

Westermo

GRQ Software Release Notes Merlin3100 Series Release GRQ-25.04.78.000

Hardware Models	Merlin3100
Revision	1.00.06
Approval status	Approved
Date:	14 July 2025
Brief description	Details the release of system software GRQ-25.04.78.000 for Merlin3100 series

1	Revision history	3
2	Release statement	3
2.1	Firmware information	3
2.2	Hardware platforms.....	3
3	Mobile module support	3
3.1	5G	3
3.2	LTE	4
3.3	LTE-450.....	4
4	Security fixes.....	4
5	Security vulnerabilities	5
6	New features	5
7	Deprecated features	6
8	Known issues.....	6
9	Problems resolved	7
10	Appendix 1: New features history.....	8
10.1	Release 25.04.72.000.....	8
10.2	Release 25.04.57.001.....	10
10.3	Release 25.04.57.000.....	10
10.4	Release 25.04.51.000.....	10
10.5	Release 25.04.50.000.....	11
10.6	Release 25.04.29.000.....	12
10.7	Release 25.04.19.000.....	12
10.8	Release 25.03.43.011.....	16
10.9	Release 25.03.43.005.....	16
11	Appendix 2: Problems resolved history.....	18
11.1	Release 25.04.72.000.....	18
11.2	Release 25.04.57.001.....	20
11.3	Release 25.04.57.000.....	20
11.4	Release 25.04.51.000.....	21
11.5	Release 25.04.50.000.....	21
11.6	Release 25.04.29.000.....	23
11.7	Release 25.04.19.000.....	23
11.8	Release 25.03.43.011.....	26
11.9	Release 25.03.43.005.....	27

1 Revision history

Date	Revision	Description
30 October 2024	1.00.00	Release notes for GRQ-25.04.29.000
27 January 2025	1.00.01	Release notes for GRQ-25.04.50.000
31 January 2025	1.00.02	Release notes for GRQ-25.04.51.000
19 March 2025	1.00.03	Release notes for GRQ-25.04.57.000
23 April 2025	1.00.04	Release notes for GRQ-25.04.57.001
17 June 2025	1.00.05	Release notes for GRQ-25.04.72.000
14 July 2025	1.00.06	Release notes for GRQ-25.04.78.000

2 Release statement

GRQ-25.04.78.000 has formally passed internal acceptance and regression testing and is available for general release on hardware platforms as stated below.

2.1 Firmware information

Filename	Size (bytes)	Build Date	Checksum (md5)
GRQ-25.04.78.000.k03.image	18,579,456	14/07/2025	a3df27e707a51b6a666dbcf5c4c505e

2.2 Hardware platforms

Hardware model	Details
Merlin3100	Dual SIM 5G/LTE/LTE450, 2xGigE Ethernet interface, TPM and secure boot.

3 Mobile module support

3.1 5G

Firmware	Code	Module	3G	LTE	5G
25.04.50.000	PFO	Quectel RM520N-GL	1,2,4,5,8,19	LTE-FDD: 1,2,3,4,5,7,8,12,13,14,18,19,20,25,26,28,2,9,30,32, 66,71 LTE-TDD: 34,38,39,40,41,42,43,48	1,2,3,5,7,8,12,13,14,18,20,25,26,28,29,30,38,40,41,48,66,70,71,75,76, 77, 78,79

3.2 LTE

Firmware	Code	Module	Cat	2G	3G	LTE
25.04.29.000	QFX	SIMCOM SIM7070E	M	850/900/ 1800/1900	-	1,2,3,4,5,8,12,13,14,18,19,20,25,26, 27,28,31,66,72,85,
	QFR	Quectel EG25G	4	-	1,2,4,5,6,8,19	1,2,3,4,5,7,8,12,13,18,19,20,26,28,38,39,40,41

3.3 LTE-450

Firmware	Code	Module	Cat	2G	3G	LTE
25.04.57.001	PFN	Unitac ML620DE	4	-	-	LTE:FDD: 3,7,20,72
	PFT	Unitac ML620RU	4	-	-	LTE:FDD: 3,7,20,31 LTE-TDD: 40
	PFM	Unitac ML660PC	4	-	-	LTE:FDD: 3,20,87

4 Security fixes

Firmware	Module	Description	Severity	Mantis
25.04.50.000	luci	Added Security-Policy-Header (CSP) to prevent clickjacking	Low	8087
	pam_tacplu s	Avoid potential freeing of non-address Fixes CVE-2020-27743 and CVE-2016-20014	Medium	8002
25.04.29.000	openVPN	Updated to version 2.5.11 Fixes CVE-2022-0547	Low	6238
25.04.19.000	dnsmasq	Updated to version 2.90 Fixes CVE-2023-28450 and CVE-2022-0934	Medium	7796
	dropbear	Updated to 2022.85	Medium	7560
	frr	Fix CVE-2024-44070. FRRouting (FRR) does not check the actual remaining stream length before taking the TLV value.	Medium	7858
	jquery	Updated to version 3.7.1	Medium	7914
	net-snmpd	Updated to version 5.9.4 Fixes CVE-2022-44793; CVE-2020-15861; CVE-2020-15862; CVE-2019-20892; CVE-2015-8100; CVE-2018-18065; CVE-2018-18066; CVE-2014-2285	Medium	7306
	password	New HMAC password hashing algorithm which uses the HMAC functionality in the TPM as a means of hashing passwords (IEC62443-4-2)	Low	7155

	PPP	Updated to version 2.5.0	Low	4179
	System	Delete sensitive information from RAM and generate syslog message after use by luci, uhttpd, PAM, openVPN and strongswan (IEC62443-4-2)..	-	7164 7166 7167
		Perform image digital signature verification in virtual memory prior to loading to flash when using to Web UI and Activator.	Low	6721
	uhttpd	Support TLS v1.3 (IEC62443-4-2).	-	6854
25.03.43.005	console	Automatically log out console sessions after 30 mins if inactivity	Low	6884

5 Security vulnerabilities

Module	Short Description	Severity	Mantis
bgpd	Vulnerabilities affecting current version of bgpd CVE-2016-1245	Low	5808
frr	Vulnerability affecting current version of frr CVE-2024-27913	Low	8204
openssl	Vulnerabilities affecting current version of openssl CVE-2022-1292, CVE-2022-2097, CVE-2022-4304, CVE-2022-4450, CVE-2023-0215, CVE-2023-0286, CVE-2023-0464, CVE-2023-0465, CVE-2023-0466, CVE-2023-2650, CVE-2023-3817, CVE-2023-4807, CVE-2023-5678	Medium	7301

