DATACOM





DATACOM OPERATING SYSTEM Version 8.6.0

RELEASE NOTES

DmOS - Release Notes Contacts

Contacts

Technical Support

Datacom has available a support portal - DmSupport, to help the customers in use and config of our equipment.

Access to the DmSupport can be made through link: https://supportcenter.datacom.com.br

In this site the following are available: firmwares, technical datasheets, config guide, MIBs and manuals for download. In addition, it allows opening of calls for assistance with our technical team.

Telephone Number: +55 51 3933-3122

We would like to highlight that our assistance through telephone support is available from Monday through Friday from 08:00 AM through 05:30 PM.

Important: For support assistance 24x7, please request a quotation to our sales department.

General Information

For any other additional information, please visit the https://www.datacom.com.br/en or call:

DATACOM

Rua América, 1000

92990-000 - Eldorado do Sul - RS - Brazil

+55 51 3933-3000

DmOS - Release Notes Product Documentation

Product Documentation

This document is part of a set of documents prepared to provide all necessary information about DATACOM products.

Software Platform

- Quick Configuration Guide Provides instructions on how to set functionalities in a quick manner in the equipment
- Troubleshooting Guide Provides instructions on how to analyze, identify and solve problems with the product
- Command Reference Provides all the commands related to the product
- **Release Notes** Provides instructions on the new functionalities, identified defects and compatibilities between Software and Hardware

Hardware Platform

- Datasheet Provides the Hardware and Software technical characteristics of product
- Installation Guide Provides instructions on the procedures covering product installation

The availability of some documents can vary depending on the type of product.

Access https://supportcenter.datacom.com.br to locate the related documents or contact the Technical Support for additional information.



Introduction to the document

About this Document

This report provides information regarding a new software release version for DmOS product. The Release Notes also intends to inform relevant changes that have occurred in software, hardware and documentation.

It is assumed the reader is familiar with network protocols concepts and has previous knowledge about DmOS products.

Audience

This document is intended for Network Administrators, Engineers and any other qualified service personnel who are responsible for configuring and maintaining networks deployed with DmOS.

Text Convention

This report uses these text conventions to convey instructions and information:

Convention	Description
Hyperlink	Internet site or an e-mail address. It is also applied to indicate a local link inside the document itself (e.g. a chapter).
Terminal	System commands and screen outputs.
Object	Indicates a reference to something. Used to emphasize this referenced object.
Menu > Path	GUI (Graphic User Interface) menu paths.
[Key]	Keyboard buttons.

DmOS - Release Notes Table of Contents

Table of Contents

Contacts	2
Product Documentation	3
Introduction to the document	4
1 Important Notes	6
2 Hardware and Software Compatibility	7
2.1 Released Software	7
2.2 Product Compatibility	7
2.3 Compatibility Between Software Versions	9
2.4 Compatibility of Electrical Modules	12
2.5 Compatibility of Electrical Cables	13
2.6 SSL Encryption Compatibility	14
3 New Features and Enhancements	15
3.1 New Features	15
3.2 Enhancements	15
3.3 Changes in protocols management	15
4 Solved Issues and Restrictions	16
4.1 Solved Issues	16
4.2 Restrictions	16
5 Document Versions	34
5.1 Software Platform	34
5.2 Hardware Platform	34
Legal Note	35
Warranty	35

DmOS - Release Notes 1 Important Notes

1 Important Notes

The table below provides important notes that should be observed when using the product.

Note	Product
Unable to load configuration XML files with dot1q that were saved DmOS versions before 8.0.0. Text mode config files works perfectly. In case you need to load an xml file that contains vlan config, you will need edit the xml file changing from <i>urn:dmos:dmos-dot1q</i> to <i>http://tail-f.com/ns/dmvlan-manager</i> .	All
Increasing the number of objects or decreasing the interval between SNMP requests might lead to management latency or SNMP errors.	All
DmOS devices support autocorrection for occurrences of data corruption in memory. There may be cases after power outages or swings where the system cannot perform data autocorrection and may cause loss of logs or configurations.	All
The memory can be allocated by internal processes due to successive link-flaps. After flap stop, the memory will return to initial state. It is recommended to use the Link-Flap-Detection feature in ethernet interfaces.	All
VPN configurations that use the default MTU size configuration before DmOS 3.0.0 must observe the change in the default value from 1500 to 9198, which may cause a configuration mismatch.	All
It is possible to update all ONUs in a PONLink simultaneously provided that all ONUs are model equivalent. If there are ONUs of different models in a PONLink, it is not recommended to use the "all" parameter in command request firmware onu install <image/> interface gpon <id> .</id>	DM461X
It is not recommended to configure the snmp real-time option for more than 128 ONUs. Large scale monitoring can cause performance impacts, such as an increase in ONU status update time. When using the DM461X products (OLT GPON) and operating near the maximum supported ONUs by the platform, it is recommended that the SNMP requests interval is no lower than 15 minutes.	DM461X

2 Hardware and Software Compatibility

This chapter lists hardware and software compatibility for this software release.

2.1 Released Software

This session presents the software release details:

Product	Release Version
DmOS	8.6.0



The DM4360, DM4370 and DM4370 SAT platforms downtime after upgrade to DmOS version 8.6.0 will be longer due to the time required for the FPGA upgrade and an additional reboot performed during this process.



DmOS 5.0 is the LTS release (Long-Term Support) for platform **DM4610 OLT 8GPON+8GX+4GT+2XS** (P/N 800.5081.xx). The platform will still receive maintenance releases based on DmOS 5.0, if necessary, with bug fixes. However, there will be no updates with new features. Other OLTs will still receive new features and bug fixes.



DmOS 5.2 is the LTS release (Long-Term Support) for platform **DM4775 32CX** (P/N 820.0014.00). The platform will still receive maintenance releases based on DmOS 5.2, if necessary, with bug fixes. However, there will be no updates with new features.



For scalability values per platform, check document DmOS – DmOS Datasheet.

2.2 Product Compatibility



To use management via DmView with the DmOS version 8.6.0 it is necessary to update DmView to version 11.2 or greater.

The table below shows the product compatibility matrix stating the minimum hardware version, minimum software version and the minimum version of DmView (management software).

