

WESTERMO

DRS Software Release Notes Merlin4700/GW6650V Series

Release DRS-25.04.35.000

Hardware Models	GW6650; Merlin4700; Merlin4750 Series
Revision	1.00.09
Approval status	Approved
Date	25 November 2024
Brief description	Details the release of system software DRS-25.04.35.000 for GW6650; Merlin4700 and Merlin4750 Series

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1 Revision history

Date	Revision	Description
21 October 2022	1.00.00	Release notes for DRS-25.03.01.000
25 November 2022	1.00.01	Release notes for DRS-25.03.05.000
23 March 2023	1.00.02	Release notes for DRS-25.03.23.000
27 March 2023	1.00.03	Release notes for DRS-25.03.23.002
11 May 2023	1.00.04	Release notes for DRS-25.03.33.004
25 September 2023	1.00.05	Release notes for DRS-25.03.43.007
26 April 2024	1.00.06	Release notes for DRS-25.03.43.021
12 August 2024	1.00.07	Release notes for DRS-25.04.13.000
05 September 2024	1.00.08	Release notes for DRS-25.04.16.000
25 November 2024	1.00.09	Release notes for DRS-25.04.35.000

2 Firmware release statement

DRS-25.04.35.000 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)
DRS-25.04.35.000.k02.image	15,646,720	25/11/2024	0e88b5a1d836b120d939de87f315151d

2.2 Hardware platforms

Hardware model	Details
GW6650V	VDSL2/ADSL2+, Dual SIM LTE/LTE M, 5xGigE Ethernet interface, TPM and secure boot. Optional second LTE, WiFi
Merlin4700	Industrial VDSL2/ADSL2+, Dual SIM LTE/LTE-M, 4xGigE Ethernet interface, 2xSerial, 6xDI, 2xDO, TPM and secure boot
Merlin4750	Industrial VDSL2/ADSL2+, Dual SIM 5G, 4xGigE Ethernet interface, 2xSerial, 6xDI, 2xDO, TPM and secure boot

3 Mobile module support

3.1 5G modules

Firmware	Vendor	Module	3G	LTE	5G
25.03.43.021	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, 28,29,30,32, 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 modules

Firmware	Vendor	Module	Cat	2G	3G	LTE
25.03.43.021	SIMCOM	SIM7600G-H	4	850/900/ 1800/1900	1,2,4,5 ,6,8,19	LTE-FDD: 1,2,3,4,5,7,8,12,13,18,19,20, 25,26,28,66 LTE-TDD: 34,38,39,40,41
25.03.01.000	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
	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

4 Security fixes

Firmware	Module	Description	Severity	Mantis
25.04.35.000	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
	openVPN	Updated to version 2.5.11 Fixes CVE-2022-0547	Irritant	6238
	pam_tacplus	Avoid potential freeing of non-address Fixes CVE-2020-27743 and CVE-2016-20014	Medium	8002
25.04.16.000	dnsmasq	Updated to version 2.90 Fixes CVE-2023-28450 and CVE-2022-0934	Medium	7796
	dropbear	Updated to version 2024.85	Medium	7560

	frr	Fix CVE-2024-44070. FRRouting (FRR) does not check the actual remaining stream length before taking the TLV value.	Medium	7858
	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
25.04.13.000	dropbear	Updated to 2022.83	Medium	6403 4976
	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
	System	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
25.03.43.007	console	Automatically log out console sessions after 30 mins if inactivity	Low	6884
25.03.23.000	telnetd	Remove telnetd support	Medium	
	password	Resetting password via web UI now requires input of current password	Low	5261
	SSH	Added grace period after console login failure to disrupt brute force attacks	Medium	5853

5 Security vulnerabilities

Module	Short Description	Severity	Mantis
bgpd	Vulnerabilities affecting current version of bgpd CVE-2016-1245	Low	5808
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

Event System

VA Event System now supports firewall discard event						
Event System	Class	Id	Name	Severity	Event Template	
firewall discard	Firewall	2	DiscardZone	warning	Rule %p1 triggered: %p6 from %p4:%p7(%p2) to %p5:%p8(%p3)	7769
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) The packet/event rate will be limited to 10/min by default. Use the <code>log_limit</code> option to change the default packet rate limit if required.					7769
	Package	Section	Options			
	firewall	zone	discard_event			
Interface						
Interface Status	Include physical ports with eth-X interfaces in interface status					7900
	Support wildcards on interface names to show all matches. cli: <code>ifstatus eth0</code> (matches only eth0) cli: <code>ifstatus eth*</code> (matches all eth interfaces)					7440
Mobile						
PRI display	Added PRI to mobile stats for Sierra Wireless modules cli: <code>vam -a</code>					7440
SIM7070E diagnostic port	Added support for SIMCOM7070E diagnostic port					7979
Monitor						
EID Inventory	Support for inventory collection of SIM EID information					8030
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			
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						
Modbus TCP	Added TCP port number to route config					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			7999
	Package	Section	Options	
	iecd	port	dnp3s_g40_exclude_intpoll	
Strongswan				
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	
SNMP				
EID OID	SIM EID now supported in VA-MODEM-MIB			8029
System				
GW6650 dual radio	Support GW6650 with dual mobile modules (machtype: MTGR5006)			7948
Multi factor Authentication	New authentication method added to PAM Authentication for MFA configuration to persist through reboot.			7152
	Package	Section	Options	
	system	pam_auth	type 'google'	
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			4677
	cli: debug mobile on cli: debug ipsec on cli: debug multiwan on			