6 New features

802.1x				
Port based 802.1x	New option to specify bridge ports where 802.1x is only required on selected ports			8234
	Package	Section	Options	
	ieee8021x	authenticator	ports	
Scada				
IEC104S ActTerm	Added ability to skip waiting for <code>ACTTERM</code> message as some clients and servers do not support it			8624
	Package	Section	Options	
	iecd	port	iec104_no_tx_act_term; iec104m_nowait_act_term	
Web UI				
Certificate Management	New web UI page added for management of certificates and keys web: security->certificates			8464

7 Deprecated features

Firmware	Package	Description	Mantis
25.04.78.000	OpenVPN	Removed <code>openvpn_recipies</code> package	8504
25.04.72.000	mobile	Removed support for downloading a factory config via a SIM card	8373
	zabbix	Removed Zabbix agent	8469
25.04.57.000	network	Mobile operator lock <code>option opformat</code> deprecated. Operator locking (<code>option operator</code>) now only uses PLMN ID.	8254
25.04.50.000	Web/IECD	Removed serial baud rates below 1200 from web UI configuration pages. These values are available via Modbus #1 Serial Speed	8000
25.04.19.000	mobile	Deprecated PPP mode for Quectel and Sierra Wireless modules	7337 7517
		Deprecated Quectel EC20 mobile module support	7337
	strongswan	<code>strongswan.connection.authby</code> deprecated. Now supported by new options <code>localauth</code> ; <code>localauth2</code> ; <code>remoteauth</code> ; <code>remoteauth2</code>	6294

8 Known issues

Module	Short Description	Mantis
DHCP Server	DHCP server won't assign an address when client moved from one port to another without restart of <code>dnsmasq</code>	8532
GPS	No GPS support for SIMCOM7070	
IECD/DNP3	DNP3 link uptime not showing correct uptime	8417
	Group 20 counters not included in General Interrogation for DNP3M to IEC104S conversion	8517
	IEC104S sends incorrect float values in spontaneous for G40 V4	8527
IECD/IEC61850	Incomplete Parsing of Data and Command Points for 30 61850M Links	8570
Mobile	Do not display RSSI in mobile stats for 5G mobile modules	7060
OSPF	When the remote connection (from a remote OSPF peer) is dropped, OSPF crashes intermittently.	5677
SCEP	Syslog does show a misconfigured DN in SCEP	8485
Strongswan	Strongswan memory footprint increases slowly with tunnel restart	5866
Syslog	No web UI support for syslog filter rules	3705
System	Misleading diagnostic message 'failed to kill...for device portWAN' generated on network restart or <code>ifup</code>	7817

TPM	When uhttpd certificate is erased a new one is not automatically generated when the key is stored in the TPM	8284
Web	Unable to load .P12 or .PXF certificate files via the web UI	8519
	Web intermittently failing to load when WeConnect is active	7808
Web/IPsec	Unable to configure <code>strongswan.connection.disable_mobike</code> , <code>strongswan.connection.mobike_send_additional_self</code> or <code>strongswan.connection.disable_natt</code> via web UI	5437
Web/Management Users	Unable to configure management users via web UI	5503
Web/SCADA	DNP3 link connection status displays incorrectly state in web UI	8416
	Merlin3100 presents configuration in web UI for SCADA features not supported on this hardware model	8419
	Pop up warning to prompt configuration change on IECD sub pages showing even though no changes made	8587
	IEC61850M link loading issue when SCL file is uploaded	8558

9 Problems resolved

Module	Short Description	Mantis
Cwatch	Fix <code>icmp_attempts</code> operation when configured for 1 or 2 packets to be sent during connectivity test (broken in 25.04.72.000)	8609
Ethernet	Fix manual <code>ifup</code> on non auto Ethernet and SFP interfaces	8507
Firewall	Optimise local IP checking using cache	8307
IECD	Improve IECD launch speed when using a large number of data points	8608
IECD/DNP3	Fix incorrect reporting of DNP3S link status	8620
IECD/IEC104	Added Command Type ID validation to configured cmdpoint type id for IEC104 Server	8579
	Improvements for IEC104 Server transmission queue for optimal upload performance.	8625
IECD/IEC61850	Fix IEC61850M Read Instant Value option operation. <code>iec61850m_readinst</code> option moved from <code>61850m</code> config section to global config section so it is applied to all points during SCL import	8574
IECD/Modbus	Fix incorrect reporting of point online (quality status)	8619
LLDP	Fix LLDP description delivery to peer	8627
	Fix LLDP neighbour establishment	8595
Mobile	Fix 5G performance on Merlin3100 series	8632
Multiwan	Fix multiwan pre-empt functionality (broken in 25.04.35.000)	8575
System	Ensure <code>/etc/rollback</code> directory is automatically created and fix rollback from active update to altconfig target	8621
	Improve firmware validation to cover both kernel and main image before flashing to altimage	2882
Web/Connection Watch	Ensure ICMP jitter options are only present on web UI when method <code>icmp</code> is selected	6973
Web/IPSec	Fix crash when accessing Authentication tab on web UI	8582

Web/Multiwan	Fix multiwan configuration using web UI when <code>main</code> configuration section is missing in config	8569
Web/Power Monitor	Fix web UI default value for power monitor enabled field	8633
Web/Rollback	Fix rollback configuration through web UI when no options exist in configuration	8621

10 Appendix 1: New features history

10.1 Release 25.04.72.000

Cwatch				
Jitter and latency detection	Support new options to specify maximum permitted jitter and latency			8095
	Package	Section	Options	
	cwatch	watch	icmp_max_jitter; icmp_max_latency; icmp_max_average_latency	
Ping interval configuration	Support configuration of cwatch ping interval. Previously hardcoded to 10 seconds.			7350
	Package	Section	Options	
	cwatch	watch	icmp_interval	
Dropbear				
SSH algorithm configuration	Support configuration of cipher, host key and key exchange algorithms for SSH connections			8344
	Package	Section	Options	
	dropbear	dropbear	cipher; sign_algo; kex_algo	
HTTP Client				
SSL cipher configuration	Added support for configuration of supported SSL ciphers			8367
	Package	Section	Options	
	httpclient	core	TLS13Cipher; LegacyCiphers	
OpenVPN				
Two factor authentication	Added support for 2FA for OpenVPN using PAM module. New server-side authentication of client provided username and password against local PAM.			8098
	Package	Section	Options	8543
	openvpn	openvpn	pamauth_enabled	
	system	pam_auth	pamservice 'openvpn'	
Routing				
PIM Multicast	PIM multicast support is now available via the FRR module			8362
Scada				