Product	Hardware Version	Software Version	DmView Version
DM4050 24GT+6XS	800.5189.00	2.2.0	10.3
DM4050 24GX+6XS	800.5190.00	2.2.0	10.3
DM4170 24GX+4XS+2QX	800.5184.01	3.0.0	10.3
DM4170 24GX+12XS	800.5186.01	2.2.0	10.3
DM4250 24XS+2QX	800.5197.02	4.0.0	10.3
DM4270 24XS+2CX	800.5231.53 800.5231.60	4.7.0 8.2.0	10.3
DM4270 48XS+6CX	800.5213.53 800.5213.61 800.5304.61	4.9.0 8.0.4 8.0.4	10.3
DM4360 4GT+4GX	800.5259.50 800.5259.70 800.5259.75	4.10.0 8.0.6 8.2.0	10.3
DM4370 4GT+4GX+4XS	800.5191.00 800.5191.70 800.5191.75	3.0.0 8.0.6 8.2.0	10.3
DM4370 4GT+4GX+4XS+SAT	800.5273.53 800.5273.70 800.5273.75	7.4.0 8.0.6 8.2.0	10.3
DM4380 12XS+3CX	800.5258.00 800.5258.60	5.0.0 8.2.0	10.3
DM4610 OLT 8GPON+8GX+4GT+2XS	800.5081.03	1.4.0	10.3
DM4610 OLT 4GPON+4GX+2XS (HW2)	800.5193.01	2.4.0	10.3
DM4610 OLT 8GPON+8GX+4GT+2XS (HW2)	800.5165.01	2.2.0	10.3
DM4611 OLT 4GPON+2GT+2XS	800.5283.51	6.2.0	10.3
DM4612 OLT 8GPON+2GT+2XS	800.5285.51	6.2.0	10.3
DM4615 OLT 16GPON+4GT+4XS	800.5198.01	4.2.0	10.3
DM4618 OLT 32GPON	800.5275.51	8.2.0	11.2
DM4770 16CX	800.5280.51	6.0.0	10.3
DM4770 32CX	800.5255.52	5.8.0	10.3
DM4775 32CX	820.0015.00 820.0016.00	4.9.0	10.3



Bold itens - new hardware platform available in the current version of DmOS.

2.3 Compatibility Between Software Versions

The tables below shows the compatibility matrix between firmware versions, including the notes for the firmware update process.

Software Upgrade

For **DM4050** platform, DmOS has the following compatibility matrix:

Platform	Initial Version	Mand	Mandatory Intermediate Versions		Final Version
DM4050	2.2.0	2.2.2	3.0.4	4.6.2	8.6.0
DM4050	2.2.2	-	3.0.4	4.6.2	8.6.0
DM4050	3.0.4 or higher	-	-	4.6.2	8.6.0
DM4050	4.6.2 or higher	-	-	-	8.6.0

For **DM4170** platform, DmOS has the following compatibility matrix:

Platform	Initial Version	Mand	atory I	ntermediate Versions	Final Version
DM4170	2.2.0	2.2.2	3.0.4	4.6.2	8.6.0
DM4170	2.2.2	-	3.0.4	4.6.2	8.6.0
DM4170	3.0.4 or higher	-	-	4.6.2	8.6.0
DM4170	4.6.2 or higher	-	-	-	8.6.0

For **DM4250** platform, DmOS has the following compatibility matrix:

Platform	Initial Version	Mandatory Intermediate Versions	Final Version
DM4250	4.0.0 or higher	4.6.2	8.6.0
DM4250	4.6.2 or higher	-	8.6.0

For **DM4270 24XS+2CX** platform, DmOS has the following compatibility matrix:

Platform	Initial Version	Mandatory Intermediate Versions	Final Version
DM4270 24XS+2CX	4.7.0 or higher	-	8.6.0

For **DM4270 48XS+6CX** platform, DmOS has the following compatibility matrix:

Platform	Initial Version	Mandatory Intermediate Versions	Final Version
DM4270 48XS+6CX	4.9.0 or higher	-	8.6.0

For **DM4360** platform, DmOS has the following compatibility matrix:

Platform	Initial Version	Mandatory Intermediate Versions	Final Version
DM4360	4.10.0 or higher	-	8.6.0

For **DM4370 4GT+4GX+4XS** platform, DmOS has the following compatibility matrix:

Platform	Initial Version	Mandatory Intermediate Versions		Final Version
DM4370	3.0.0	3.0.4	4.6.2	8.6.0
DM4370	3.0.4 or higher	-	4.6.2	8.6.0
DM4370	4.6.2 or higher	-	-	8.6.0

For **DM4370 4GT+4GX+4XS+SAT** platform, DmOS has the following compatibility matrix:

	Platform	Initial Version	Mandatory Intermediate Versions	Final Version
D	M4370 SAT	7.4.0 or higher	-	8.6.0

For **DM4380** platform, DmOS has the following compatibility matrix:

Platform	Initial Version	Mandatory Intermediate Versions	Final Version
DM4380	5.0.0 or higher	-	8.6.0

For **DM4610 HW1** platform, the DmOS has the following compatibility matrix:

Platform	Initial Version	Mand	latory	Interm	ediate Versions	Final Version
DM4610 HW1	1.8.0 or lower	1.8.2	2.2.2	3.0.4	4.0.2	5.0.2
DM4610 HW1	1.8.2 to 2.0.4	-	2.2.2	3.0.4	4.0.2	5.0.2
DM4610 HW1	2.2.2 to 3.0.2	-	-	3.0.4	4.0.2	5.0.2

Platform	Initial Version	Mand	latory	Interm	ediate Versions	Final Version
DM4610 HW1	3.0.4 to 4.0.0	-	-	-	4.0.2	5.0.2
DM4610 HW1	4.0.2 or higher	-	-	-	-	5.0.2

For **DM4610 HW2** platform, the DmOS has the following compatibility matrix:

Platform	Initial Version	Mano	latory	Interm	ediate Versions	Final Version
DM4610 HW2	1.8.0 or lower	1.8.2	2.2.2	3.0.4	4.0.2	8.6.0
DM4610 HW2	1.8.2 to 2.0.4	-	2.2.2	3.0.4	4.0.2	8.6.0
DM4610 HW2	2.2.2 to 3.0.2	-	-	3.0.4	4.0.2	8.6.0
DM4610 HW2	3.0.4 to 4.0.0	-	-	-	4.0.2	8.6.0
DM4610 HW2	4.0.2 or higher	-	-	-	-	8.6.0

For **DM4611 and DM4612** platforms, the DmOS has the following compatibility matrix:

Platform	Initial Version	Mandatory Intermediate Versions	Final Version
DM4611 and DM4612	6.0.0 or higher	-	8.6.0

For **DM4615** platform, the DmOS has the following compatibility matrix:

P	latform	Initial Version	Mandatory Intermediate Versions	Final Version
D	M4615	4.0.0 or higher	-	8.6.0

For **DM4618** platform, the DmOS has the following compatibility matrix:

Platform	Initial Version	Mandatory Intermediate Versions	Final Version
DM4618	8.0.0 or higher	-	8.6.0

For **DM4770 16CX** platform, DmOS has the following compatibility matrix:

Platform	Initial Version	Mandatory Intermediate Versions	Final Version
DM4770 16CX	6.0.0 or higher	-	8.6.0

For **DM4770 32CX** platform, DmOS has the following compatibility matrix:

Platform	Initial Version	Mandatory Intermediate Versions	Final Version
DM4770 32CX	5.8.0 or higher	-	8.6.0

For **DM4775** platform, DmOS has the following compatibility matrix:

Platform	Initial Version	Mandatory Intermediate Versions	Final Version
DM4775	4.9.0 or higher	-	5.2.0

Notes

It is always recommend save the configuration before firmware update process. To save the configuration use the **save <arquivo>** command.

In case of doubt, please call to Datacom technical support.

Software Downgrade

Notes

From version 8.2.0 or above it is not possible to perform a firmware downgrade in DM4360, DM4370 and DM4370 SAT platforms to versions lower than 8.2.0. If this operation is performed you must contact Datacom's technical support.

There is no support to mantain current database in downgrade. When perfoming the downgrade, the previous database is restored and any configuration changes made after upgrade to version 4.x or higher will be lost in the downgrade process. In case of downgrade to version different from previous, the equipment will boot with factory configuration.

From version 2.4.0 it is only possible to perform firmware downgrade to version 2.0.0 or 2.2.2. Firmware downgrade to older versions is not allowed by the system.

2.4 Compatibility of Electrical Modules

The table below shows the matrix about electrical modules support (SFP Copper) by each product line and which version initiated its support. It's advised the use of **negotiation** on interfaces with copper SFPs.



The SFP Copper supported has **377.7000.00** Datacom code. Datacom does not guarantee compatibility with other modules. Contact us for more information.

Product Line	Software Version
DM4050	2.2.0
DM4170	2.2.0
DM4250	4.8.0
DM4270 24XS+2CX	4.8.0
DM4270 48XS+6CX	5.0.0 (forced only ¹)
DM4360	4.10.0
DM4370	3.0.0
DM4380	5.0.0
DM4610	2.2.0
DM4611	6.2.0
DM4612	6.2.0
DM4615	4.2.0
DM4618 OLT 32GPON	8.0.0
DM4770 16CX	6.0.0 (forced only ¹)
DM4770 32CX	5.8.0
DM4775	4.9.0



¹ **DM4270 48XS+6CX** and **DM4770 16CX** don't support negotiation on ten-gigabit interfaces and twenty-five-gigabit interfaces, but it's possible to make use of copper modules setting the interface to forced mode (no negotiation). The presence of a copper module makes the interface negotiate with the link partner advertising 1 Gbps speed only, with no support for pause frames or lower speeds, regardless of its current configuration. When operating in this mode, a link down status may take up to 10 seconds to be reported.

2.5 Compatibility of Electrical Cables

The table below shows the electrical cables support matrix recommended by Datacom.



The use of non recommended cables can cause performance problems.

Code	Description
710.0384.00	DAC Passive Cable 40GbE QSFP+ to QSFP+ (1m)
710.0391.00	DAC Passive Cable 40GbE QSFP+ to QSFP+ (3m)
710.0395.00	DAC Passive Cable 100GbE QSFP28 to QSFP28 (1m)
710.0396.00	DAC Passive Cable 100GbE QSFP28 to QSFP28 (3m)

2.6 SSL Encryption Compatibility

The table below lists the OpenSSL versions for each software version and which version initiated its support.

Sofware Version	OpenSSL Version
1.4.2	1.0.1f
1.10.0	1.0.2j
1.12.0	1.0.2k
2.4.0	1.0.2l
4.0.0	1.0.20
4.9.0	1.0.2r
5.0.0	1.0.2t
8.0.0	1.0.2u

3 New Features and Enhancements

This chapter lists new features, enhancements and changes in commands introduced in this release.

3.1 New Features

Feature	Description
-	-

3.2 Enhancements

Feature	Description	ID	
RSVP	Improve RSVP convergence time by handling path error instead waiting rsvp refresh	F1785	
	timeout which is in longer than 1 minute using default values.		

3.3 Changes in protocols management

Feature	Description	ID
-	-	-

4 Solved Issues and Restrictions

This section lists solved issues and known restrictions for this software release.

- **Solved Issues**: Fixed bugs in this version.
- **Restrictions**: DmOS Software restrictions per hardware platforms.

4.1 Solved Issues

Feature	Description	ID
-	-	-

4.2 Restrictions

Feature	Description	ID	Affected Platforms
ACL	There is no support to access list in service-ports, only in PON links.	-	All
ACL	Broadcast and DLF traffic will be forwarded to CPU even when there is an ACL blocking it.	122376	All
ACL	ACL action of PCP set is not being performed when QinQ is configure an interface.	112774	DM4270
Aging Time	There is no support to aging time configuration per interface, VLAN ID , Routed-MACs or specific MAC addresses.	-	All
Assistant-task	If there is a show command in the script, the next commands are not executed.	121680	All
Assistant-task	After the copy file command fails by timeout by assistant task, the next runs of <i>copy file</i> command return <i>application communication failure</i> error. To copy file command work again it is necessary restart the equipment.	131884	All
Assistant-task	If script was created in Windows which use CRLF format, even DmOS converts to Unix format when import the file, the last command can not run. As workaround it is possible adding! character in the end of file.	-	All
Backup-link	It does not support Backup-link.	-	DM4618
Banner	On banner configuration, the \ character (backslash) operates as an escape character. To display this character, you must insert two backslash (\\).	-	All
BFD	BFD sessions are not shown in DmView.	127350	All
BFD	In some cases, all BFD sessions may flap simultaneously.	152470	All

