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WESTERMO

ORK Software Release Notes
GW1150/1400/2124P/2300/3300D Series

Release ORK-25.04.38.001

Hardware Models	GW1150; GW1400; GW2124P; GW2300; GW3300D
Revision	1.00.26
Approval status	Approved
Date:	13 December 2024
Brief description	Details the release of system software ORK-25.04.38.001 for GW1150/1400/2124P/2300/3300D Series

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1 Revision history

Date	Revision	Description
03 May 2019	1.00.00	Release notes for ORK-22.00.82.000
26 August 2019	1.00.01	Release notes for ORK-22.00.88.000
06 September 2019	1.00.02	Release notes for ORK-22.00.89.000
12 December 2019	1.00.03	Release notes for ORK-22.00.90.000
20 December 2019	1.00.04	Release notes for ORK-22.00.93.000
15 April 2020	1.00.05	Release notes for ORK-22.00.96.000
03 December 2020	1.00.06	Release notes for ORK-25.01.40.004
16 December 2020	1.00.07	Release notes for ORK-25.01.40.016
18 January 2021	1.00.08	Release notes for ORK-25.01.40.019
12 February 2021	1.00.09	Release notes for ORK-25.01.40.028
12 May 2021	1.00.10	Release notes for ORK-25.01.40.033
09 September 2021	1.00.09.001	Release notes for ORK-22.01.40.028 (Gateway PRL)
06 December 2021	1.00.11	Release notes for ORK-25.02.14.000
01 March 2022	1.00.12	Release notes for ORK-25.02.14.009
13 May 2022	1.00.13	Release notes for ORK-25.02.14.016
23 May 2022	1.00.14	Release notes for ORK-25.02.14.024
23 June 2022	1.00.15	Release notes for ORK-25.02.14.027
29 July 2022	1.00.16	Release notes for ORK-25.02.14.032
01 November 2022	1.00.17	Release notes for ORK-25.02.95.000
25 April 2023	1.00.18	Release notes for ORK-25.03.35.000
17 May 2023	1.00.19	Release notes for ORK-25.03.37.000
22 May 2023	1.00.20	Release notes for ORK-25.03.43.000
06 October 2023	1.00.21	Release notes for ORK-25.03.43.010
08 April 2024	1.00.22	Release notes for ORK-25.03.43.019
25 April 2024	1.00.23	Release notes for ORK-25.03.43.021
27 August 2024	1.00.24	Release notes for ORK-25.04.16.000
02 December 2024	1.00.25	Release notes for ORK-25.04.36.000
13 December 2024	1.00.26	Release notes for ORK-25.04.38.001

2 Release statement

ORK-25.04.38.001 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)
ORK-25.04.38.001.image	19,300,352	13/12/2024	d8e11ba6d1cef82498e54d9a2a154c87

2.2 Hardware platforms

Model	Processor	Details
GW1150	Sierra Wireless	Single radio LTE/3G wireless router with single 10/100Mbps Ethernet. Optional second Ethernet, serial interface, FXS, WiFi, GPS.
GW1400	Dakota	Single radio 5G/LTE/3G wireless router with WiFi and dual 10/100/1000Mbps Ethernet.
GW2124P	Sierra Wireless	Single radio wireless router with dual 10/100Mbps Ethernet
GW2300	Dakota	LTE/3G wireless router with GPS and 2 or 4 port 10/100/1000Mbps Ethernet switch. Optional Power over Ethernet, WiFi, Dual Radio, ADSL2+/VDSL, serial interface and digital IO.
GW3300D	Dakota	Dual radio LTE/3G/CDMA450 wireless router with WiFi, GPS and 4 port 10/100/1000Mbps Ethernet switch. Optional USB, CAN, serial interface, digital IO.

2.3 Important upgrade information

2.3.1 Upgrade from ORK-22.00.93.000 (and earlier)

Due to a new unified versioning schema across all GW series software families ORK releases after ORK-22.01.96.000 contained a change in the MAJOR version number (previously 22, now 25).

Older firmware contains safety checks to ensure that the MAJOR firmware version matches before allowing firmware upgrade. More recent ORK firmware relaxes this check to allow seamless upgrade from ORK-22 to ORK-25 versions.

In order to accommodate this change, ORK-25.01.40.028 was accompanied with a gateway release ORK-22.01.40.028 (functionally identical to ORK-25.01.40.028).