DNP3 Multidrop	DNP3 master now supports communication with two RTU over a single serial link. All existing DNP3 master options now have <u>_link2_ options</u>			8313
	Package	Section	Options	
	iecd	port	dnp3_num_links; dnp3_transport_protocol 'multidrop'; dnp3_link2_transport_protocol 'multidrop'	
IEC61850 extended RTU support	Added support for up to 30 local RTUs for IEC104 to IEC61850 protocol conversion			8353
SNMP				
VA-MULIT-IO MIB	SNMP support for digital IO's using VA-MULTI-IO MIB			6478
Strongswan				
XAUTH-PAM authentication	Support xauth-pam authentication. A responder-side authentication variant for ikev1 where credentials are accepted via XAuth and checked against PAM			8420
	Package	Section	Options	8543
	strongswan	connection	remoteauth 'xauth-pam'; remoteauth2 'xauth-pam'	
	system	pam_auth	pamservice 'ipsec'	
System				
CPU temperature	Added support to show CPU temperature <code>cli: showtemp</code>			6478
TPM				
ECC key generation	Added support for generation of ECC keys in TPM			8415
RSA key generation (4096 bit)	Added support for 4096 bit RSA keypair generation for TPM			8493
Web UI				
Connection Watch	Individual tabs for each connection watch configuration and new cwatch status page added to web UI <code>web: Status->Connection Watch</code>			6973
GNSS	Automatically refresh GPS satellite information every 5 seconds			8537
Multiwan	Individual tabs for each Multiwan interface. Configured interfaces now presented as selection rather than text			8435
PPPoE interface	Support configuration of multiple PPPoE interfaces on the same Ethernet link			4287
SCADA/DNP3S	Enhancements to DNP3S point group ID selector configuration			8514
User-Defined Scripts	Individual tabs for each UDS and new UDS overview page			8361

10.2 Release 25.04.57.001

No new features			
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10.3 Release 25.04.57.000

Network			
Multi Path Routes	Support for Equal Cost Multi Path (ECMP) feature. Route has a single target but multiple gateway/interface pairs to route over.		
	Package	Section	Options
	network	mp_route	paths; target, netmask, metric, mtu, mark
		mpath	interface; gateway, weight
NTP			
NTP min/max poll interval	Allow configuration of minpoll and maxpoll interval using existing NTP interval hours option (space separated parameters)		
	Package	Section	Options
	system	timeserver	interval_hours
Scada			
Automatic IEC104 point configuration	Support automatic IEC104 point configuration after IEC61850 SCL file import		
VRTU data types	Support VRTU data types and periodic auto updating per point		
	Package	Section	Options
	iecd	point	virtu_value_type; virtu_value_init; virtu_periodic_value_change
System			
Firmware and configuration rollback	Support automatic rollback of firmware or configuration if router fails to reconnect to Activator after firmware or configuration update using Activation or Active Update. Feature enabled by default.		
	Package	Section	Options
	rollback	core	enabled; timer

10.4 Release 25.04.51.000

System			
Merlin3100 Secure Boot	Support hardware secure boot for Merlin3100		

10.5 Release 25.04.50.000

Event System						
Event System firewall discard	VA Event System now supports firewall discard event					7769
	Class	Id	Name	Severity	Event Template	
	Firewall	2	DiscardZone	warning	Rule %{p1} triggered: %{p6} from %{p4}:%{p7}(%{p2}) to %{p5}:%{p8}(%{p3})	
Firewall						
Firewall discard event forwarding	New option to support raising an event for rejected/dropped traffic in a firewall zone for onward forwarding to an event system target (snmp, syslog, etc)					7769
	The packet/event rate will be limited to 10/min by default. Use the log_limit option to change the default packet rate limit if required.					
	Package		Section	Options		
	firewall		zone	discard_event		
Monitor						
EID Inventory	Support for inventory collection of SIM EID information					8030
Password Scrambling						
Monitor SNMP v3 passwords	Monitor SNMP v3 password options now added to the set of passwords fields that can be scrambled					8090
	Package		Section	Options		
	monitor		keepalive	snmp_auth_pass; snmp_priv_pass		
PPP						
BCP support	Added support for Bridge Control Protocol for bridging Ethernet packets through a PPP link. Supported for PPP and L2TP protocols.					7935
	Package		Section	Options		
	network		interface	bcp; maclocal		
Scada						
DNP3 G10 and G41	Support conversion from DNP3 Binary Output Command G10 and G41 to IEC60870-5-101					8100
	Package		Section	Options		
	iecd		point	iec101_qu		
IEC101 to IEC104 Fully Transparent mode	Support IEC104 to IEC101 transparent mode which allows any ASDU CA when ca configured in the link is zero. Also provides ability to replace IEC101 message TypeID with another configured TypeID before it is transmitted to IEC104.					8161
IEC104 Type ID 51 and 64	Support for IEC104 Slave to IEC104 Master Bitstring command conversion					8192
SNMP						
EID OID	SIM EID now supported in VA-MODEM-MIB					8029

VA-UCI-MIB alias ifNumber	Defines the Alias ifNumber for the uciIfTable (VA-UCI-MIB) for ensuring interfaces in the uciIfTable persistent across reboots and configuration changes.	8094						
	<table> <tr> <th>Package</th><th>Section</th><th>Options</th></tr> <tr> <td>network</td><td>interface</td><td>uci_alias_ifnumber</td></tr> </table>	Package	Section	Options	network	interface	uci_alias_ifnumber	
Package	Section	Options						
network	interface	uci_alias_ifnumber						
System								
GW1042 Lite	Support for GW1042 Lite variant with single SIM and no Wifi (machtype: MTATH001)	8117						
Merlin3100 watchdog	Support for external watchdog in Merlin3100 series	8186						