7 Deprecated features

Firmware	Package	Description	Mantis
25.04.35.000	Web/IECD	Removed serial baud rates below 1200 from web UI configuration pages. These values are available via Modbus #1 Serial Speed	8000
25.04.13.000	mobile	Deprecated PPP mode for Quectel and Sierra Wireless modules	7337 7517
		Deprecated Quectel EC20 mobile module support	7337
	strongswan	strongswan.connection.authby deprecated. Now supported by new options localauth; localauth2; remotelauth; remotelauth2	6294
	X25	Deprecated x25d, x25ipd and x25val packages	7467

8 Known issues

Module	Short Description	Mantis
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DSL	Restart of DSL interface not supported using <code>/etc/init.d/dsl restart</code> on GW6650V and Merlin4700 series	
Event System	Syslog messages only get sent to a single IP address	8046
Firewall	Firewall zone with name longer than 12 characters breaks NAT	7791
OSPF	When the remote connection (from a remote OSPF peer) is dropped, OSPF crashes intermittently.	5677
Strongswan	Strongswan memory footprint increases slowly with tunnel restart	5866
Syslog	No web UI support for syslog filter rules	3705
System	Misleading diagnostic message <code>'failed to kill...for device portWAN'</code> generated on network restart or <code>ifup</code>	7817
Web	Web intermittently failing to load when WeConnect is active	7808
Web	Web UI crashes when option <code>ifname</code> is missing in network configuration	8050
Web/ Administration	Uploading Private Keys to TPM results in web UI error	7874
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

9 Problems resolved

Module	Short Description	Mantis
Data Usage	Fix data usage bringing down interface when monthly usage limit reached	7759
Event System	Fix missing interface names in VA event messages generated by the firewall using the <code>recent</code> option.	8037
Firewall	Support <code>vrrp</code> as valid protocol option	7906
GPS	Fix <code>gpspeek</code> location information	7980
HTTP Client	Fix chunk size addition when reporting download status to Activator when using Chunky Downloads that could result in download failure	8023
L2TP	Fix L2TP initialisation	8035
Mobile	Added error messages for failed connection attempts for Quectel modules in Ethernet mode	7899
	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
	Fix incorrect detection of registration status while in GPRS mode	7945

	Improve the handling of +CREG responses so that it also handles CREG mode 2	7880
	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
Network	Fix link loss when changing from bridge to single port	7937
	Fix link loss when changing from bridge to single port	7937
	<code>ifup/ifdown</code> now correctly validate the UCI interface name before execution	6276
OpenVPN	OpenVPN interfaces are no longer deleted on <code>ifdown/network restart</code> event	7871
PPP	Fix option <code>record</code> support	8022
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
Roaming Manager	Ignore test operators in roaming scan	8001
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
	Fixed bug in converting MODBUS HR register reads to DNP3S points (G30 and G40) mapped to same HR index	7999
SNMP	Fix SNMP support for BGP. Fixes bug introduced in 25.04.16.000	7938
Strongswan	Fix kernel crash when IPSEC peer is not responding on GW6650 and Merlin4700 series	7926
System	Suppress UCI error on <code>version -a</code> command if mobile module is not initialised	7984
TPM	Fix HTTPS when keys are stored in the TPM	7922
VDSL	Fix VDSL interfaces connecting when ADSL link comes up on GW23xx	7873
Web	Do not show PoE on hardware that does not support	6967
Web/Interface	Fix network interface colours to reflect up/down status	6536
	Update interface pages to show firewall zones as colours	7988
	Allow configuration of an MTU higher than 1500 bytes	7534
Web/Mobile	Removed choice for selection of the assigned radio module. Radio selection is now done via the SIM slot selection.	7893
Web/Real Time Graph	Only show UCI network interfaces on the Realtime Traffic screen	7946
Web/Status	Do not display 802.1x, CESOP, LLDP, Mobile IP ,ADSL on status tab unless configured	6966
Web/System	Do not show HMAC password algorithm as a configurable option on hardware that does not support a TPM	7895

10 Appendix 1: New features history

10.125.04.16.000

Mobile				
	Support LTE PSM mode for SIMCom7070E mobile module			
LTE power saving mode	<u>Package</u>	<u>Section</u>	<u>Options</u>	7841
	mobile	mobile	sim1_enable_psm; sim2_enable_psm	
System				
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			
	<u>Package</u>	<u>Section</u>	<u>Options</u>	7155
	system	system	passwd_hash_algo 'hmac'	

10.225.04.13.000

AT Command Service				
AT Command Service	New router application that acts as a PSTN modem emulator/AT command interpreter. It converts PSTN data calls from asynchronous serial to TCP/IP.			
	<u>Package</u>	<u>Section</u>	<u>Options</u>	
	crsd	main	see user manual	
route		translate		
Console				
Console disable	Support new option for disabling the console port			
	<u>Package</u>	<u>Section</u>	<u>Options</u>	7802
	system	failsafe	console	
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			
	<u>Package</u>	<u>Section</u>	<u>Options</u>	7158
	management_user	user	groups	
		group	enabled; allowed_pages	
Mobile				

