcast / unicast), the default values for storm-control were changed in FW14.6.2. Interfaces 1GB changed 1000pps to 10000pps and 10GB 10000pps to 100000pps.
- There are some restrictions on the use of 8k hosts in DM4100 L3 24P equipment. Consult Technical Support DATACOM.
- MPU 384, product code 800.0442.10, now has a minimum firmware 14.6.
- After master exchange operation in Stacking, the database DHCP Snooping shows inconsistent records after releases of some clients IPs (release message).
- DHCP Snooping can not be used simultaneously with the DHCP Server and DHCP Client functionality.

- Configuration mismatch of LDP-IGP Sync functionality interfaces that only have IPv6 address.
- The use of ECMP along with BFD or BGP can cause the fall of these protocols, when the main path drops. Occurs if the error detection interval for a BFD session, enabled in the BGP neighbor, is less than 7 seconds, or if the BGP Holdtime, is less than 21 seconds for session without BFD.
- To change the state from *shutdown* to *no shutdown* in port-channel with LACP, you must also perform the settings on the interfaces that make up the port-channel.
- In switch DM4100 - ETH44GT 4GC+2XX+S it is recommended to use a maximum of 7 xSTP instances.
- Due to the introduction of new ways of meters that allow the combination of hierarchical meters to the filters, there Meters compatibility break with srTcm and trTcm mode between firmwares with versions 12.x and 13.x to 14.x versions, which are removed from the configuration during the firmware upgrade. You must reconfigure them and re-associate them to the filters at the end of the update.
- For VRRPv3 is not reported the occurrence of duplicate IPv6.
- The *ipfix* feature is not released to DM4100-24p equipment.
- It is not possible to perform a ping to broadcast addresses.

Get contact with DATACOM Technical Support by e-mail to support@datacom.ind.br or via phone call (+55 51 3933 3122) in order to obtain additional information about supported features, upgrading procedures and compatibility of firmware versions, modules and accessories.

Annex 1: Compatibility Matrix to DM4000 in Chassis

The following table displays the compatibility between MPU and interface cards to DM4000 in chassis, for the firmware version 14.10:

Interface Cards	MPU384	MPU512
ETH24GX H Series	✓	✓
ETH24GX E Series	✓	✓
ETH24GX L Series ^(*)	--	--
ETH24GT H Series	✓	✓
ETH48GX H Series	✓	✓
ETH48GT H Series	✓	✓
ETH24GX+2x10GX H Series	✓	✓
ETH24GX+2x10GX E Series	✓	✓
ETH2x10GX H Series	✓	✓
ETH4x10GX H Series	✓	✓
ETH4x10GX E Series	✓	✓
PWE3 ETH20GX+32E1 H Series	✓	✓
PWE3 ETH20GX+2x10GX+32E1 H Series	✓	✓
PWE3 ETH16GX+4STM1 H Series	✓	✓
PWE3 ETH16GX+2x10GX+4STM1 H Series	✓	✓

^(*) - L Series devices is compatible only in a standalone operation through the usage of a chassis DM4001 or DM4001 L.