10.6Release 25.04.29.000

Mobile								
PRI display	Added PRI to mobile stats for Sierra Wireless modules cli: vam -a	7440						
SIM7070E diagnostic port	Added support for SIMCOM7070E diagnostic port	7979						
Scada								
Modbus TCP	Added TCP port number to route config <table> <tr> <th>Package</th><th>Section</th><th>Options</th></tr> <tr> <td>iecd</td><td>port</td><td>modbus_tcp_server_port</td></tr> </table>	Package	Section	Options	iecd	port	modbus_tcp_server_port	7977
Package	Section	Options						
iecd	port	modbus_tcp_server_port						
Optional DNP3 G40 status	Support optional reporting of DNP3 G40 analog output during integrity poll <table> <tr> <th>Package</th><th>Section</th><th>Options</th></tr> <tr> <td>iecd</td><td>port</td><td>dnp3s_g40_exclude_intpoll</td></tr> </table>	Package	Section	Options	iecd	port	dnp3s_g40_exclude_intpoll	7999
Package	Section	Options						
iecd	port	dnp3s_g40_exclude_intpoll						
System								
Unified debug script	Support debug tool which gives a consistent and user-friendly method of enabling debug on various applications. Currently supported for Mobile, IPsec and Multiwan cli: debug mobile on cli: debug ipsec on cli: debug multiwan on	4677						

10.7Release 25.04.19.000

Console								
Console disable	Support new option for disabling the console port <table> <tr> <th>Package</th><th>Section</th><th>Options</th></tr> <tr> <td>system</td><td>failsafe</td><td>console</td></tr> </table>	Package	Section	Options	system	failsafe	console	7802
Package	Section	Options						
system	failsafe	console						
Interface								
	Include physical ports with eth-X interfaces in interface status	7900						

Interface Status	Support wildcards on interface names to show all matches. cli: ifstatus eth0 (matches only eth0) cli: ifstatus eth* (matches all eth interfaces)			7440
Management Users				
User groups	Support new group configuration which contains a list of <code>allowed_pages</code> . A user can be assigned to multiple groups. This allows a user to be able to visit pages from their own <code>allowed_pages</code> as well as from any assigned groups			7158
	Package	Section	Options	
	management_user	user_group	groups_enabled; allowed_pages	
Mobile				
Airplane mode in backoff	Support new option to enter Airplane Mode during the interface back off period			7032
	Package	Section	Options	
	network	interface	airplane_mode_backoff	
LTE power saving mode	Support LTE PSM mode for SIMCom7070E mobile module			7841
	Package	Section	Options	
	mobile	mobile	sim1_enable_psm; sim2_enable_psm	
SMS security	Improvements to SMS queue processing and support new options for better control how SMS messages are handled			3976
	Package	Section	Options	
	mobile	mobile	sms_read_interval; sms_check_time; sms_past_margin; sms_future_margin	
SMS whitelisting	Support whitelisting commands allowed to be executable by SMS			6931
	Package	Section	Options	
	mobile	caller	allowed_commands	
Watchdog timeout behaviour	Support advanced configurable action [<code>log reset reboot</code>] to take when a watchdog timeout occurs for a mobile module. Currently only supported for QMI modules			5719
	Package	Section	Options	
	mobile	main	netdev_wd_action	
OpenVPN				
TPM support	Support OpenVPN keys in TPM. The existing key option should be configured to the TPM label for the OpenVPN key			7126
	Package	Section	Options	
	openvpn	openvpn	keytype; key '<TPM-label>'	
Multiwan				
Suppress static routes	New option to suppress all static routes for an interface when it transitions to failed state			7809
	Package	Section	Options	
	multiwan	interface	suppress_all_routes_on_fail	

Password Management				
Multi Factor Authentication	SSH and web UI now support Multi Factor Authentication using Google authenticator			
	Package	Section	Options	5339
	dropbear	dropbear	multi_factor_auth	7152
	luci	main	multi_factor_auth	7154
	system	pam_auth	type 'google'	
Password lifetime	Support password lifetime configuration for management users. Does not apply to root password			
	Package	Section	Options	7156
	management_user	user	max_passwd_age	
Password regex	Support configuring password regex rules. Applies to root password and management users password			
	Package	Section	Options	7194
	system	main	password_regex	
Password reuse	Support limiting password re-use of the last 10 management user passwords. Does not apply to root password			
PPP				
Adaptive LCP Echo	When enabled LCP echo will only be sent if no traffic is received on the interface. This avoids the situation where PPP is be terminated on a congested PPP link because LCP echos are not received in time			4179
	Package	Section	Options	
	network	interface	adaptive_keepalive	
RADIUS				
NAS-Identifier option	Support new configuration option for NAS-Identifier with support for %serial and %hostname option values			7347
	Package	Section	Options	
	system	pam_auth	radius_nasid	
SCEP				
TPM support	SCEP now supports key pair management in TPM			
	Package	Section	Options	7125
	strongswan	scep_cert	use_tpm; key_label	
SNMP				
Multiwan state OID	Added ifMultiwanState to VA-UCI-MIB			6915
Sim detection OID	Added SimIn to VA-MODEM-MIB			6915
SSH				
Limit concurrent users	Support new option for limiting concurrent authenticated user sessions (Mantis: 7160)			7160
	Package	Section	Options	
	dropbear	dropbear	MaxConnections	

Strongswan				
IKEv2 Multiple subnet support	Support multiple subnets for ikev2			6026
	Package	Section	Options	
	strongswan	connection	locallanextra; remotelanextra	
TPM support	Support strongswan keys in TPM. TPM keys are supported via the <code>token</code> secret type. In this case the value of the secret specifies the label of the key to use.			4460
	Package	Section	Options	
	strongswan	secret	secrettype 'token'; secret '<TPM-label>'	
VRF support	New option to bind an IPSec tunnel to a VRF. Note: this is only supported for IPv4 ESP tunnel mode.			4307
	Package	Section	Options	
	strongswan	general	vrf	
XAuth EAP support	Added support for xauth-eap and eap-radius authentication methods			6294
	Package	Section	Options	
	strongswan	connection	localauth; localauth2; remoteauth; remoteauth2	
		radius_server	enabled; address; secret; auth_port; acct_port	
System				
Busybox	Enable support for <code>who</code> command			6788
Change Log	Change log now records active image number and version on reboot			7728
Port mirroring	Support software port mirroring. All ingress and egress traffic on an interface can be mirrored to an alternate interface			7696
	Package	Section	Options	
	network	interface	mirrorto	
Syslog	New warning message generated to local and remote syslog when any entries stored locally are discarded due to log rotation (Mantis: 7162)			7162
TPM hashed password	Support new HMAC hashing algorithm for hardware with a TPM. This allows the user to use the HMAC functionality in the TPM as a means of hashing passwords. This is opposed to existing md5 or sha512 hashes and prevents a malicious actor from decrypting as the hashes now require the TPM hardware to be calculated			7155
	Package	Section	Options	
	system	system	password_hash_algo 'hmac'	
VA Events				