5G band selection	Support space separated 5G band selection.			
	Package	Section	Options	
	mobile	mobile	sim1_5g_sa_bands; sim1_5g_nsa_bands; sim2_5g_sa_bands; sim2_5g_nsa_bands	
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	
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>'	
Password Management				
Multi Factor Authentication	SSH and web UI now support Multi Factor Authentication using Google authenticator			5339
	Package	Section	Options	7152
	dropbear	dropbear	multi_factor_auth	7154
Password lifetime	Support password lifetime configuration for management users. Does not apply to root password			7156
	Package	Section	Options	
	management_user	user	max_passwd_age	
Password regex	Support configuring password regex rules. Applies to root password and management users password			7194
	Package	Section	Options	
	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 terminated on a congested PPP link because LCP echos are not received in time			4179
	<u>Package</u>	<u>Section</u>	<u>Options</u>	
	network	interface	adaptive_keepalive	
RADIUS				
NAS-Identifier option	Support new configuration option for NAS-Identifier with support for %serial and %hostname option values			7347
	<u>Package</u>	<u>Section</u>	<u>Options</u>	
	system	pam_auth	radius_nasid	
Scada				
AI Scaler	Extended AI scaler support <code>iecd.port.ai_scaler</code> for DNP3 slave to Modbus master conversion. The analog inputs received from the RTU are divided by the scaler before conversion to SCADA protocol. Previously only DNP3 to IEC104 supported. AI scaler now supports both divisor and multiplier			7278 7506
	<u>Package</u>	<u>Section</u>	<u>Options</u>	
	iecd	port	ai_scaler_op	
Critical process support for IEC104	IECD now added to list of critical processes that are automatically restarted			7294
DNP3 group 40 analog output variation	Added support for DNP3 slave group 40 analog output variation			7548
	<u>Package</u>	<u>Section</u>	<u>Options</u>	
	iecd	port	dnp3s_g40_variation	
DNP3 relay type	Support new configuration option for specifying command point relay type			7512
	<u>Package</u>	<u>Section</u>	<u>Options</u>	
	iecd	cmdpoint	dnp3_relay_type	
IEC101RTR TCP Server Mode	Support TCP Server Mode for IEC101RTR IEC101 connection			6992
	<u>Package</u>	<u>Section</u>	<u>Options</u>	
	iecd101rtr	link101	listen_ip, listen_port	
IEC104 command point IOA	New configuration option for IEC104 master command point information object address			7579
	<u>Package</u>	<u>Section</u>	<u>Options</u>	
	iecd	cmdpoint	iec104m_cmd_ioa	
IEC104 to DNP3 double command conversion	New option values [4 5] added to <code>iecd.port.dnp3_app_output_mode</code> option that determine behaviour when an IEC104 command with S/E bit is received			7423
MQTT Azure DPS	Added support for MS Azure's IOT hub Device Provisioning Service (DPS)			7028
	<u>Package</u>	<u>Section</u>	<u>Options</u>	
	iecd	port	see user manual	

MQTT read specific data point	MQTT can now be configured to read specific data points			
Modbus bitmap	Support bitmap handling in Modbus master			7371
	Package	Section	Options	7473
	iecd	point	mb_bitmask	
Modbus data formats	Extend supported data format values for MODBUS data points			6890
	Package	Section	Options	
	iecd	point	mb_data_fmt; modbus_data_fmt	
Modbus DI inversion	Support DI inversion for Modbus master			7507
Modbus dual data point handling	Support dual data and command point handling for IEC104 slave to Modbus master conversion. Two Modbus registers can now be converted into a single DPI			7475
	Package	Section	Options	
	iecd	port	modbus_dual_io; modbus_index2	
Modbus frame retransmit counter	Added configuration for MODBUS master frame retransmit count			
	Package	Section	Options	
	iecd	port	modbus_max_retries	
New VHMI payload types	Add support for sending publish messages via MQTT using different payload formats			
	Package	Section	Options	
	iecd	port	vhmi_mqtt_payload_fmt; vhmi_mqtt_client_name; vhmi_mqtt_site_name	
SCEP				
TPM support	SCEP now supports key pair management in TPM			7125
	Package	Section	Options	
	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	localanextra; 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																				
	<table border="1"> <thead> <tr> <th>Package</th> <th>Section</th> <th>Options</th> </tr> </thead> <tbody> <tr> <td>strongswan</td> <td>secret</td> <td>secrettype 'token'; secret '<TPM-label>'</td> </tr> </tbody> </table>	Package	Section	Options	strongswan	secret	secrettype 'token'; secret '<TPM-label>'															
Package	Section	Options																				
strongswan	secret	secrettype 'token'; secret '<TPM-label>'																				
XAuth EAP support	Added support for xauth-eap and eap-radius authentication methods	6294																				
	<table border="1"> <thead> <tr> <th>Package</th> <th>Section</th> <th>Options</th> </tr> </thead> <tbody> <tr> <td>strongswan</td> <td>connection</td> <td>localauth; localauth2; remoteauth; remoteauth2</td> </tr> <tr> <td></td> <td>radius_server</td> <td>enabled; address; secret; auth_port; acct_port</td> </tr> </tbody> </table>	Package	Section	Options	strongswan	connection	localauth; localauth2; remoteauth; remoteauth2		radius_server	enabled; address; secret; auth_port; acct_port												
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																				
Merlin4700 with SFP	Added support for Merlin4700 with additional SFP/Ethernet port	7717																				
Port mirroring	Support software port mirroring. All ingress and egress traffic on an interface can be mirrored to an alternate interface	7696																				
	<table border="1"> <thead> <tr> <th>Package</th> <th>Section</th> <th>Options</th> </tr> </thead> <tbody> <tr> <td>network</td> <td>interface</td> <td>mirrorto</td> </tr> </tbody> </table>	Package	Section	Options	network	interface	mirrorto															
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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																				
Terminal Server																						
Show configuration CLI command	Added support for display of running terminal server configuration CLI command <code>cli: show config</code>	6893																				
VA Events																						
802.1x events	VA Event System now supports <code>ieee8021x</code> event class and events	6528																				
	<table border="1"> <thead> <tr> <th>Id</th> <th>Name</th> <th>Severity</th> <th>Event Template</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>IEEE8021xRestrictingIf</td> <td>notice</td> <td>IEEE8021x restricting on %{p1}</td> </tr> <tr> <td>2</td> <td>IEEE8021xAllowingAllonIf</td> <td>notice</td> <td>IEEE8021x allowing all on %{p1}</td> </tr> <tr> <td>3</td> <td>IEEE8021xAllowingMAConIf</td> <td>notice</td> <td>IEEE8021x allowing %{p1} on %{p2}</td> </tr> <tr> <td>4</td> <td>IEEE8021xBlockingMAConIf</td> <td>notice</td> <td>IEEE8021x blocking %{p1} on %{p2}</td> </tr> </tbody> </table>	Id	Name	Severity	Event Template	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}	
Id	Name	Severity	Event Template																			
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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																				
	<table border="1"> <thead> <tr> <th>Package</th> <th>Section</th> <th>Options</th> </tr> </thead> <tbody> <tr> <td>uhttpd</td> <td>main</td> <td>webui_enabled</td> </tr> </tbody> </table>	Package	Section	Options	uhttpd	main	webui_enabled															
Package	Section	Options																				
uhttpd	main	webui_enabled																				