Please follow the steps below for upgrade:

Running firmware	Upgrade procedure
<= ORK-22.00.93.000	Upgrade to ORK 22.01.40.028 before to upgrade to ORK-25.01.40.028 or later
> ORK-22.00.93.000	Upgrade directly to ORK-25.01.40.028 or later

2.3.2 Upgrade to ORK-22.00.88.000

ORK-22.00.88.000 and later firmware contains an important uboot change. Once installed it will automatically copy to the alternate image to ensure that both image segments are the new firmware version.

Once the new firmware is installed, firmware versions prior to ORK-22.00.88.000 will not run correctly without a manual uboot environment variable change. If there is a requirement to roll back to a previous firmware version, please follow the steps below:

2.3.2.1 Rollback steps

- Download required firmware version to altimage
- Set uboot machtype to 'DTB'. To do this enter **fw_setenv machtype DTB**
- Set next image altimage. To do this enter **vacmd set next image altimage**
- Reboot

3 Mobile module support

3.1 5G modules

Firmware	Vendor	Module	3G	LTE	5G
25.02.85.000	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, 40,41,48,66,70,71,75,7 6, 77, 78,79
25.01.40.004	Quectel	RM500Q-GL	1,2,3,4 ,5,8,9, 19	1,2,3,4,5,7,8,12,13,14, 20,25,26,28,29,30,32, 38,39,40,41,43,46,48, 71	1,2,3,5,7,8,20,28,41,66 , 71,77,78,79

3.2 LTE modules

Firmware	Vendor	Module	Cat	2G	3G	LTE
25.04.16.000	Quectel	EM060K-EA	6	-	1,3,5,8	LTE-FDD: 1,3,5,7,8,20,28,32 LTE-TDD: 38,40,41
25.03.43.019	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
25.03.43.005	Sierra Wireless	WP7702	M1	850/900/ 1800/1900	-	B1, B2, B3, B4, B5, B8, B12, B13, B17, B18, B19, B20, B26, B28
25.02.80.000	Unitac	ML620DE	4			B3, B7, B20, B72
25.02.14.027	Sierra Wireless	WP7609-G	4	-	B1, B8	B1, B3, B5, B8, B40, B41
	SIMCOM	SIM7070E	M1	850/900/ 1800/1900		B1, B2, B3, B4, B5, B8, B12, B13, B14, B18, B19, B20, B25, B26, B27, B28, B31, B66, B72, B85,

Firmware	Manufacturer	Model				
	Unitac	ML620EU	4			B3, B7, B20, B31, B72
		ML660P	4			B3, B20, B87
25.02.14.000	Sierra Wireless	WP7607-G	4	900/1800	B1, B8	B1, B3, B7, B8, B20, B28
		WP7608-G	4	900/1800	B2, B4, B5	B2, B4, B5, B12, B13, B14, B17, B66
		WP7610-G	4	-	B1, B5, B8	B1, B3, B5, B7, B8, B28
22.00.96.000	Quectel	EG25-E; EG25-AF; EG25AUT; EG21E; EG20E; EG25G	4			
		EM06; EM06E	6			
22.00.90.000	Quectel	EC25-EU	4			
22.00.82.000	Quectel	EC25-AU	4			
	SIMCOM	SIM7600E-H	4			

4 Security fixes

Firmware	Module	Description	Severity	Mantis
25.04.36.000	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	Medium	7796
	dropbear	Updated to version 2024.85	Medium	7560
	frr	FRRouting (FRR) does not check the actual remaining stream length before taking the TLV value.	Medium	7858
	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.	-	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
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	-	5853
25.02.80.000	dnsmasq	Updated to 2.85. Fixes CVE-2021-3448	-	6041
	gpsd	Updated to 3.23.1	-	
	overlay	Implemented automatic overlay clean up to remove ad hoc modifications	-	5374
	snmpd	Application now runs with dedicated unique user and group id instead of root privileges	-	4695
25.02.14.000	arp-scan	Upgraded to version 1.9.7	-	
	iecd	COTP: fixed possible heap buffer overflow when handling message with invalid (zero) value in length field). Fixes CVE-2020-7054	-	5320
	iproute2	Upgrade to version 5.13.0	-	
	uClibc	Upgrade to version 0.9.33.2	-	
25.01.40.033	chrony	Upgraded to v3.5.1	-	
	dnsmasq	Upgraded to v2.84 to fix vulnerabilities in DNS response validation Fixes CVE-2020-25684 CVE-2020-25686	-	5618
25.01.40.004	iecd	Support for secure Modbus TCP with introduction of modbus TLS security extension	-	
	tservd	TLS support for TCP server and TCP client mode	-	
22.00.96.000	chrony	Disable internet command sockets	-	4995

chrony	Applications now run with dedicated unique user and group id instead of root privileges	4964
dropbear		4965
iecd		4966
iosrvd		4968
openvpn		4970
rtud	-	4971
snmpd		4973
strongswan		4974
tservd		5003
xl2tpd		