Feature	Description	ID	Affected Platforms
BFD	It does not support BFD.	-	DM4050, DM4250, DM461x
BGP	In BGP neighbors BGP with same IP address, in distinct VRF, it is not possible configure different passwords to the same neighbors.	-	All
BGP	Possibility of coredump if user to run commands immediately after booting the system.	113454	All
BGP	Lack of warning for the user that when configuring an address family in BGP will restart the BGP protocol of the equipment.	148347	All
BGP	BGP IPv6 neighbor accept invalid configuration address-family vpnv6 unicast.	154928	All
BGP	Prefix summarization with black-hole static routes does not work.	159527	All
Booting Process	During the initialization of equipment, if a commit is executed, it might show the "Database is Locked" message until all modules are applied	-	All
CFM	When adding a interface that blocked by CFM to a LAG that is also blocked by CFM, it can be unblocked.	124046	All
CFM	Communitication between MEPs may not work, being necessary to remove the CFM configuration and reapply it.	119632	All
CFM	CFM linktrace status remains on command <i>show oam cfm linktrace</i> after removing the CFM configuration.	136881	All
CLI	"show" and "commit" commands may fail if executed shortly after booting the system due of software modules initialization.	116417	All
CLI	show configuration diff command can crash requiring the user execute a CTRL+C to return to the CLI.	-	All
CLI	The select option of CLI filter does not work for some commands.	95478	All
Dot1q	Interfaces after dot1q refactoring are in alphabetical order and not in numerical order in the <i>show running-config</i> command.	159954	All
DHCPv4 Rela	y It does not support IP address assignment on networks belong of L3 interfaces secondary adddress.	-	All
DHCPv6 Rela	It does no support DHCPv6 Relay L3.	-	All
DmView	Status of some protocols are not shown in DmView (Info/Config).	90961	All

Feature	Description	ID	Affected Platforms
EAPS	When several EAPS instances are operating, new instance activation might take several minutes to be applied after commit. In this time interval the CLI is blocked for the operator until the creation process and apply is finished.	88879	All
EAPS	It is not recommended using more than 8 EAPS instances in the same ring.	-	All
EAPS/ERPS	To have commuting times of about 50 ms with protocols ERPS and EAPS, it should be used at most 4 instances in the same ring.	-	All
ERPS	ERPS shows do not show correctly information in case of nbase-stub process restarts. To solve this it is necessary reboot the equipment.	-	All
ECMP	MPLS configuration (LDP/RSVP) in some cases causes ECMP to stop working for L3 prefixes that do not use MPLS.	169852	All
ECMP	ECMP configuration in OSPFv2 and OSPFv3 causes BGP to use ECMP in BGP. It is not possible to disable ECMP only in BGP.	170142	All
ECMP	It is not supported ECMP in MPLS.	F1121, F2021	All
GPON Autoprovisioning	Alarm of autoprovisioning may get stuck under some configuration conditions of GPON interface.	99261	All
GPON Autoprovisioning	Automatic deprovisioning of ONUs is not supported.	-	All
GPON Counters	There is no support to VEIP counters.	-	All
GPON Ethernet UNI	ONU profiles do not automatically create the Ethernet interfaces.	-	All
GPON Firmware Up- date	After version 4.0.2 it may occur configuration loss of GPON interfaces when upgrading from a firmware version before 4.0.2. To prevent this situation, check Compatibility between software versions section must be followed. It is also possible that third-party tools reveals incompatibility issues when using NetConf protocol to access the equipment and, in these cases, the GPON interface keys must be adjusted.	-	All
GPON Flood Blocking	Support to flood blocking only in Service-VLAN type N:1.	-	All

Feature	Description	ID	Affected Platforms
GPON IP Spoofing	There is no support to disabling the IP Spoofing mechanism in GPON interfaces.	-	All
GPON IP Spoofing	Double tag traffic will only work with allowed ip all rule applied to the service-port.	-	All
GPON IP Spoofing	DHCP client negotiates and receives IP address, however, the rule is not created in allowed IP list because all filters are used in equipment.	-	All
GPON IP Spoofing	It does not support IP Spoofing in Ethernet interfaces.	158599	DM4618
GPON L2VPN	It is not supported QinQ L2VPN with service-port access.	-	DM4610- HW2, DM4615
GPON Multicast	IGMP is only possible in N:1 VLAN type.	-	All
GPON MPLS	VPWS port-based with Ethernet loop as access interface does not pass traffic.	-	All
GPON MPLS	PPPoE and DHCP circuit information is not sent over L2VPN with service-port access.	F1789	All
GPON ONU	interoperability with D-LINK ONU in bridge mode (DPN-1452DG).	F1841	All
GPON ONU	After several ONU firmware update executions using the parameter all, new firmware update commands are not processed until shut/no shut is performed in the PON links where the firmware update processes took place.	126539	All
GPON ONU	Dying Gasp is not supported for ONU SFP TEO-GNUK-S20B.	-	All
GPON ONU Discovery	In scenarios with a high number of ONUs can appear invalid NS show interface gpon discovered-onus command.	157545	DM4615, DM4618
GPON ONU SNMP	Monitoring of Ethernet ports ONU traffic by SNMP with flow greater than 38 Mbps does not work properly.	172174	All
GPON ONU Status	ONU Uptime is only updated every 5 minutes.	-	All
GPON ONU Status	Rx/TX power is only updated if the difference is upper than 0.2 dbm.	-	All

Feature	Description	ID	Affected Platforms
GPON ONU Status	onu-force-status-update command can not be show any update if no status has been updated and you only have uptime to update. The uptime update will not be forced.	-	All
GPON PON Interfaces	It is not possible to execute some commands of GPON when using a range of GPON interfaces.	102236	All
GPON PON Interfaces	PONLINK LOS alarm generation eventually fails, whithout any further impact to the PONLINK, when the fiber is reconnected or other PONLINKs in the equipment. ONU LOSi alarms are generated normally during this error. The issue happens when there is an intermittent connection between the fiber and the ONT and after reconnecting the fiber to the PONLINK the system operates normally.	-	All
GPON PON Interfaces	In scenarios with a high number of ONUs to PON change to UP sometimes is necessary remove/insert the transceiver or remove/insert the fiber. This issue happens when use a Broadex D34364-SSCB transceiver.	167428	All
GPON POTS	There is no support to shutdown POTS UNI interface.	-	All
GPON POTS	It is not supported the ! character in sip-user-agent password command.	-	All
GPON Service-Port	Partial and not functional configuration of service port created using netconf in versions lower 5.6 can cause impossibility to update firmware to version 5.6 or above.	-	All
GPON Service-Port	It does not support interface L3 configuration in the same service port VLAN.	-	DM4618
GPON SIP Profile	There is no support to Call ID and Call forwarding configuration.	-	All
GPON SIP Profile	SIP server port is fixed as 5060.	-	All
GPON SIP Profile	It is allowed to configure the field display-name in a SIP agent profile with a string greater than 25 character, but the only first 25 characters are used.	108932	All
GPON System	Show commands related to gpon may be slow if have GPON SNMP object queries being executed at the same time as the show command.	F2017	DM461x
GPON SNMP	Poor performance in GEM counters by SNMP.	144319	All