Limit concurrent users	Support new option for limiting concurrent user sessions	7161						
	<table border="1"> <thead> <tr> <th>Package</th> <th>Section</th> <th>Options</th> </tr> </thead> <tbody> <tr> <td>luci</td> <td>sauth</td> <td>sessionlimit</td> </tr> </tbody> </table>	Package	Section	Options	luci	sauth	sessionlimit	
Package	Section	Options						
luci	sauth	sessionlimit						
LTE band display	Show supported LTE bands for enable/disable via Web UI. web: services->mobile manager->lte							
Session control	Added utility to list and terminate web sessions (Mantis: 7159) web: system->sessions cli: sessionctl	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							

10.325.03.43.021

General								
Merlin4750	Support for Merlin4750 series							
Power over Ethernet								
PoE port stop/start	Power over an individual Ethernet port can now be stopped and started via the PoE status page on the web UI (Mantis: 6827) web: status->PoE							
Scada								
DNP3 Analog Set point command variation	Added new option for DNP3 Analog Set point command variation							
	<table border="1"> <thead> <tr> <th>Package</th> <th>Section</th> <th>Options</th> </tr> </thead> <tbody> <tr> <td>iecd</td> <td>cmdpoint</td> <td>dnp3_cmd_variation (def: 0)</td> </tr> </tbody> </table>	Package	Section	Options	iecd	cmdpoint	dnp3_cmd_variation (def: 0)	
Package	Section	Options						
iecd	cmdpoint	dnp3_cmd_variation (def: 0)						
Update IEC104 master on DNP3 static variation change	Added new feature to transmit a spontaneous update to IEC104 master on DNP3 static variation value change							
	<table border="1"> <thead> <tr> <th>Package</th> <th>Section</th> <th>Options</th> </tr> </thead> <tbody> <tr> <td>iecd</td> <td>port</td> <td>dnp3_tx_spont_on_static_change (def: 0)</td> </tr> </tbody> </table>	Package	Section	Options	iecd	port	dnp3_tx_spont_on_static_change (def: 0)	
Package	Section	Options						
iecd	port	dnp3_tx_spont_on_static_change (def: 0)						

10.425.03.43.007

Certificates		
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Check both TPM and flash for certificate key	<p>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).</p> <ul style="list-style-type: none"> 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" 						
GPS							
GPS MIB support	Added support for <code>VA-GNSS-MIB</code> for retrieval of GPS values						
Mobile							
FOTA support for Unitac modules	Support FOTA upgrade for Unitac modules						
Neighbour cell information	<p>Added display of neighbouring cell information. Currently only supported on Unitac ML620/660 and Quectel EC200x series</p> <pre>cli: vam -n</pre>						
Multiwan							
Multiwan upper retry limit for roaming interfaces	<p>For 3G roaming connections, and connections with <code>retry_on_first_fail</code> 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)</p> <pre>cli: multiwan.interface.retry_connection_max_sec (def: multiwan.interface.ifup_timeout_sec)</pre>						
Network							
Dummy interface support	Added support for dummy interfaces. Dummy interfaces are real kernel interfaces (unlike alias interfaces) and support all the configuration options of a static interface. Dummy interfaces are useful in combination with VRFs as they can be isolated from general routing.						
Ignore carrier state option	<p>Support new option for static protocol interfaces to ignore carrier state changes. This allows interfaces to stay permanently up even when physical connection is not present (Mantis: 6739)</p> <table border="1"> <thead> <tr> <th>Package</th> <th>Section</th> <th>Options</th> </tr> </thead> <tbody> <tr> <td>network</td> <td>interface</td> <td>ignore_carrier_state (def: no)</td> </tr> </tbody> </table>	Package	Section	Options	network	interface	ignore_carrier_state (def: no)
Package	Section	Options					
network	interface	ignore_carrier_state (def: no)					
SCADA							
MODBUS to Remote IO protocol conversion	Added support for MODBUS to Remote IO (ioservd) protocol conversions (Mantis: 6886)						
IECD VRF support	<p>VRF support for IECD TCP based protocols (Mantis: 6784)</p> <table border="1"> <thead> <tr> <th>Package</th> <th>Section</th> <th>Options</th> </tr> </thead> <tbody> <tr> <td>iecd</td> <td>port</td> <td>dnp3_vrf; dnp3s_vrf; iec61850_vrf; iec61850mX_vrf; modbus_slave_vrf; modbus_vrf; modbus1_vrf; mqtt_vrf; iec104m_vrf; iec104m1_vrf;</td> </tr> </tbody> </table>	Package	Section	Options	iecd	port	dnp3_vrf; dnp3s_vrf; iec61850_vrf; iec61850mX_vrf; modbus_slave_vrf; modbus_vrf; modbus1_vrf; mqtt_vrf; iec104m_vrf; iec104m1_vrf;
Package	Section	Options					
iecd	port	dnp3_vrf; dnp3s_vrf; iec61850_vrf; iec61850mX_vrf; modbus_slave_vrf; modbus_vrf; modbus1_vrf; mqtt_vrf; iec104m_vrf; iec104m1_vrf;					

