

March 2016, Eldorado do Sul - Brazil

DATACOM notifies the launching of the 14.8 firmware version for the DM4000 and DM4100 series products.

Changes from firmware version 14.6.4.

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 works 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.

New Features and Improvements

- Allow ICMP answer to networks not connected directly from an IP created in VRF.
- Support to the command *ping* from a VRF address.
- Support to *traceroute* in the VRF.
- Possibility of usage of loop-back addresses even in the source or destination of an ICMP message.
- Possibility to enable 2 VPNs with different VC-Types in the same Ethernet interface.
- Improvement in the command *show cpu arp-table*, adding the entries presentation to the management interface.
- Improvement in the command *show core-dump* presentation.
- Improvements in the commands *show ip bgp* and *show ip bgp neighbor <ip> received routes*.
- Improvements in the command *show ip hardware lpm-table summary*.
- In case of duplicated IPv4 addresses in VLANs with VRRPv2, warning messages will be recorded in the system logs.
- Avoid the sending of unnecessary snmp traps during the process of saving the running-config in the slave unit.

Corrections

- Some routes may stop be announced if the OSPF be created in a different area than 0 and the redistribute OSPF match internal be configured in the address family of the BGP router.
- L2VPN traffic stays in unidirectional mode in scenarios with RFC3107.
- The command `show log ram tail` omits some registers when the last lines presents commands.
- Show of the VLAN interface displays VRRP `<id>` preemption disabled instead of `no vrrp <id>` preemption.
- The `debug ospf` command output do not consider the timezone configuration.
- The command `show ipv6 bgp <IPv6_prefix/length>` do not displays the attributes of the prefix IPv6.
- The addition of a new black-hole will only be possible if there is no any other static route with identical addressing.
- BGP neighbor was nos established when the neighbor was deleted and created again, in an identical way, in a vrf address family.
- STP blocking do not discard packets VRRP when used in scenarios ring L2.
- Allows more than two devices configured with VRRPv2, in line and ring configurations.
- After upgrade to the firmware version 14.6.2, SFPs of 1G presents default value of 100MB.
- In L2VPN-TE scenarios, after switchover, the switches may present some instabilities in the traffic.
- The process that treats the port-security continues to consume resources of the CPU, even after disable the functionality.
- Load balance in port-channel of external loop (QinQ), in a MPLS Tunnel entrance was not effective and 100% of the load in one of the

links.

- VPLS was learning more MACs than the global limit configured. It was occurring when the memory was partitioned 100% to MAC.
- PoE licenses where disabled when L3 licenses be disabled.
- The command `show mpls rsvp counters` messages was not operational.
- Allow to disabled capabilities BGP.
- Ports in administrative shutdown receiving and sending 1Gbit/s after be removed from the port-channel.
- The command `show ipv6 bgp` presents incorrect indication for the attribute origin of the prefix for a loop-back interface, displaying as incomplete (?) instead of `igp (i)`.
- Add a reset during initialization of PHY10Gb to correct the acknowledgment of the transceiver XFP Gigalight (SN 377.3305.33), according standard MSA.
- Support to the optical transceiver: Neophotonics PT7320-62-1V+ and to the electrical transceivers: Cisco Avago ABCU-5710RZ-CS2 and Finisar FCLF-8521-3.
- Correction in the interpretation of information from SFP SDH Neophotonics PT7320-62-1V+, that are displayed in the `show hardware-status transceivers detail sdh <port>`.

Compatibilities and Restrictions

- 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.
- The interface cards E Series and STM1 H Series will not support a stacking mode operation in DM4001.