VA Event System now supports <code>ieee8021x</code> event class and events					
802.1x events	<u>Id</u>	<u>Name</u>	<u>Severity</u>	<u>Event Template</u>	6528
	1	IEEE8021xRestrictingIf	notice	IEEE8021x restricting on %{p1}	
	2	IEEE8021xAllowingAllonIf	notice	IEEE8021x allowing all on %{p1}	
	3	IEEE8021xAllowingMAConIf	notice	IEEE8021x allowing %{p1} on %{p2}	
	4	IEEE8021xBlockingMAConIf	notice	IEEE8021x blocking %{p1} on %{p2}	
Web UI					
Disable web UI	Added new option to disable web UI				7068
	<u>Package</u>	<u>Section</u>	<u>Options</u>		
	uhttpd	main	webui_enabled		
Limit concurrent users	Support new option for limiting concurrent user sessions				7161
	<u>Package</u>	<u>Section</u>	<u>Options</u>		
	luci	sauth	sessionlimit		
LTE band display	Show supported LTE bands for enable/disable via Web UI. <code>web: services->mobile manager->lte</code>				
Session control	Added utility to list and terminate web sessions (Mantis: 7159) <code>web: system->sessions</code> <code>cli: sessionctl</code>				7159
Web UI theme	New restructured web UI with navigation links on left side frame.				
WeConnect					
DCU VPN Concentrator Support	Added support for DCU VPN Concentrator to WeConnect				

10.8Release 25.03.43.011

No new features

10.9Release 25.03.43.005

Certificates	
Check both TPM and flash for certificate key	If the key cannot be found in the location specified in the configuration file, the router will automatically check an alternate location using the following methodology (Mantis: 6820).
	- When configured for PEM key and key cannot be found at the configured location, the router will try to use a TPM key with name corresponding to base file name (/etc/uhttpd.key -> "uhttpd"). - When configured for TPM key and key cannot be found in the TPM, the router will try to use file "/etc/<tpm label>.key"

Mobile

FOTA support for Unitac modules Support FOTA upgrade for Unitac modules

Neighbour cell information Added display of neighbouring cell information. Currently only supported on Unitac ML620/660 and Quectel EC200x series
cli: vam -n

Multiwan

Multiwan upper retry limit for roaming interfaces For 3G roaming connections, and connections with `retry_on_first_fail` enabled, to avoid getting stuck on one SIM, a new multiwan configuration parameter defines the maximum number of seconds to stay with an interface after its first failure before proceeding. (Mantis: 6975)

Package	Section	Options
multiwan	interface	retry_connection_max_sec (def: multiwan.interface.ifup_timeout_sec)

TPM

List TPM keys Support new diagnostic command to list TPM keys
cli: tpm-cli listkeys

11 Appendix 2: Problems resolved history

11.1 Release 25.04.72.000

Module	Short Description	Mantis
Cwatch	Use parallel ping when multiple <code>icmp_hosts</code> defined	7312
Dropbear	Fix dropbear intermittently failing to start on an interface	8502
	Pass default key file to Dropbear and skip loading all other keys to avoid auth warning messages in syslog	8174
Ethernet	Support <code>network.va_switch</code> config section on DSA platforms	8451
Firewall	Fix conntrack flushing	8341
GRE	Fix UDP VLAN to GRE routing scenario in Merlin3100 series	8340
IECD	Set Point configuration defaults after importing points from CSV file	8301
IECD/ IEC61580	Fix an issue in SCL parser - converting DPS point types	8535
	Added default config values for IEC61850 master settings	8351
	Fix errors in mapping of IEC61850 DPS to IEC104 double point	8483
	Fix incorrect handling of IEC61850 DPC data type by the IEC61850 client	8493
	Fix incorrect reading of APC value	8497
	Fix issue in handling Point Invalid bit when multiple IEC61850M sessions are connecting	8353
	Fix issues in IEC61850M SCL file parser when dealing with multiple Logical Nodes	8482
	Fixed reading IEC61850 analog inputs (instantaneous vs averaged values)	8293
	Set <code>iec104_sbo</code> parameter based on the parsed value of <code>ctrlmodel</code> of IEC61850M SCL file	8467
IECD/DNP3	Fix error in displaying DNP3 app status	8348
	Fixed incorrect link assignment when sending dual point cmd IEC104S to DNP3M	8390
	Fixed issue with DNP3 analog input scaler for IEC104 TIs 9,11	8347
	Fixed sending ACT CON and ACT TERM to Scada Master for IEC104 slave to DNP3 master protocol conversion	8348
IECD/Modbus	Fix incorrect conversion from Modbus DI or CO to IEC104 Slave DPI (Type ID 3)	8380
	Fix reporting of offline status on Modbus read errors - now Modbus read errors result in associated point coming offline	8529
	Fixed handling of online status bits in DNP3S to Modbus mode	8408
Management Users	Fix management user <code>allowed_pages</code> handling	8225
Mobile	Disable VoLTE on SIMCOM7600 mobile module to avoid establishing an IMS bearer in selected networks	8405
	Fix crash for Quectel modules when SIM2 in during boot and SIM1 inserted after boot	8529

	Generate error message and handling if no supported LTE bands have been detected on a mobile module	8370
Multiwan	Fix default route loosing gateway metric after recovery	8329
	Fix multiwan crash due to module separation	8435
	Ping failure not recorded when pings dropped due to iptables rules	8545
	Split multiwan route management, health check and state management into separate modules	8327
	Log multiwan shell commands at debug level	8332
Network	Remove IP address display if interface is down using <code>network_status</code> command	6763
OpenVPN	Fix support for multiple tunnels	8316
Strongswan	Fix strongswan crash caused by policy use-after-free when interface goes down on Merlin4700	7003
Syslog	Fix <code>misc nmea</code> kernel error messages in syslog	8533
System	Ensure <code>/etc/passwd</code> is updated when option <code>linuxuser</code> is set to no	8171
Web	Define link colour for dark mode	8099
	Do not show DLMSD or COSEM configuration if no serial interface present	8061
	Fix menu items when they don't fit the menu width	8546
Web/Administration	Fix TPM key upload via web UI	7874
Web/GPS	Replace GPS with GNSS	
Web/HTTP Server	Remove configuration options that are not required from web UI, fix default values and split configuration into tabs	8397
Web/IPSec	Fix IPSec status display for multiple child tunnels	8444
	Fix misleading preshared key ID selector label	8349
	IPsec status now displays multiple subnets for IKEv2	8352
Web/Mobile	Fix missing band selection in web UI for Hucom mobile module	8372
	Fix error on Mobile Manager page when using RFD mobile module - Hucom (WeTelecom) WPD-600N	8358
Web/SCADA	Added IEC61850 to RTU protocols list for IEC104 command point	8213
	Added missing DNP3 group3 point type to data point in the web UI	8330
	Added quality column and data point quality reporting to IECD status in web UI	8406
	Added reminder on web UI to save config when changes made on IECD pages	8052
	Description changed to reflect the fact that IEC61850 SCL file import only works with SCADA side protocol set to IEC104	8353
	Fix IEC104 W option description in IEC104_LINK. Was previously incorrectly labelled IEC104 K	8436
	Fix incorrect display of value for IEC104S to Modbus TI 9, 3 and HR DI	
Web/Status	Added mobile overview and routing table to web UI status overview page	6965