TPM

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

10.525.03.33.004

SCADA

Serial to UDP multi-point mode Added support for multiple UDP peers on serial port. Data received on a serial port is transmitted to all peers; data received from any peer is transmitted on the serial port. Up to 8 UDP peers supported (Mantis: 6723)

Package	Section	Options
tserverd	port	udpMultiPointOn (def: no); remote_ipX; udpRemotePortX

10.625.03.23.002

No new features

10.725.03.23.000

General

GW6650V external watchdog Added support for external watchdog on GW6650V hardware (Board machtype MTGR5004)

Roaming Manager

Roaming Manager connection retry options Added new connection retry options for Roaming Manager feature

Package	Section	Options
network	interface	roaming_link_success_time (def: 600 secs); roaming_prefer_best_operator (def: no); roaming_scan_inheritance (def: no)
multiwan	interface	retry_on_first_fail (def: no)

SCADA

MODBUS TCP routes Added support for MODBUS TCP routes (Mantis: 6643)

Package	Section	Options
iecd	mbtcp_route	ifnum; devaddr, ipaddr

IECD104 Slave cyclic transmission Support for cyclic transmission of data point messages

Package	Section	Options
iecd	port	iec104_cyclic_on (def: 0)

Transparent mode offline queue Added support for IEC104 slave offline queue when using transparent mode (no iec104s application layer)

	Support for binding IEC104 Slave socket to a VRF for isolation from general routing (Mantis: 4802)		
VRF	<u>Package</u>	<u>Section</u>	<u>Options</u>
	iecd	port	iec104_ip1_vrf; iec104_ip2_vrf; iec104_ip3_vrf; iec104_ip4_vrf; iec104_ip5_vrf; iec104_ip6_vrf;
SIP			
SIP Server support	GW1151-FXS series can now also act as a SIP server (registrar). Note: Cannot be both SIP client and server		
	<u>Package</u>	<u>Section</u>	<u>Options</u>
	asterisk	main	bindaddress; bindport (def:5060)
System			
GNSS time synchronisation	Added support for time update via GNSS. Note: Router requires GNSS capabilities and GNSS is enabled (Mantis: 6229)		
	<u>Package</u>	<u>Section</u>	<u>Options</u>
	system	timeserver	gnss_clock_source_enabled (def: no)

10.825.03.05.000

SCADA			
	Added TPM support for TLS based protocols in IEC104 and Terminal Server (IEC62351-9) (Mantis: 6552)		
TPM key storage support	<u>Package</u>	<u>Section</u>	<u>Options</u>
	iecd	port	iec104_tls_keytype; dnp3s_tls_keytype; modbus_slave_tls_keytype; mqtt_tls_keytype; dnp3_tls_keytype; modbus_tls_keytype; modbus1_tls_keytype; vhmi_mqtt_tls_keytype (def: 0 [0=PEM, 1=TPM])
	tservd	port	tcp_tls_keytype (def: 0 [0=PEM, 1=TPM])

11 Appendix 2: Problems resolved history

11.125.04.16.000

Module	Short Description	Mantis
Data Usage	Fix mobile phy detection on data usage start using faster processors	7865
Ethernet	Fix Ethernet ports intermittently reflecting incorrect state when bridging	7795
Mobile	Fix band selection for SIMCom7070E module	7833
	Fix SIMCom7070E module establishing data connection	7821
	Fixes to ensure APN information is set properly for Sierra Wireless radio modules	7777 7797
	Fixes to ensure the manual network operator selection is executed in the right order	7797
	Log a warning that GNSS is not supported for SIMCom7070E mobile module	7822
Monitor	Fix mobile phy detection on monitor start using faster processors	7863
		7864
Multiwan	Fix crash caused by incorrect mobile phy detection on start up using faster processors	7835
	Produce warning for interfaces that do not exist	7857
System	Replace invalid spaces in hostnames with '-' at run time	7829
TPM	Fix error message when <code>tpm-cli flush</code> command is executed twice in a row	6010
Web	Prevent capitalisation of configuration section names	7856