Feature	Description	ID	Affected Platforms
GPON Traffic-Profile	Gem-traffic-profile does not apply traffic limit in downstream for DM986- 100 ONU with HGU firmware.	-	All
Interfaces	Commit warnings are not generated if changes are made to a range of interfaces rather than a specific interface.	99138	All
Interfaces	During the initialisation of DM4610 or DM4615 equipment, its interfaces may go to UP for 30 seconds even if the interfaces are in "shutdown" administratively.	-	All
Interfaces	It does not support cl108 FEC mode in 25 Gbps interfaces and it is recommended the use of cl74 FEC mode.	-	DM4618
Interfaces	The MDIX works in reverse in interfaces gigabit-ethernet 1/1/1, 1/1/5, 1/1/9, 1/1/14, 1/1/17 e 1/1/21 if it is configured as forced. MDIX works as expected when in automatic mode.	93744	DM4050, DM4250
Interfaces	The MTU value in GT and GX interfaces is actually 4 bytes smaller than the configured value when the interface is untagged.	-	DM4050, DM4250
IP Routing	Hosts system can cause DoS in the equipment if a host is not available and has a lot of traffic destined for this host.	145800	All
IP Routing	Poor performance in convergence time when equipment have many prefixes.	158948	All
IP Routing	Poor performance in <i>show ip route</i> , <i>show ipv6 route</i> , <i>show ip fib brief</i> , <i>show ipv6 fib brief and show ip bgp prefixes</i> commands when equipament have many prefixes.	158636	All
IP Routing	Commands that show prefixes can break prefixes in a way that make it difficult to understand, automating commands in the CLI and making it impossible to use of filters present in the CLI.	160959	All
IP Routing	Unable to execute "show ip" commands on two CLI sessions simultaneously. It is necessary to wait for the execution of the command before executing another.	M1253 M1254	All
IP Routing	If the equipment receives an ARP on an L3 interface asking for another L3 network and this host is reachable by some interface of this equipment, the equipment insert an entry in the host-table with the interface that the ARP was originated if receives an GARP when host is in failed state. This behavior causes traffic to this host to not be forwarded to the correct interface.	155887	All

Feature	Description	ID	Affected Platforms
L2CP	L2 PDUs transparency in TLS services (service vlan type TLS) is enabled without the possibility of changing this behavior. For 1:1 and N:1 services (service vlan type 1:1 or n:1), L2 PDUs transparency is intrinsically disabled.	-	DM461x
L2VPN	It is not supported L2VPN configuration in interface which is MPLS access and uplink. Despite the commit being accepted, a warning is generated in this condition <i>Some MPLS VPN's have access and uplink interfaces in common. In this way those access interfaces will not be able to encapsulate MPLS traffic.</i>	135480	All
L2VPN	It is supported more than 8 ranges in QinQ L2VPNs with 8 ranges maximum per access interface depending on the platform. In the DM4360 and DM4370 are 20 and other platforms which supports QinQ L2VPNs are 50.	-	All
L2VPN	The show mpls l2vpn counters commands does not support autocomplete of the parameters.	M841	All
L2VPN	The show mpls l2vpn hardware command works only for VPWS.	US78815	All
L2VPN	Command <i>show mpls l2vpn vpws-group detail</i> <i>name</i> keep doing pagination.	148448	All
L2VPN	During traffic convergence in network with interoperability with non Datacom equipment, the pseudowire may fail (L2VPN).	M1360	All
L2VPN	When there is a lag interface with LACP as a VPWS or VPLS access, the VPN counters are incremented by LACP control packets.	99727	All
L2VPN	Broadcast, multicast and unknown unicast packets are duplicate and counted twice in the VPN VPLS ingress counters. The duplicate packet is discard and the interface discarding counter is incremented.	-	All
L2VPN	VPN access interface counters can be incremented even when TX traffic is discarded.	121403	All
L2VPN	GMRP protocol BPDUs do not pass through VPLS, even with TLS enabled.	133639	All
L2VPN	Multicast packets encapsulated in L2VPNs are not registered in ingress counters of VPN uplink interfaces.	127464	All
L2VPN	L2VPN vlan-based and L2 circuit with QinQ enabled in the same interface access does not work.	-	All

Feature	Description	ID	Affected Platforms
L2VPN	LACPDUs packets are dropped on access interfaces of MPLS VPNs when the OAM EFM protocol is configured on this interface. To LACP work it is necessary remove the OAM EFM configuration in the access interface.	170840	All
L2VPN	The Backup PW uses the PW Status TLV to signal the main and backup PW information, for this reason it is necessary that neighbors have support for PW Status TLV and this TLV is enabled in L2VPN.	144471	All
L2VPN	Poor performance in <i>show mpls l2pvn</i> command, configuration GET via netconf, configuration save and configuration commit when equipment have many L2VPNs.	F1898	All
L2VPN	L2VPN with pw backup seem to having problem on the pw which is on standby because it is pending on the <i>show mpls l2vpn hardware</i> command.	159663	All
L2VPN	Double tagged packets in a port based L2VPN lose outer tag when traffic is sent to the access interface.	134999	DM4270, DM4380, DM4770, DM4775
L2VPN	MAC address limit is not supported in VPLS.	-	DM4270, DM4380, DM4775
L3VPN	It is not possible to change VRF name of an existing BGP instance.	113503	All
LAG	If a equipment does not have MPLS settings and MPLS packets pass through a LAG of this equipment, the traffic will not be balanced properly.	US86449	All
LAG	A LAG stays up even it has less active interface than defined in minimum- active links if this setting is made only one side of the link. To operate correctly, the minimum-active links must be configured on both sides.	105313	All
LAG	It is not supported load balancing mode configuration.	-	DM4618
LAG	Dynamic load-balancing (DLB) mode is not supported.	-	DM4360, DM4370, DM461x
LAG	Equipment that do not support MPLS on the chipset do not consider MPLS labels on the traffic balancing.	-	DM4050, DM4250, DM4618