	Suppress link local IPv6 addresses in routing table overview	6965
Web/UDS	Support UDS gzip encoding configuration via web UI	8368

11.2 Release 25.04.57.001

Module	Short Description	Mantis
Failsafe	Fix auth error messages in syslog when console disabled using failsafe feature	8401

11.3 Release 25.04.57.000

Module	Short Description	Mantis
BCP	Fix BCP crash upon receipt of IPv6 frame	8116
Ethernet	Fix Ethernet ports failing to connect when switching from bridge to port separation on GW6650V series	8305
GPS	GPS error messaging improved by using error messages instead of error numbers	6660
IECD/ IEC104 Slave	Fixed issue with sending End of Initialization message in IEC104 slave	8233
	Fixed TCP connection drop on IEC104 clock sync processing	8211
Mobile	Fix bug introduced in 25.04.26.000 which prevented routers with Quectel modules establishing connection depending on certain operator checks	8247
	Fix issue with Telit CE910-SL CDMA module not establishing mobile link	8227
	Stop flushing conntrack table every time a mobile connection fails to reconnect	8277
Multiwan	Fix issue where default gateway is lost on route change	8282
PPP	Allow PPP interface to be up without IP address	8229
Strongswan	Fix conntrack flushing for strongswan on tunnel change	8249
TPM	Support 4096 bit RSA keys in TPM	8209
Watchdog	Decrease time on hardware watchdog timer first Linux reset from 15 seconds to 8 seconds to avoid watchdog boot loop on Merlin3100 series	8297
Web	Change 'Modem configuration' to 'Mobile Manager Configuration'	7310
	Fix formatting error messages in web UI	8255
Web/GPS	Add option to select mobile device required to use GPS	7943
Web/SCADA	Add debug options for IEC61850 to web UI	8215
	Fixed IECD application restarting correctly when Save & Apply button used and IEC61850 connection is active.	8214
Web/ Interfaces	Fix unable to select SIM1 or SIM2 from mobile interface SIM configuration option	8007
Web/Mobile	Mobile status information on the web now automatically refreshes every 5 seconds	8272

Web/SCADA	Add debug options for IEC61850 to web UI	8215
	Fixed IEC61850 application restarting correctly when Save & Apply button used and IEC61850 connection is active.	8214
Web/Strongswan	Elliptic curve Diffie-Hellman algorithms can now be configured via the web UI when using IKEv2	7730

11.4Release 25.04.51.000

Module	Short Description	Mantis
System	Fix kernel panic caused by <code>nss</code> drivers when using VLANs	8200
System	Small adjustment to reset watchdog timer during boot to allow for a slow boot cycle	8206

11.5Release 25.04.50.000

Module	Short Description	Mantis
Event System	Fix missing interface names in VA event messages generated by the firewall using the <code>recent</code> option.	8037
	Fix syslog message sending to multiple IP address	8046
Firewall	Fix broken protocol values (<code>igp</code> , <code>eigrp</code> , <code>ax.25</code> , <code>etherip</code> , <code>ipcomp</code> , <code>vrrp</code> , <code>l2tp</code> , <code>isi</code> , <code>sctp</code> , <code>fc</code>) used by firewall option <code>proto</code>	7906
	Truncate zone names > 12 chars to avoid breaking firewall	7791
GRE	Prevent starting GRE interface if parent interface is missing	8103
HTTP Client	Fix chunk size addition when reporting download status to Activator when using Chunky Downloads that could result in download failure	8023
IECD	Fix parsing of AI scaler when importing data points from CSV file	8199
	Improved data points CSV import feature	8191
IECD/DNP3	Fixed issues in applying scaler to negative MODBUS value for DNP3 to MODBUS protocol conversion	8207
IECD/Modbus	Support Modbus Slave to IEC104 Master command conversion for Set Point Float	8182
IECD/MQTT	Added support for Type ID 20 for IEC101 to MQTT protocol conversion	8135
	Fixed incorrect conversion of IEC101 double points to MQTT	8126
	Fixed issues with converting MQTT to IEC104 Master TypeIDs 9, 13, 48 and 50	8176
L2TP	Fix L2TP initialisation	8035
	Fix privileges which left PPP in a bad state	8071
Mobile	Correctly identify Unitac ML620DE and ML620EU modules in diagnostics. Previously both identified as ML620EU.	8166
	Fix incorrect detection of registration status while in GPRS mode	7945
	Fixes to ensure Unitac modules are initialised correctly	8093
	Only toggle the RF disable line when module is not present on the USB bus to avoid issues with correct phy detection. This fixes issues with SIM7070E starting on boot.	8114