11.225.04.13.000

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 OPTION_IA_N	7424
Ethernet	Fix switch issue in GW6650V and Merlin4700 series that could result in intermittent connection for LAN devices	7590
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
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
IECD	Added timestamp to <code>iecd show stats</code> diagnostics command	7339
	Enhancement to <code>iecd show config</code> command to show full config and not just main section	6894
	Fix error in converting clock value from IEC104 to UTS seconds	7022
	Fix excessive logging of DNP3 point updates	7521
	Fix serial interface name selectors for DNP3, Modbus and IEC101 to match physical port names	7180
	IEC104 to IEC101 health point now correctly sent to IEC104 master when IEC101 data link gets established	
	Improvements to IEC104 Setpoint to DNP3 Analog Output conversion	7015
IECD/ Modbus	Added bitmap handling for DI register type in Modbus master	7371
	Extend supported data format values for MODBUS data points	6890
	Fix event generation of unsolicited messages for Modbus master (serial) to DNP3 salve (TCP) when DNP3 Unsolicited Messages option is enabled in configuration	7335 7526
	Fix issue with detection of serial interface names on Merlin4400 causing inconsistency with <code>iecd.port.modbus_serial_ifnum</code> option	7051
	Fix issue with IEC104 to Modbus AI scaling	7375
	Fix missing display of point value in Web UI for Modbus to MQTT	7189
	Fix support for conversion of Modbus slave to DNP3 master	7186
	Fixed MODBUS master command not timing out when RTU does not reply	
	Improvements to Modbus trace feature	7470
	Minimum Modbus master polling time reduced from 500ms to 50ms	7228
IECD/DNP3	Added support for DNP3 analog output command g41 v1, v2, v3 and v4	
	Allow non-contiguous point indexes for DNP3 slave	7275
	Changed DNP3 master integrity poll request for class 0 static data poll	7392
	Fix converting DNP3 double precision float types to IEC104 floats	7533
	Fix DNP3 slave to IEC104 master protocol conversion	7579
	Fix incorrect float translation for group 40 var 3 and 4	7536
	Fix issue with converting DNP3 counter to IEC104 Integrated Total	7531
	Fix issue with DNP3 master in processing multi-fragment responses	7409
	Fix to provide output control feedback for DNP3 slave to MODBUS master	
	Fix transmission of spontaneous update to IEC104 master on DNP3 static variation value change	7410
	Fixed issues in DNP3 slave processing Binary Output and Analog Output commands	7548
	Implemented common DNP3 trace functions for slave and master side	7557
	Implemented several new features for IEC104 to DNP3 double command conversion	7423
	Improve DNP3 slave processing of Binary and Analog Commands; now allow all combinations of OpCode and TCC fields: LATCH_ON, LATCH_OFF, CLOSE, TRIP	

	Increased size of DNP3 analog output block buffer to handle possible size of variation 4 – 64 bit double with single byte status	
IECD/MQTT	Fix data point map value update with Modbus master to MQTT conversion that generates events to MQTT subscribers	7465
	Increased supported character length for MQTT topic name, client id and client name	7173
IECD/VHMI	Fix issue related to DPS not starting for VHMI MQTT mode	7081
	Fix to report data point by VHMI only when value changes	
Mobile	Allow backslash '\ ' in username and password	7360
	Custom interface DNS now supported by Unitac modules	7192
	Ensure 5G networks are presented in operator search results	7219
	Fix 5G band selection for Quectel RM500Q module	7703
	Fix 5G NSA mode when service is set to 5G	7469
	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
	Improve behaviour on network down for QMI connections to ensure reconnection after network outage	6325
	Improve distributed processing between cores to improve mobile 5G throughput on Merlin4750 series	7346
	LTE band locking configuration option <code>simX_lte_bands</code> now supports space separated bands	
	<code>sendsms</code> command now handles '+' at the beginning of international numbers	
	Split registration check and signal check on Merlin4750 to avoid overload on Quectel RM520 5G module which could result in module no longer responding to AT commands	7296
	Unitac modules now use <code>wwan0</code> interface rather than <code>eth0</code>	6899
Network	Add interface name and state for aliases to <code>network_status</code>	6716
	Fix dependant interfaces starting correctly on a network restart	7598
	Remove the minimum IPv6 fragment size check	7320
		7324
		7325
		7326
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 <code>openvpn</code> restart	7735
SCEP	Fix certificate expiration date calculation	7572
	SCEP ATQ time now synchronised with NTP	7083
Serial Broadcast Server	Fixed incorrect handling of TCP connection to Terminal Server	7231

SNMP	Fix UCI MIB ifName truncation	6981
	SNMP <code>engineID</code> now has fixed value that persists through reboot	7355 7358
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
TACACS	Fix IPv6 support	6620
Terminal Server	Start serial device in RS232 mode to ensure terminal server initialises correctly	7009
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
Web/ Interfaces	Ensure interface names are not automatically capitalized on the web UI	7678
	Remove PPTP protocol from available interface protocols	7354
Web/ Modbus	Fix display of IECD status page to show data points	7170
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
Web/Firewall	Support firewall rule <code>chain</code> option <code>web: security->firewall->traffic rules</code> <code>cli: firewall.rule.chain</code>	6898
Web/IECD	Change MODBUS serial interface presentation to a selection of detected serial interface names	
	Changed IEC104 TI option to list value instead of range	
	Fix delete button on web UI for IECD	7181
	Fix incorrect display of values in DNP3 slave to DNP3 master mode	7571
	Fixed web UI error in setting value range for IEC104 link number	6911
	IEC61850 client web UI enhancements	6600

	Improvements for IECD command points	7015
		7019
	Improvements to MODBUS master configuration	
	Improvements to VHMI web configuration	7062
Web/IOSERV	Add support for upload of CID file	6897
Web/Mobile	Added display of LTE bands supported by SIMCom7070E	7565
	Fix 5G band selection	7469
		7703
	Fix <code>va_mobile</code> 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. <code>web: services->mobile manager->lte</code>	
Web/Realtime Graphs	Fix display of Realtime Graphs for mobile interfaces <code>web: status->Realtime Graphs</code>	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 <code>web: security->ssh->Identity</code> <code>cli: dropbear.dropbear.Identity</code> <code>web: security->ssh->Verbose</code> <code>cli: dropbear.dropbear.verbose</code> <code>web: security->ssh->VRF</code> <code>cli: dropbear.dropbear.VRF</code>	6703
Web/VHMI	Fix broken upload of DPS private key file	
WeConnect	Add missing <code>ripd</code> and <code>openvpn</code> 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
	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
xDSL	Fix <code>dsl</code> command output if DSLAM info is not available	6990
	Fix xDSL diagnostic 'Transfer Power' units to dBm from dB	7140
	Reduce unwanted DSL diagnostics messages filling up syslog	6908