- 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.
- With the new support to LOPS (Detection of Loss) in the PWE3 H Series interface cards, the fail status of the local Bundle comes to be calculated by the amount of packets consecutively loss. The configuration command *packet-loss-threshold* was removed, and was introduced the new command *lops-limits*. This way, it will cause compatibility restrictions to earlier firmware versions.
- The VLAN 1 (default) usage is not recommended in L2 and L3 applications.
- Download of firmware with the different vc-type configuration in the same physical interface is not supported.
- MPLS is not supported in pizza box stacking.
- MPLS usage with external memory enabled for L3 routes requires the application of the command *memory external-resource vlan*.
- SDH Optical Transceiver Eoptolink EOLS130615DIEC is NOT compatible with the DM4000 Product Series.
- Is not guaranteed the commutation of RSVP tunnels sub-50ms in the DM4100 Series.
- Undesirable behavior in VPNs if the device contains the feature that supports different vc-type in the same Ethernet interface, or with RSVP tunnels, after switchover.
- Besides the creation of RSVP tunnels is allowed without any requirement of "explicit-path" or "Affinity", the usage of one of these sets is strongly recommended by DATACOM in order to avoid that the RSVP tunnels and the protection tunnels be established over the same physical path. For further information, get contact with the DATACOM Technical Support. 83580
- Local Tunnel, L3VPN and RFC3107 are not supported by this firmware version for the DM4100 Product Series.
- Local Tunnel is not supported by this firmware version for the interface card DM4000 PWE3 H Series 32E1.
- More than one RFC3107 session (BGP address-family IPv4 com send-label) is supported in the same PE only when the neighbors announce different prefixes in each session. 82907
- Manipulation of metric cost and metric type in redistributed routes of the RFC3107 for OSPF are not supported. 84092
- Selective QinQ is not supported in VPNs access ports for all DM4000 Product Series.
- Scenarios MPLS-TS (RSVP) do not support graceful-restart no LDP. 83295
- May occur momentary loss of traffic during que graceful-restart period in scenarios LDP. 80474
- Avoid the src-dst-ip balance use or enhanced in port-channel of external loop, related to MPLS L2VPN - QinQ. 84806
- VRF-Lite do not allow IP addresses overlay. 79391
- Improvements in CPU-Protect feature may require reconfiguration of this feature after a firmware upgrade to version 14.2 or superior. Get contact with DATACOM Technical Support.
- There is no support to the protection of multiple networks IPv6 using VRRP
- BGP-IPv6 Peer-groups is not supported.
- Removed the blocking parameters for broadcast, multicast and arp request from the feature block of the CPU-DoS-Protect. From firmware version 14.2 on, a selective and flexible control is included to perform the blocking or limitation of packets to the CPU, including broadcast, multicast, arp request between other protocols, totaling 48 queues of control (command: *cpu-dos-protect queue*).

- The Default Originate of OSPF, when using VLAN Link detect, do not ensure adequate convergence times and may cause momentary unavailability of traffic during convergence in environments with BGP full-routing.
- The command `auto-cost reference-bandwidth` must not be used in the configuration of OSPFv3.
- The configuration RIP with a VLAN IP address VLAN/31 must be avoided.
- For interfaces of 1GB e 10GB (multicast/broadcast/unicast), the default values for storm-control were changed in the firmware version 14.6.2. Interfaces 1GB changes from 1000pps to 10.000pps and the interfaces 10GB changes from 10.000pps to 100.000pps.
- Due to introduction of new meter modes that allow the association of hierarchical meters with the filters, it will break the compatibility of the meters with the modes `srTcm` and `trTcm` in the firmware versions 12.x and 13.x for the version 14.x. They will be removed from the configuration during the firmware upgrade. It will be required to reassemble them again and associate them again to the filters.
- There are some restrictions if using 8k hosts in DM4100 devices L3 24-Ports. Get contact with DATACOM Technical Support.
- MPU384 (code 800.0442.10) now has minimum firmware version of 14.6.
- After the switch of master device in stacking topology, it fails to register client IP addresses in the DHCP snooping database. The workaround is reset the functionality through the command `ip dhcp snooping`.
- DHCP Snooping can not be used with the DHCP Server and DHCP Client functionality simultaneously.
- Configuration Incompatibility between the LDP-IGP functionality on interfaces that contains IPv6 address only.
- Performance restrictions for the BFD operation if configured more than 10 OSPF sessions, 1 BGP session and intervals small than 500ms for the BFP packets transmission with up to 3 transmissions retries.
- The usage of ECMP in conjunction of BFD or BGP may cause the falling of these protocols when the main path fall down too. The failure occurs if the interval time of detection of error for one BFD session, enabled in the neighbor BGP, is low than 7 seconds, or if the BGP holdtime is low than 21 seconds for a BFD session.
- To change the state from shutdown to no shutdown in port-channel with LACP, it is necessary to perform the configuration in the interfaces.
- In DM4100 switches with the interface card ETH44GT+4GC+2XX+S it is recommended to use a maximum of 7 STP instances.
- For VRRPv3 it is not reported the occurrence of doubled IPv6.
- It is not possible to send *ping* for broadcast addresses.
- The feature `ipfix` is not released to devices DM4100-24p.

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 14.6.4:

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.