	Power cycle the SIMCOM7070E modem if it starts in EDL mode	8014
	Reset SIMCOM module authentication details to avoid using stored credentials when username/password not explicitly set in configuration	8013
	Set minimum firmware software version for Quectel EM060 module to prevent rollback to unsupported firmware	8088
Monitor	Fix Monitor SSH access for SLA uploads	8175
PPP	Fix option <code>record</code> support	8022
Scada/ IEC61850	Fix description in the IEC61850 Slave side data point for DO field	8019
Scada/Modbus	Fix DNP3S to Modbus conversion issues for <code>select operate</code>	7999
Syslog	Fix bad values intermittently generated using firewall recent option	8055
	Only show error and assert messages for <code>nss ecm</code> events to avoid cluttering logs	8196
	Removed confusing MAC address entry	8201
System	Adjust watchdog timeout to avoid boot timing issues to allow fail over to alternate firmware when boot firmware is corrupted	8206
	Fix <code>NAND failure to read page</code> console message	8140
TPM	Fix active update when using keys in TPM	8185
	Improve messaging to users during key existence checks	7567
	Support TPM in Merlin3100	8034
VRRP	Fix VRRP transition when tracking mobile interface on Merlin series	8020
Web	Added Security-Policy-Header (CSP) to prevent clickjacking	8087
	Align reboot loading page with web UI theme	8036
	Ensure lines are visible underneath the login fields	8072
	Fix interface colours after firewall zone update	8056
	Fix pixelated background images	8072
	Fix web UI crash when option <code>ifname</code> is missing from an interface	8050
	Remove welcome message, hostname and logo from landing page	8072
Web/ Administration	Fix broken link on TPM cert upload page	8082
	Fix TPM key upload	7874
	Improvements to reboot scheduling	8125
	Upload TPM key button is now removed for non-TPM boards	8086
Web/Firewall	Ensure firewall zone names are no longer than 12 characters	7791
Web/GPS Status	Restore link to google maps	7403
Web/HTTP Server	Fix typo on web UI HTTP Server TPM Key Name	8079
Web/Interface	Align up/down indicator centrally	7988
	Fix network interface colours to reflect up/down status	6536
	Fix removal of dependent interfaces from configuration	8074
	Support default route and metric configuration on L2TP interfaces	8073
	Update interface pages to show firewall zones as colours	7988

11.6 Release 25.04.29.000

Module	Short Description	Mantis
Data Usage	Fix data usage bringing down interface when monthly usage limit reached	7759
GPS	Fix <code>gpspeek</code> location information	7980
Mobile	Corrected 5G technology codes so that they match with 3GPP 27.007 Release 16	7992
	Disable <code>va-mobile</code> and execute <code>AT+CFUN=0</code> before powering down SIMCOM7070 modem to avoid module not reinitialising on USB bus	7996
	Ensures signal strength and registration status information is refreshed as part of the check whether or not the radio module is registered with a PLMN and the signal strength is sufficient. Fixes connectivity issue when last reported signal strength was -113dBm or less.	7919
	Fix 5G SA mode on Quectel RM520N-GL mobile module	7975
Network	Fix link loss when changing from bridge to single port	7937
Roaming Manager	Ignore test operators in roaming scan	8001
Scada/Modbus	Fixed bug in converting MODBUS HR register reads to DNP3S points (G30 and G40) mapped to same HR index	7999
	Fix memory crash on GW1150 series under heavy load	4681
	Re-enable <code>nano</code> support on CPX firmware (disabled in CPX-25.04.19.000)	7998
	Suppress UCI error on <code>version -a</code> command if mobile module is not initialised	7984
Web/Real Time Graph	Only show UCI network interfaces on the Realtime Traffic screen	7946

11.7 Release 25.04.19.000

Module	Short Description	Mantis
802.1x	Fix 802.1x authentication	4290
		7464
	Fix 802.1x restart after <code>ifup</code> or cable unplug/plug	7530
Activator	Fix issue with multiple downloads from different services (active update, inventory, audit) running simultaneously	6321
Cwatch	Change Cwatch 'Interface does exist' message to NOTICE severity	7078
DHCP	Fix corrupted IA address when sending <code>OPTION_IA_N</code>	7424
Ethernet	Fix Ethernet ports intermittently reflecting incorrect state when bridging	7795
Event System	Correctly handle double quotes in event target <code>cmd_template</code> value	5736
	Fix <code>va_event</code> syslog messages showing with no space between date and serial number	7513
Firewall	Support <code>vrrp</code> as valid protocol option	7906

GRE	Validate configured keys are unique	6769
HTTP Client	Include all CPUs in interrupt count value in hdl request field <code>irq_cnt</code>	6228
Mobile	Added error messages for failed connection attempts for Quectel modules in Ethernet mode	7899
	Allow backslash '\' in username and password	7360
	Custom interface DNS now supported by Unitac modules	7192
	Ensure PDP context is deactivated before attempting to establish connection to avoid issue with connection attempt	7168
	Fix band selection for SIMCom7070E module	7833
	Fix EID detection when APDU contains the tag and length	7522
	Fix operator scan	7693
	Fix Quectel registration status poller	7484
	Fix Unitac module FOTA upgrade on GW6650V and Merlin4700	7761
	Fix <code>va_mobile</code> failing to start if LTE band list is empty	7495
	Fixed network status constantly changing textual description (LTE/LTE-M) for used radio technology	7340
	Fixes to ensure the manual network operator selection is executed in the right order	7797
	Improve behaviour on network down for QMI connections to ensure reconnection after network outage	6325
	Improve the handling of +CREG responses so that it also handles CREG mode 2	7880
	LTE band locking configuration option <code>simX_lte_bands</code> now supports space separated bands	
	Log a warning that GNSS is not supported for SIMCom7070E mobile module	7822
	<code>sendsms</code> command now handles '+' at the beginning of international numbers	
	Unitac modules now use <code>wwan0</code> interface rather than <code>eth0</code>	6899
Multiwan	Produce warning for interfaces that do not exist	7857
Network	Add interface name and state for aliases to <code>network_status</code>	6716
	Fix dependant interfaces starting correctly on a network restart	7598
	<code>ifup/ifdown</code> now correctly validate the UCI interface name before execution	6276
	Remove the minimum IPv6 fragment size check	7320
		7324
OpenVPN	Allow <code>tun</code> or <code>tap</code> setting to create interfaces correctly.	7114
	Don't create new <code>linux</code> and <code>uci</code> interface on openvpn restart	7735
	OpenVPN interfaces are no longer deleted on ifdown/network restart event	7871
PPPoE	Fix PPPoE interface on an Ethernet port not automatically starting on boot	7924