Factoria	Description	ID.	Affected
Feature	Description	ID	Platforms
LDP	There are no support to LDP Allocation mode Independent, LDP Encapsulation mode explicit-null, LDP Distribution mode On Demand, LDP Retention mode Conservative.	-	All
LDP	It is not possible the change the loopback IP address and enable the LDP protocol in a single commit.	US89105	All
LDP	When the ARP packets forwarded to the CPU is over than rate limit configured for the interface, the LDP sessions might not be established.	M43 M778	All
LDP	Link session may not go up if neighbor is restarted. To LDP work again it is necessary remove LDP container config; no mpls ldp; commit and configure LDP again config; rollback configuration; commit or restart the affected equipment	154505	All
LLDP	When a packet with an invalid TLV is received, the valid content of the packet may be discarded and no neighbor information is displayed.	121683	All
LLDP	It does not support LLDP.	-	DM4618
License	In equipment with MPLS license enabled, it could occur a failure when loading a configuration file with load override.	106007	All
License	When disabled the MPLS license with an invalid key, it will be displayed a error messaged as if the user was trying to enable the license.	-	All
Link Flap	It does not support Link Flap detection feature.	-	DM4618
MAC Addresses	The show mac-address-table command presents invalid parameters in autocomplete of CLI.	91495	All
MAC Addresses	The show mac-address-table type static command shows all entries of MAC table.	91496	All
MAC Addresses	The repeat option was removed from show mac-address-table command due high CPU utilization.	140053	All
MAC Addresses	Aging time configuration above 1000 seconds is accepted in commit, but is limited in 1000 seconds in chipset.	163702	DM4618
Management Out-Band	It does not support 10 Mbps in mgmt interface. For correct operation, 100 Mbps speed or higher must be used.	-	DM4050, DM4250
Management Out-Band	Mgmt interface negotiated in 1 Gbps cause problems in equipment services. As workaround use management via L3 interface.	-	DM4050, DM4170, DM4615

Feature	Description	ID	Affected
			Platforms
MPLS	MPLS commands can break columns in a way that make it difficult to understand, automating commands in the CLI and making it impossible to use of filters present in the CLI.	172237	All
MPLS	It does not support MPLS.	-	DM4610- HW1, DM4611, DM4612, DM4618
	To work the PDUs encapsulation in L2VPNs it is necessary to remove		DM4260
MPLS	the remote-devices feature that is enabled in the default configuration. configure; no remote-devices; commit.	-	DM4360, DM4370
Multicast	It does not support IGMP.	-	DM4618
OAM	It does not support CFM, Ethernet OAM (EFM) and sFlow.	-	DM4618
OSPF	It's not possbile show details of a specific OSPF neighbor. Through of show ip ospf neighbor detail command, it is possible to check all neighbors simultaneously.	91647	All
OSPF	If OSPF configuration was removed and reinserted with area index changed in a single commit, it is need to reinserted the L3 interface in OSPF configuration.		All
OSPF	OSPF ajacencies in the same physical port cannot have different passwords.	-	All
OSPF	DmOS chooses inter area path instead of intra area when the equipment receives redistributed routes (external 2) in more than one area.	153689	All
OSPF	Redistribute static does not announce black-hole prefixes in OSPF.	159526	All
OSPF	OSPF export prefix-list does not work in prefix redistributed by ASBR in the ABR.	168392	All
OSPF	After remove the redistribute connected or static configuration in OSPF when the equipment has both redistributes configured causes prefixes to stop being announced by redistribute connected and static.	163789	All
OSPF	It does not support OSPFv3.	-	DM4618
QoS	It does not support Quality of Service (QoS).	-	DM4618

Feature	Description	ID	Affected Platforms
HQoS	It does not support Hierarchical Quality of Service (HQoS).	-	DM4170, DM4270, DM4380, DM4618, DM4770
QoS - Policer	Policer egress counters do not work when there is an user-defined counter in the same VLAN.	-	All
QoS - Policer	Policer by DSCP does not match if packet have the ECN bit with value different from 0.	146120	All
QoS - Policer	The ingress Policer matching filters do not consider possible packet modifications due to ACLs rules.	-	DM4050, DM4250
QoS - Policer	ARP Request packets can be dropped by the Ingress Policers.	-	DM4050, DM4250
QoS - Policer	Drop counters in egress stage policers are not supported in DM461x platforms.	-	DM461x
QoS - Policer	Packets discarded by egress policers are not incremented in user-defined egress counters in DM461x platform.	-	DM461x
QoS - Policer	Egress Policer does not limit the packets by VLAN on an untagged interfaces.	-	DM4270, DM4380, DM4775
QoS - Scheduler	The weights configured in a QoS Scheduler are not respected with average flow lower than 129 Bytes.	-	DM4050, DM4250
PBR	It does not support PBR with ECMP.	138443	All
PBR	It does not support Policy Based Routing (PBR).	-	DM4360, DM4370, DM4611, DM4612, DM4618
Ping	Ping does not for work for local address destination when it is specified a source interface.	105307	All
Ping	The IP address specified by the source interface parameter in the ping command is not respected when in VRFs.	120791	All
Ping	Ping does not for work for IPv6 local address destination in VRF.	152836	All

Feature	Description	ID	Affected Platforms
Ping	When a VRF interface is specified as a ping source, the IP address used as the source of the packet it not necessarily the address of the interface. The source interface will only specify in which VRF the ping will be executed.	-	All
Ping	In an equipment with VRF leaking and redistribute BGP in OSPF, it is not possible ping directly connected addresses.	123157	All
Ping	Inactive L3 interface continues to respond to ICMP echo request (ping) packets.	161120	All
Ping	In some situations the error <i>Failed to load BPF prog: 'Operation not permitted'</i> may occur in Ping IPv6 in VRF, after this error Ping does not work anymore, being necessary restart the equipment.	168676	All
Radius	RADIUS authentication for IPv6 management is not supported.	F1618	All
RDM	After removing the RDM configuration from a slave equipment that had already established connection with a master RDM, show commands will keep displaying RDM informations that are not in the configuration anymore.	126618	All
RSVP	Tunnel establishment is supported only in the same OSPF area (intraarea).	-	All
RSVP	Tunnels may not go up if the equipment has more than one area configured in the equipment. To solve it is necessary to remove the excess areas and restart the OSPF process using the command <i>clear ospf process</i> <pre><pre>process_id></pre>.</pre>	160143	All
RSVP	Slow convergence of LSPs if the equipment that has RSVP configured does not changed link to down due link down was not propagated. This behavior can occur if the L3 interface has more than one interface on the same vlan, in scenarios with technology that does not propagate the physical link down or are not configured for this.	F2002	All
RSVP	Tunnel in headend may not work if OSPF router-id was changed in tailend. Workaround is run <i>clear ospf process</i> command in the tailend equipment.	154174	All
RSVP	Fast Reroute and bandwidth reservation are not supported.	-	All
RSVP	L2VPN configured with a tunnel that is destined for the wrong equipment causes L2VPN stays UP, but the data will be forwarded to the wrong equipment.	149350	All