11.325.03.43.021

Module	Short Description	Mantis
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IECD	Fix clock sync time in IEC101 <code>force_clock_sync</code> to use local time instead of UTC	7208
	Fixed issue with IEC104 clock synchronization on conversion from CP56TIME2A to time format where memory was not being cleared correctly	
	Improvements for Analog Input integer to float conversion for IEC104 to DNP3	
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 PDP context is deactivated before attempting to establish connection to avoid issue with connection attempt	7168
	Ensure Unitac module comes back in ECM/VLAN mode after factory reset	
	Fix detection of Quectel RM520N 5G mobile module running latest module firmware (RM520NGLAAR01A07M4G)	
	Fix Quectel RM520N restart after switching to QMI mode	7243
	Fix selection of bands above band 63 for SIMCom7600G-H	7356
	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	
PoE	Fix missing event on powered device disconnect	7195
Strongswan	General improvements to memory usage	
Syslog	Fix syslog to use local time instead of UTC	7240
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/IECD	Added selector lists in place of fixed values where possible	
Web/OSPF	Support configuration of OSPF VRF via web UI web: network->ospf->global settings->VRF cli: ospfd.routing.vrf	6964
Web/PoE	Modifications to a PoE port configuration via the web UI no longer result in the other PoE ports being reset Web UI now correctly displays the number of PoE ports available	6827
Web/PoE Status	Web UI PoE Status enhancements - Fix values table values when device not connected; Add power info; Remove volts and current;	7166 7198 7199
Web/Realtime Graphs	Fix web UI real time graphs for QMI mobile connections web: status->Realtime Graphs	7029
WeConnect	Fix support for WeConnect	6793 7218

11.425.03.43.007

Module	Short Description	Mantis
Activator	Set model URL parameter to uimodel rather than machtype in updates to Activator	6761
BGP	Fix local VRF IP subnet not being advertised over WAN VRF using a BGP instance in the same VRF	6799
CLI	Improve error message for <code>uci show xy</code> when <code>xy</code> does not exist	
DSL	Disabled DSL restart using <code>/etc/init.d/dsl_control restart</code> for Merlin 6650V and Merlin4700 series as not supported	
	Fix generic MAC address assigned to VDSL interface on GW6650V and Merlin 4700 models	6892
	Reduce interface bounce when DSL line conditions change on poor line which could lead to interface not working	6958
	Report correct DSL analogue front end on GW6650V and Merlin4700 models	6802
Ethernet	Add <code>arp-scan</code> utility to DRS, ORK and SXL families for consistency with EDG family <code>cli: arp-scan -l</code>	5829
	Assign correct Ethernet port MAC addresses at startup on GW6650V and Merlin 4700 models	6913
	Support configuration of speed/duplex/autoneg on GW6650V and Merlin4700 models	6849
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
IECD	Fix IEC104 operation when IEC104 local TCP port configured to '0'	6778
	Fix unwanted Health Point updates during normal master switchover for IEC104 RTU's	6463
	Fixed Modbus master initialisation error when loading TCP routes	6803
	IEC61850 Server: Add conversion from Modbus DI to DPS objects	
	IEC61850 Server: Added mapping of Modbus DI to integer types (INS, etc)	
	IEC61850 Server: Fix error with double init of data points for Modbus master	
Mobile	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	6676

	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 signal strength detection on older Unitac modules	6805
	Fix to ensure the Verizon attach APN is set correctly	
	Only restart interfaces when Network Initialisation was indicated in OMADM	
	Switch to <code>AT!GSTATUS</code> 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 <code>vaUciMib</code> implementation so that it matches the previous implementation	6903
	Fix SNMP configuration using TCP protocol	5930
	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	
	Ping internal watchdog every second to reduce unwanted resets on hardware without an external watchdog (machtype MTGR5002)	5930
VLAN	Fix VLAN bridging on Merlin and GW6650V models	6768 6844
	Fix VLANs on WAN Ethernet port	6994
Web	Fix error message typo when SSL subsystem fails to initialise	
	Fix slow web SSL access when using keys from TPM	6734
	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/ Network	Fix broken <code>ifstatus</code> preventing web UI from operating correctly on GW6650V and Merlin4700 models	6921
Web/Cwatch	Fix display of bridge interface on Cwatch interface list	6824
Web/Firewall	Fix summary page showing rules with <code>option enabled '1'</code> in configuration file as disabled	6765
Web/HTTP Server	Support configuration certificate keys in TPM <code>web: services->http server->Certificate Key Format</code> <code>cli: uhttpd.uhttpd.keytype [PEM TPM]</code>	6756
Web/Mobile	Correct display of mobile interface type on web UI interface overview page	6787
Web/SCADA	Moved COSEM HDLC Bridge configuration from Services to SCADA tab	6781
Web/Status	Add download button for kernel and system log <code>web: status->System Log</code> <code>web: status->Kernel Log</code>	6794
Web/System	Restore javascript validation preventing underscores in system hostname	4555