	When PPPoE link is on a VLAN, it is no longer necessary to configure a dummy UCI interface for the underlying device in order for the VLAN to be created	7924
SCEP	Fix certificate expiration date calculation	7572
	SCEP ATQ time now synchronised with NTP	7083
SNMP	Fix UCI MIB ifName truncation	6981
	SNMP <code>engineID</code> now has fixed value that persists through reboot	7355
		7358
Strongswan	General improvements to memory usage	
Syslog	Fix syslog to use local time instead of UTC	7240
System	Adds the ability to define a COMMENT environment variable when invoking any process for display by <code>ps</code> command	7020
	Fix minimum machtype firmware version checking	7717
		7722
		7714
	Fix misleading 'cannot find device' messages on network restart or <code>ifup</code>	7798
	Panic log now contains timestamp on crash events	5608
	Replace invalid spaces in hostnames with '-' at run time	7829
TACACS	Fix IPv6 support	6620
TPM	Fix error message when <code>tpm-cli flush</code> command is executed twice in a row	6010
VA Event System	Fix buffer overflow crash and add new internal warning event upon event buffer overflow	7176
		7163
VRRP	Allow multiple groups in <code>vrrp status</code> command	7246
Web	ADSL configuration options no longer displayed when not supported on the hardware	6919
	Fix issue socket closing before HTTP data is complete which can result in UI not displaying correctly	6738
		7752
	Fix reboot via web UI	7574
	Prevent capitalisation of configuration section names	7856
Web/ Interfaces	Ensure interface names are not automatically capitalized on the web UI	7678
	Remove PPTP protocol from available interface protocols	7354
Web/ Multiwan	Support <code>multiwan.interface.state_transition_hook</code> configuration via the web UI	5433
Web/ OpenVPN	Implement dependency between <code>local</code> and <code>nobind</code> option to avoid OpenVPN failing to start when both enabled in config	6819
Web/ WeConnect	Added support for DCU VPN Concentrator configuration options	
Web/802.1x	802.1x web UI enhancements; add file upload for certs and keys; Only display bridge interfaces as available 802.1x supplicant interfaces	6528
Web/Dynamic DNS	Restart DDNS when settings are changed from web UI	6491
Web/Firewall	Fix add and edit of firewall zones and rules via web UI	7573

	Support firewall rule chain option web: security->firewall->traffic rules cli: firewall.rule.chain	6898
Web/ Interfaces	Allow configuration of an MTU higher than 1500 bytes	7534
Web/Mobile	Added display of LTE bands supported by SIMCom7070E	7565
	Fix va_mobile restart on save & apply via web UI	7494
	Simplify mobile configuration using tabs via web UI	7707
Web/Mobile Manager	Show supported LTE bands for enable/disable via Web. web: services->mobile manager->lte	
Web/Realtime Graphs	Fix display of Realtime Graphs for mobile interfaces web: status->Realtime Graphs	7029
Web/Status	Only show hardware capable features	6966
	Only show multiwan status when enabled	6966
Web/System	Fix duplicate firewall package in configuration export	6904
	Support missing configuration options for SSH connection identity, verbose and VRF via web UI web: security->ssh->Identity cli: dropbear.dropbear.Identity web: security->ssh->Verbose cli: dropbear.dropbear.verbose web: security->ssh->VRF cli: dropbear.dropbear.VRF	6703
WeConnect	Add missing ripd and openvpn packages during provisioning	7687
		7688
	Fix auto generated RIP configuration to ensure WeConnect correctly connects in a Ethernet bridge scenario and also reestablishes on disconnect.	7427
		7539
		7591
	Fix duplicate interface creation on connect	7547
	Fix support for WeConnect	6793
		7218
	HTTPS support for DCU VPN Concentrator auto enrolment	6961
	Network status diagnostics now correctly show WeConnect interface IP address	7682
WiFi	Use serial number as base for WiFi interfaces	6256

11.8Release 25.03.43.011

Module	Short Description	Mantis
Certificates	Improve error reporting for common issues with HTTPS certificates	6987
Mobile	Added a module reboot after executing a factory reset of the Unitac module	
	Added an extra delay before issuing the AT command to switch the Unitac modules into ECM mode.	

	Ensure Unitac module comes back in ECM/VLAN mode after factory reset	
	Record Unitac AUX antenna values regardless of MIMO state	
	Use Unitac-specific AT commands <code>AT!UBAND</code> , <code>AT!UTEMP</code> and <code>AT!UREBOOT</code> instead of GCT commands	
TPM	Don't allow loading a new key if a key with the same label is already present	
Web/Event System	Support configuration of Event System Digital Input change event input number and value via web UI web: services->va event system->event filters->Input Number cli: va_eventd.forwarding.input_number web: services->va event system->event filters->Input Value cli: va_eventd.forwarding.value	6839
Web/OSPF	Support configuration of OSPF VRF via web UI web: network->ospf->global settings->VRF cli: ospfd.routing.vrf	6964
Web/Realtime Graphs	Fix web UI real time graphs for QMI mobile connections web: status->Realtime Graphs	7029

11.9Release 25.03.43.005

Module	Short Description	Mantis
Activator	Set model URL parameter to uimodel rather than machtype in updates to Activator	6761
CLI	Improve error message for <code>uci show xy</code> when <code>xy</code> does not exist	
Ethernet	Add <code>arp-scan</code> utility to DRS, ORK and SXL families for consistency with EDG family cli: <code>arp-scan -l</code>	5829
Firewall	Fix variable name clash in zone option presence test causing occasional restart issue Simplify firewall forwarding within a bridge by avoiding calls to iptables	
Firmware	Prevent downgrade of router firmware to a version that is incompatible with the on board Sierra Wireless module	6878
Mobile	Add <code>dmcli</code> tool for use diagnosing Unitac module problems on GW1042 models Ensure ARP is not turned off for the Unitac Ethernet interface causes problems with the firmware upgrade tool. Ensure NOARP flag is set on mobile Ethernet devices to avoid the ARP table from filling up with entries from the mobile connection Ensure the SMS format is set correctly and interfaces restarted after Verizon provisioning. Fix handling of 5G status when operating in an 5G SA network Fix to ensure the Verizon attach APN is set correctly Only restart interfaces when Network Initialisation was indicated in OMADM	6906 6676

	Switch to AT!GSTATUS to retrieve signal information for Unitac modules	
OpenVPN	Fix privileges in OpenVPN to allow automatic restarts and fix open SSL errors in WeConnect	6793
SNMP	Correct vaUciMib implementation so that it matches the previous implementation	6903
SNMP/GPS	Fix GPS heading in MIB from degrees to micro degrees	6901
System	Fix issues when config files have execute permissions set and configuration audit is enabled	
VLAN	Fix VLAN bridging on Merlin and GW6650V models	6768 6844
Web	Fix error message typo when SSL subsystem fails to initialise Print openssl errors when init, cert load or key load fail	
Web/ Interfaces	Avoid restarting all interfaces when adding new interface via web UI	6922 6923
Web/Cwatch	Fix display of bridge interface on Cwatch interface list	6824
Web/System	Restore javascript validation preventing underscores in system hostname	4555