Feature	Description	ID	Affected Platforms
RSVP	Poor performance in <i>show mpls traffic-eng tunnels brief</i> command when equipment have many RSVP LSPs.	F1899	All
RSVP	Timeout in <i>show mpls traffic-eng tunnels id</i> <i>name</i> command when equipment have many RSVP LSPs.	171842	All
RSVP	show mpls traffic-eng tunnels brief command does not show all RSVP LSPs if pagination is enabled.	155125	All
RSVP	MTU configuration in L3 interfaces <i>ip-mtu</i> does not reflect in the RSVP protocol.	163335	All
RSVP	It is not supported MTU configuration in tunnel interface, so it is used 1500 Bytes fixed.	-	All
RSVP	RSVP interface tunnel MTU does not used in L2VPNs.	164084	All
RSVP	It does not support RSVP.	-	DM461x
SCP - Passwords	When the password has special characters, you must enter the password in single quotation marks (") or use the wizard mode (enter the command without entering the password parameter so it will be prompted and then no quotation marks are needed).	-	All
Sensors	Possibility of error log from sensors of equipment.	117219	All
SNMP	When configuring a L3 interface in VRF with <i>snmp agent listen</i> , it is possible wich is allowed SNMP get using the looback IP address if is configured in the same VRF of L3 interface.	-	All
SNMP	When configuring SNMP agent listen with loopback interface, the reply will be done with the loopback IP address and does not with the L3 interface IP address on which packet was sent.	-	All
SNMP	To get SNMP objects using IP address in VRFs it is necessary configure the <i>snmp agent listen interface</i> . If is not configured, the equipment will be reply using the global routing table if exists route in this table.	-	All
SNMP	If SNMP agent listen was configured in a L3/loopback interface and the IP/VRF configuration of this interface was changed, the SNMP get would not work. To workaround this issue it is necessary configure the interface before adding interface in SNMP agent listen.	125267	All
SNMP	The first index of the MIB object ENTITY-MIB::entPhysicalSerialNum does not return the equipment serial number.	137978	All

Feature	Description	ID	Affected Platforms
SNMP	The data type cpuCoreCoreId in MIB DMOS-SYSMON-MIB is incorrect causing Unexpected index type: 7 cpuCoreCoreId <core_id> error in Zabbix logs. The workaround is changing the cpuCoreCoreId from Unsigned8 to Unsigned32 in the DMOS-SYSMON-MIB file.</core_id>	168468	All
SNMP	The eapsDomainName object of the MIB DMOS-EAPS is only created when configured causing failure in EAPS domain information of prototypes used in templates in Zabbix. To workaround configure eaps <eaps_id> name on all configured EAPS instances.</eaps_id>	170864	All
SNMP	It is not possible configure the <i>snmp vacm access</i> with global VRF via DmView.	151642	All
SNMP	sysUpTime object counter is reset if SNMP agent is restarted.	161873	All
SNMP	ifNumber object counter does not consider Link Aggregation (LAG) interfaces, if user has LAG configured the returned value is incorrect.	157931	All
SNMP	ifAlias for GPON interface is only created after configuring a description on the GPON interface.	168099	DM461x
SNMP	Dying Gasp SNMP traps are not sent for SNMP targets associated to mgmt VRF or user VRFs.	US90189 US90190	DM4360, DM4370
SNMP	ENTITY-MIB returns triplicate slot informations.	146733	DM4610- HW2, DM4615
SNTP	Packet from SNTP SNTP server version 4 or earlier are discarded.	124339	All
SSH	It's possible ocurrs Error: application timeout message when to try generate SSH key. On retry the problem will not occur.	-	All
SSH	It is not possible connect by SSH from Cisco using old IOS version to DmOS even though DmOS has enabled legacy mode in SSH server.	-	All
Static Route	Static route next-hop is changed to default gateway if link has down or L3 interface is removed.	155978	All
Static Route	Static routes use administrative distance (AD) instead metric.	161961	All
Static Route	IPv6 static route does not work after recreating associated L3 interface.	151481	All
Switching	There is no support to TPID configuration.	-	All
Switching	The user cannot configure tagged or untagged members in VLAN ranges in a one-line CLI command.	-	All

Feature	Description	ID	Affected Platforms
Switching	Take a long time to do show, commit, save and netconf of large amount of VLAN.	-	All
Switching	It does not support in-Band management with a VLAN used in vlantranslate without having QinQ enabled in the interface.	-	DM4270
Switching	Double tagged packets do not add VLAN tag using VLAN mapping if QinQ is not enabled in interface.	-	DM4270, DM4380, DM4770
Switching	It does not support VLAN mapping.	-	DM4611, DM4612, DM4618
Switching	It does not support STP, EAPS and ERPS.	-	DM4618
Syslog	Possibility of coredumps when performing load override command for load some specific configuration.	117306	All
Syslog	Modification in L3 interfaces used for reaching the syslog server may cause the syslog server not to work. As a workaround, it is needed to remove the syslog configuration, commit it and configured it again.	127781	All
System	Load override configuration with RSVP explicit path makes commit impossible even if the difference between the current and candidate configuration has nothing to do with RSVP.	168158	All
System	Although the option appears in the CLI, is not supported utilities after the pipe in debug commands.	134410	All
System	IPv6 ICMP packets from L2 transport circuits are copied to the CPU if the L3 interface has VLAN associated even if does not have IPv4 or IPv6 addresses configured on these interfaces. In order for these packets to stop being copied, it is necessary to remove the affected L3 interfaces from the equipment.	144914	All
System	PSU 200 DC does not have temperature sensors.	_	All
System	RARP packets do not update the host-table causing the convergence of the VMs from software using RARP such as VMware take longer. This longer time is due to the need for a VM ARP to be the trigger for host resolution.	-	DM4618