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

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

7 Deprecated features

Firmware	Package	Description	Mantis
25.04.36.000	Web/IECD	Removed serial baud rates below 1200 from web UI configuration pages. These values are available via `Modbus #1 Serial Speed`	8000
25.04.16.000	mobile	Deprecated PPP mode for Quectel and Sierra Wireless modules	7337 7517
		Deprecated Quectel EC20 mobile module support	7337

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	strongswan	`strongswan.connection.authby` deprecated. Now supported by new options `localauth; localauth2; remoteauth; remoteauth2`	6294
	X25	Deprecated `x25d`, `x25ipd` and `x25val` packages	7467
25.02.14.010	WiFi	`wireless.wifi-device.type` option deprecated	
25.02.14.000	Analogue Relay	Removed analogue relay daemon (ard)	
	dnsmasq	Removed `dhcp.dnsmasq.nodaemon`	
	fxs	Replaced config section `main` with config section `interface`	
25.01.40.033	upnp	Removed miniupnp	
22.00.96.000	Wget	Removed wget busybox applet	
22.00.90.000	Mobile	`disable_time` option removed from mobile package	
	IEC104 Gateway	`iec104_time_tagged_cmds` no longer supported	
22.00.88.000	Multiwan	Disabled `mwan3` package due to conflict with multiwan package	
	Web	Removed ability to disable critical system services via web UI at `administation -> startup`	

8 Known issues

Module	Short Description	Mantis
Firewall	Firewall zone with name longer than 12 characters breaks NAT	7791
GPS	No GPS support for SIMCOM7070	
Mobile	Do not display RSSI in mobile stats for 5G mobile modules	
OSPF	When the remote connection (from a remote OSPF peer) is dropped, OSPF crashes intermittently.	5677
PPPoE	Manual `ifup pppoe-<interface>` causes default route to be lost for `<interface>`	6276
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 `ifup`	7817
Web/IPsec	Unable to configure `strongswan.connection.disable_mobike`, `strongswan.connection.mobike_send_additional_self` or `strongswan.connection.disable_natt` via web UI	5437
Web/Management Users	Unable to configure management users via web UI	5503
Web/WiFi	Web UI not allowing configuration of all available WiFi `hwmode` and `htmode`	5552
	Web UI presents WiFi configuration even when no WiFi available on router	5519

xDSL	`/etc/init.d/dsl_control restart` does not bring down the physical connection on GW2300 models.	5689

9 Problems resolved

Module	Short Description	Mantis
Firewall	Fix broken protocol values (`igp`, `eigrp`, `ax.25`, `etherip`, `ipcomp`, `vrrp`, `l2tp`, `isi`, `sctp`, `fc`) used by firewall option `proto`	7906
Web	Fix interface colours after firewall zone update	8056
Web/ Interface	Fix removal of dependent interfaces from configuration	8074
	Support default route and metric configuration on L2TP interfaces	8073

10 Appendix 1: New features history

10.125.04.36.000

Ethernet		
RSTP support	Added support for Rapid Spanning Tree Protocol	6508

Event System		
Event System firewall discard	VA Event System now supports firewall discard event 	Class	Id	Name	Severity	Event Template
---	---	---	---	---
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 `log_limit` option to change the default packet rate limit if required. 	Package	Section	Options
firewall	zone	discard_event		7769

Interface		
Interface Status	Include physical ports with eth-X interfaces in interface status	7900

	Support wildcards on interface names to show all matches.
	`cli: ifstatus eth0 (matches only eth0)`
	`cli: ifstatus eth* (matches all eth interfaces)`
		7440

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

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	

SNMP

EID OID	SIM EID now supported in VA-MODEM-MIB		8029

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	

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
	`cli: debug mobile on`
	`cli: debug ipsec on`
	`cli: debug multiwan on`
				4677

10.225.04.16.000

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.