11.525.03.33.004

Module	Short Description	Mantis
Cwatch	Fix cwatch using cached interface values rather than current values which caused cwatch to intermittently miss state changes	6784
DSL	Added support for low level DSL diagnostics cli: dsl cmd	
	Fix DSL crash that could occur when disconnecting and reconnecting DSL line	6682 6698
	Use VDSL firmware v8.13.1.12.1.7 to fix operation on retransmission enabled lines	
Ethernet	Fix Ethernet port separation when removing port from bridge	6744 6749
IECD	Improve debugging of IEC61850 client when processing control commands	
Mobile	Rename 'phone number' to 'MSISDN' in mobile stats	
Network	Fix non-auto interfaces staying UP when VDSL link lost	
VRF	Fix DNAT behaviour for alias interface within VRF	6705
Web/ IPsec	Fix error on saving of configuration general section	6281
Web/ Network	Show colour codes for interface status in network overview	6536
Web/ OpenVPN	Automatically add and remove OpenVPN network interfaces	6296
Web/DSL	Show xDSL web menu option even when DSL line is not trained	6737

11.625.03.23.002

Module	Short Description	Mantis
DSL	Fix OAM loopback on VLAN interfaces	

11.725.03.23.000

Module	Short Description	Mantis
Activator	Fix Activator active update command returning incorrectly parsed IPv6 addresses	4727
BGP	Enable FRR SNMP support on GW6650V and Merlin4700 series	5758
CWATCH	Cwatch now ignores non-existing UCI network interfaces	6644
Failsafe	Failsafe mode now uses SSH instead of telnet access	6663
Firewall	Insert the <code>MARK</code> configuration rule before the <code>redirect</code> rules in the firewall table	5405
IECD	Fix issue in IEC104S to IEC101 in transparent mode, where 104 ASDU CA=65535	
	Fix issue processing IEC101 reset process response	

	Fix issue with DNP3 Gr3 (double bit) to IEC104 single point conversion	6671
	Fixed incorrect cleanup while closing during IEC104S TLS session establishment	6636
	Fixed issues with events not sent from IEC104 slave offline queue after connection is restored	6648
	Fixed issues with processing TI 105 Reset Process command	6640
	IEC104 slave: Fixed incorrect application of clock synchronization command	
	IEC104 to IEC101 conversion: fixed issue with converting QU field of commands from Master (104) to RTU (101)	
	IEC104 to IEC104 conversion: Fix Double command Execute part of Select Execute sequence not passing on QU field of command	6656
Mobile	Add MTU detection for Unitac modules	
	Ensure MTU does not exceed 1500 bytes on QMI links	6567
	Ensure Quectel EC25/EG25 modules use GSM format for SMS messages	
	Fix crash when <code>switch_sim</code> command is executed with no value	
	Fix interface name and type for Unitac modules on Merlin series	
	Fix performance issues on Sierra Wireless modules (introduced in 25.02.80.000)	6708
	Prevent crash when handling SIMs with invalid ICCID	6635
	Prevent crash when no SIM slot specified for SIM switch command	
	va-mobile no longer automatically changes GNSS configuration as this is now done in manufacturing	6659
Monitor	Fix Monitor Keepalive configuration changes taking effect immediately when changed from web UI or Activator	6650
NTP	Improvements to chrony operation for interface state changes	6631
PPP	Fix connection issue when two ppp links have similar UCI name	6654
Roaming Manager	Retry existing connection after routine disconnect when using Roaming Manager feature	
SNMP	Fix mibwalk error on <code>.1.3.6.1.4.1.2078.3.1.2.4.2</code> when walking VA-MODEM-MIB::roamingOp* series of values	6618
SSH	Fix SSH login via private and public key.	6425
TACACS	Fix ipv6 address support	6620
VDSL	Enable support for OAM loopback	
	Fix switching line_mode config between ADSL and VDSL	
Web	Sort web UI drop down headings	5909
Web/ Multiwan	Allow multiwan configuration via web UI when no multiwan config options exist in configuration file	
Web/HTTP Client	Support configuration of Http Client certificate key format web: services->http_client->advanced->Certificate Key Format cli: httpclient->httpclient->KeyFormat	5792
Web/IECD	Changed default location of TLS certs to <code>/etc/cert</code>	6643
	Only show IEC104 TLS Common Name and IEC104 TLS Verify Depth options when IEC104 TLS Validate Peer Cert is enabled	6643
	Removed unused <code>iecd101_cmd_type_id</code> option from web UI	6627

	Support SCL import file upload for IEC61850 master web: scada->iecd->master protocols->configure IEC61850->Select IEC61850M SCL File for Upload	
	Support upload capability for TLS cert, key and CRL files via web UI	6643
Web/IPsec	Web UI IPSEC configuration improvements	6281
Web/System	Fix firmware flashing error message	6286
Web/VRRP	Add support for configuration of VRRP Group Multicast Source IP web: network->vrrp->vrrp group configuration-> Multicast Source IP cli: vrrp.vrrp_group.mcast_src_ip	4057

11.825.03.05.000

Module	Short Description	Mantis
IECD	Added RTS-CTS flow control of the serial (when not using tserverd)	6615
	Added TPM integration for TLS based protocols in IECD and Terminal Server (IEC62351-9)	6552
LED	Fix Merlin4700 series WAN port LED operation	6632
Mobile	Fix missing LTE band information on older Unitac firmware	6630
	Prevent +CGEV: NW DETACH trigger warnings in the logs	6616
	Remove MIMO check for Unitac modules	
Routing	Enable FRR vty_enabled option in user interface	6613