Feature	Description	ID	Affected Platforms
System	The FPGA update if needs in a DmOS version will only be completed after the equipment is restarted due to power failure or removal and insertion of the power cord. Even if the update has not been completed, there will be no problem in the operation of the equipment.	-	DM4360, DM4370
System	It does not support CPU DoS Protect rate limit configuration.	-	DM4050, DM4250, DM4618
System	In scenarios with a high number of ONUs the CPU can get high usage generating alarm.	148808	DM4610 HW2, DM4611, DM4612, DM4618
System	The hostname size will be limited in less than 63 characters when the equipment has DHCP Relay L2 enabled and use hostname in circuit-id format.	-	DM461x
System	Inserting the line card after the equipment is booted will cause it to be in the blocked state and shows CARD_UNINITIALIZED alarm. In order for it to become operational it will be necessary to restart the DM4618. The status of the platform and line card can be checked through the command <i>show platform</i> .	-	DM4618
System	Line card removal after equipment boot causes alarm OLT_ADAPT_FAILURE, it can also impact services running on the mainboard, for this reason it is recommended to restart the equipment after removing the line card.	166666	DM4618
System	The deprovisioning of the line card causes a failure in the SNMP get objects of IF-MIB, for this reason it is recommended to reboot the equipment after deprovisioning.	164431	DM4618
System	There are no logs about line card hardware failure.	-	DM4618
TACACS+	TACACS+ authentication for IPv6 management is not supported.	F1620	All
TACACS+	Command with more than 243 characters are not sent to the accounting server.	111614	All
TACACS+	Commands may not be registered in the accounting server when the command is executed and the user immediatelly logs out.	-	All

Feature	Description	ID	Affected Platforms
TACACS+	ERROR message generated in log when applying configuration of Banner using the multiline mode.	111616	All
TACACS+	Commanded reject by TACACS+ server are being registered in the accounting log.	122945	All
Traceroute	Equipment does not show in the traceroute path if does not exist prefix installed in route table.	162090	All
Transceivers	Order of tranceivers is not displayed in ascending order on command show interface transceivers .	99257	All
Transceivers	Only are supported 100 Mbps optical transceivers in forced mode and only in GX interfaces.	-	All
Transceivers	Log of link UP is generated whenever an SFP Copper is inserted even without physical cable.	94344	All
Transceivers	Transceiver inventory informations are shown duplicated in DmView.	126537	All
Transceivers	Electrical transceiver negotiated in half-duplex shows full-duplex in DmOS.	US93493	All
Transceivers	When enabling negotiation in 10 Gbps interface the link will transition from UP to DOWN and then returning to UP, remaining stable.	116953	DM4050, DM4250
Transceivers	Removal of a SFP and insertion of another one in an interface may not be identified if it is performed in less than 3 seconds.	109496	DM4170
Transceivers	The GX interfaces of DM4610 platform do not support Copper SFPs at speeds of 10 and 100 Mbps. Some models of Copper SFPs can operate at speeds of 1 Gbps, but are not homologated by Datacom.	-	DM461x
Transceivers	The 10 Gbps interfaces do not support autonegotiation.	-	DM4270 48XS
Transceivers	The 25 Gbps interfaces do not support autonegotiation.	-	DM4770 16CX, DM4618
Transceivers	The 100 Gbps interfaces do not support autonegotiation.	-	DM4618
TWAMP	It takes time to run showm oam twamp command.	135553	All
TWAMP	It does not support TWAMP.	-	DM461x
VRF	It does not support VRF.	-	DM4050, DM461x

Feature	Description	ID	Affected Platforms
xSTP	RSTP does not work if dot1q is not configured.	88154	All
xSTP	The cost of STP on interfaces by default is 20000 regardless of the interface speed, making the paths chosen by STP links with lower speed. As a workaround it is possible to change the cost in the interfaces manually as desired.	154927	All
xSTP	There is no support to BPDU options like: BPDU Guard and BPDU Filter.	F1131	All
xSTP	STP does not work with EAPS configured in the same interface.	-	All
xSTP	BPDUs are processed and discarded in the CPU instead of being discarded in the chipset, this can generate an overload on the equipment's CPU if a significant amount of BPDUs is received.	132238	All

DmOS - Release Notes 5 Document Versions

5 Document Versions

The following table lists all documents for DmOS products. Datacom do not recommend the usage of previous versions.

5.1 Software Platform

Document	Version
DmOS - Troubleshooting Guide	204.4293.26
DmOS - Quick Configuration Guide	204.4292.34
DmOS - Command Reference	204.4284.42
DmOS - Datasheet	134.4918.23

5.2 Hardware Platform

Document	Version
DM4050 - Installation Guide	204.4317.03
DM4170 - Installation Guide	204.4308.05
DM4250 - Installation Guide	204.4312.01
DM4270 - Installation Guide	204.4331.07
DM4360 - Installation Guide	204.4337.01
DM4370 - Installation Guide	204.4314.02
DM4380 - Installation Guide	204.4336.00
DM4610 - Installation Guide	204.4291.04
DM4611 - Installation Guide	204.4349.01
DM4612 - Installation Guide	204.4350.01
DM4615 - Installation Guide	204.4323.03
DM4618 - Installation Guide	204.4351.00
DM4770 - Installation Guide	204.4339.10
DM4775 - Installation Guide (Portuguese only)	204.0337.00

DmOS - Release Notes Legal Note

Legal Note

In spite the fact that all the precautions were taken in development of the present document, DATACOM shall not be held responsible for eventual errors or omissions as well as no obligation is assumed due to damages resulting from the use of the information included in this guide. The specifications provided in this manual shall be subject to changes with no prior

notification and are not acknowledged as any type of contract.

© 2023 DATACOM - All rights reserved.

Warranty

DATACOM's products are covered by a warranty against manufacturing defects during a minimum period of 12 (twelve)

months including the legal term of 90 days, as from the date of issue of the supply Nota Fiscal (Invoice).

Our warranty is standard counter warranty, this means, for exercise of the warranty, the customer should send the product to DATACOM Authorized Technical Assistance with paid freight. The return freight of the equipment will be DATACOM

responsibility.

To obtain additional information, see our warranty policy in https://www.datacom.com.br/en.

Telephone Number: +55 51 3933-3094