Package	Section	Options
crsd	main	see user manual
	route	
	translate	

Console

Console disable

Support new option for disabling the console port

Package	Section	Options
system	failsafe	console

7802

Management Users

User groups

Support new group configuration which contains a list of `allowed_pages`. A user can be assigned to multiple groups. This allows a user to be able to visit pages from their own `allowed_pages` as well as from any assigned groups

Package	Section	Options
management_user	user	groups
	group	enabled; allowed_pages

7158

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

Package	Section	Options
network	interface	airplane_mode_backoff

7032

SMS security

Improvements to SMS queue processing and support new options for better control how SMS messages are handled

Package	Section	Options
mobile	mobile	sms_read_interval; sms_check_time; sms_past_margin; sms_future_margin

3976

SMS whitelisting

Support whitelisting commands allowed to be executable by SMS

Package	Section	Options
mobile	caller	allowed_commands

6931

Watchdog timeout behaviour

Support advanced configurable action [`log|reset|reboot`] to take when a watchdog timeout occurs for a mobile module. Currently only supported for QMI modules

Package	Section	Options
mobile	main	netdev_wd_action

5719

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 7152 7154
	Package	Section	Options	
	dropbear	dropbear	multi_factor_auth	
	luci	main	multi_factor_auth	
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 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	

Scada

AI Scaler	Extended AI scaler support iecd.port.ai_scaler 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
	ackage	Section	Options	
	iecd	port	ai_scaler_op	
Critical process support for IECD	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
	Package	Section	Options	
	iecd	port	dnp3s_g40_variation	

DNP3 relay type	Support new configuration option for specifying command point relay type			7512
	Package	Section	Options	
	iecd	cmdpoint	dnp3_relay_type	
IEC101RTR TCP Server Mode	Support TCP Server Mode for IEC101RTR IEC101 connection			6992
	Package	Section	Options	
	iec101rtr	link101	listen_ip, listen_port	
IEC104 command point IOA	New configuration option for IEC104 master command point information object address			7579
	Package	Section	Options	
	iecd	cmdpoint	iec104m_cmd_ioa	
IEC104 to DNP3 double command conversion	New option values [4|5] added to `iecd.port.dnp3_app_output_mode` 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
	Package	Section	Options	
	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 7473
	Package	Section	Options	
	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	locallanextra; remotelanextra
TPM support	Support strongswan keys in TPM. TPM keys are supported via the `token` 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>'
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 `who` 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

Terminal Server			
Show configuration CLI command	Added support for display of running terminal server configuration CLI command `cli: show config`		6893

VA Events			

802.1x events	VA Event System now supports `ieee8021x` event class and events				6528
	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}	

Web UI			

Disable web UI	Added new option to disable web UI			7068
	Package	Section	Options	
	uhttpd	main	webui_enabled	

Limit concurrent users	Support new option for limiting concurrent user sessions			7161
	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

System		

Firmware	Prohibit downgrading router firmware on models using Sierra Wireless Toshiba NAND flash to an unsupported version (< 25.03.43.014)	7488

10.425.03.43.019

System		

Firmware	Added support for new Sierra Wireless NAND flash (Toshiba TC58NYG2S0H). Note: Routers running this Sierra Wireless flash version require v2.6 bootloader and cannot be rolled back to firmware prior to 25.03.14.014.

10.525.03.43.010

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 • 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"	6820
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`	
Sierra Wireless WP7702 LTE-M support	Added support for Sierra Wireless WP7702 LTE-M1/NB1 mobile module on Merlin series	
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	6975

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

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 `web: status->PoE`	6827
Scada		
DNP3 Analog Set point command variation	Added new option for DNP3 Analog Set point command variation	

Package	Section	Options
iecd	cmdpoint	dnp3_cmd_variation

MODBUS to Remote IO protocol conversion	Added support for MODBUS to Remote IO (ioservd) protocol conversion	6886

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			
	Package	Section	Options	
	iecd	port	dnp3_tx_spont_on_static_change	

TPM		
List TPM keys	Support new diagnostic command to list TPM keys `cli: tpm-cli listkeys`	5339 7152 7154

10.625.03.43.000

Network			
Ignore carrier state option	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		6739
	Package	Section	Options
	network	interface	ignore_carrier_state

System	
IP PAD support	Added `padd` and `vald` packages for IP PAD support for converting legacy X.25 serial communication over TCP/IP.

Scada			
IECD VRF support	VRF support for IECD TCP based protocols		6784
	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;

10.725.03.37.000

Network		
GPS MIB support	Added support for VA-GNSS-MIB for retrieval of GPS values	6739

System	
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.

10.825.03.35.000

BGP

BGP MIB support	Added BGP4-MIB support so BGP information can be retrieved via SNMP	6347

FXS

Analogue gain	Added options to store FXS card gain	

Package	Section	Options
fxs	interface	rx_analogue_gain; tx_analogue_gain

GPS

GPS diagnositics	Added new `gps` diagnositics command

Mobile

EID retrieval	Support EID retrieval for Quectel, Simcom, Sierra Wireless, Huawei and Telit mobile modules. EID information on the SIMs can be displayed using `vam -a` command	6236
FOTA	FOTA upgrade can now use CURL to download a firmware image from remote location	
	Support Quectel FOTA upgrade via locally stored file	
Quectel RM520N-GL 5G mobile support	Added support for Quectel RM520N-GL 5G mobile module	

Monitor

LTE band and cell diagnostics	Added support for LTE band and cell information in ISAD	6007
VRF support for monitor keepalive	Added support for configuration of VRF domain for Monitor keepalive traps	5983

Package	Section	Options
monitor	keepalive	vrf

Multiwan

Multiwan interface scanning timeout	New multiwan config parameter to extend `ifup` timeout when a mobile roaming operator scan is active. Used in conjunction with VA Roaming Manager feature, this parameter is added to the normal `ifup_timeout_sec` used for `ifup` operations whenever the ifup occurs during a 3G operator background scan, or the ifup itself triggers such a scan, on the modem being used for the current interface.

Package	Section	Options
multiwan	interface	ifup_scanning_timeout_sec

Roaming Manager

	Added new connection retry options for Roaming Manager feature		
Roaming Manager connection retry options	Package	Section	Options
	network	interface	roaming_link_success_time; roaming_prefer_best_operator; roaming_scan_inheritance
	multiwan	interface	retry_on_first_fail

Scada

	Added support for inversion of single bit binary input points (Gr1, Gr2) for DNP3 RTU's to IEC104 Scada master. In addition, added support for a new an option for analog scaling – the analog inputs received from the RTU are divided by the scaler before conversion to SCADA protocol			6419
DNP3 to IEC104 DI inversion and AI Scaling	Package	Section	Options	
	iecd	port	di_invert; ai_scaler	

	Added support for health points (6) in multi-master mode		
Health points in multi master mode	Package	Section	Options
	iecd	port	iec104_rtuX_health_ioa;

	Added support for HMI Second Control Interface (MQTT)		
HMI second interface	Package	Section	Options
	iecd	port	modbus_slave_devaddr; modbus_slave_protocol; modbus_slave_local_ip; modbus_slave_tcp_port (def: 502); modbus_slave_serial_ifnum; modbus_slave_use_tls; modbus_slave_tls_cacertfile; modbus_slave_tls_crlfile; modbus_slave_tls_certfile; modbus_slave_tls_keyfile; modbus_slave_tls_pass; modbus_slave_tls_common_name; modbus_slave_tls_validate_peer_cert; modbus_slave_tls_verify_depth; modbus_slave_tls_force_tls1_2; modbus_slave_tls_cipherlist

	Added new command line diagnostics to show all possible point and cmdpoint options	6556
IECD diagnostics	`cli: iecd show point options` `cli: iecd show cmdpoint options`	

	Support for cyclic transmission of data point messages		
IECD104 Slave cyclic transmission	Package	Section	Options
	iecd	port	iec104_cyclic_on

IECD61850 Slave to MODBUS Server	Added support for IEC61850 slave to MODBUS Server	

IEC62351-3 TLS - CRL/OCSP Automated Fetching	Added support for CRL/OCSP automatically fetching from a link provided within the certificate. Previously implementation only used a local file	5955

IOSRVD direct serial comms	Support IOSRVD interface to serial using direct driver calls instead of UNIX sockets to tservd			6322
	Package	Section	Options	
	iecd	port	modbus_serialX_mode; modbus_serialX_speed; modbus_serialX_wsize; modbus_serialX_parity; modbus_serialX_stops (where X is 0 or 1)	
IOSRVD MQTT	Added support for remote IO and MQTT slave			6315
MODBUS TCP routes	Added support for MODBUS TCP routes			6643
	Package	Section	Options	
	iecd	mbtcp_route	ifnum; devaddr, ipaddr	
MODBUS master side analog filtering	When IECD is configured to communicate with a modbus slave, it can receive updates of register values that are modelling analog inputs (Holding Registers and/or Input Registers). Since analog values can be 'noisy' in nature, these updates can be quite frequent. If it is desired to limit the frequency of these updates, it is now possible to apply per data point filtering of analog values.			
	Package	Section	Options	
	iecd	point	modbus_filter_mode; modbus_filter_db_val; modbus_filter_sampling_time_secs; modbus_filter_transmit_time_secs	
MODBUS slave to Modbus master TCP data conversion	Support Modbus slave to Modbus master TCP conversion			6047
	Package	Section	Options	
	iecd	port	modbus_slave_devaddr; modbus_slave_protocol; modbus_slave_local_ip; modbus_slave_tcp_port (def: 502); modbus_slave_serial_ifnum; modbus_slave_use_tls; modbus_slave_tls_cacertfile; modbus_slave_tls_crlfile; modbus_slave_tls_certfile; modbus_slave_tls_keyfile; modbus_slave_tls_pass; modbus_slave_tls_common_name; modbus_slave_tls_validate_peer_cert; modbus_slave_tls_verify_depth; modbus_slave_tls_force_tls1_2; modbus_slave_tls_cipherlist	
MQTT ofline queue	Added support for MQTT offline message queue for stroring publich mesagees in memory while MQTT broker is offline.			
	Package	Section	Options	
	iecd	port	mqtt_offline_q_on	
MQTT payload logging	Added payload logging for MQTT publish			6317
	Package	Section	Options	
	iecd	port	mqtt_debug_on	
MQTT Slave to Modbus conversion	Added support for MQTT slave to Modbus protocol conversion			6319
RTU test emulator	Added support for VRTU (RTU Test Emulator) for pre-production SCADA connectivity and operations testing			6225
	Package	Section	Options	
	iecd	port	vrtu_simulation_interval_sec	

Serial to UDP multi-point mode	Added support for multile 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				6723
	Package	Section	Options		
	tservd	port	udpMultiPointOn; remote_ipX; udpRemotePortX		
Transparent mode offline queue	Added support for IEC104 slave offline queue when using transparent mode (no iec104s application layer)				
TPM key storage support	Added TPM support for TLS based protocols in IECD and Terminal Server (IEC62351-9)				6552
	Package	Section	Options		
	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		
	tservd	port	tcp_tls_keytype		
VRF	Support for binding IEC104 Slave socket to a VRF for isolation from general routing				4802
	Package	Section	Options		
	iecd	port	iec104_ip1_vrf; iec104_ip2_vrf; iec104_ip3_vrf; iec104_ip4_vrf; iec104_ip5_vrf; iec104_ip6_vrf;		
Windows file format data point import	Support windows .xlsx extension for data point files import				6027
SIP					
SIP Server support	GW1151-FXS series can now also act as a SIP server (registrar). Note: Cannot be both SIP client and server				
	Package	Section	Options		
	asterisk	main	bindaddress; bindport		
SNMP					
LAPB MIB support	Added support for VA-LAPB-STATS-MIB which provides level 2 statistics for the serial interface				4695
Modem firmware version MIB support	VA-MODEM-MIB modemTable now supports `modemFirmwareVersion` and `modemGsmLtePci`				5912
VA roaming manager MIB support	Added MIB support for VA Roaming Manager (`vaRoamingManagerModule`) feature to VA-MODEM-MIB				5842
System					
GNSS time synchronisation	Added support for time update via GNSS. Note: Router requires GNSS capabilities and GNSS is enabled				6229
	Package	Section	Options		
	system	timeserver	gnss_clock_source_enabled		

Sierra Wireless NAND	Added support for newer Sierra Wireless NAND flash. Note: Routers running newer Sierra Wireless flash cannot be rolled back prior to 25.02.80.000

10.9 25.02.14.032

10.10 25.02.14.027

No new features

10.11 25.02.14.024

Mobile		
EID retrieval using SIMCOM 7070E	The SIMCOM 7070E mobile module can now report EID information on the SIMs using vam -a command	6236

10.12 25.02.14.016

General		
GW2124P support	Support for new hardware GW2124P (Sierra Wireless single radio router with dual 10/100Mbps Ethernet)	

10.13 25.02.14.010

No new features

10.14 25.02.14.009

CP24 timestamp format messages	IEC101 Type ID 2, 4, 6, 8, 10,12,14,16 now supports CP24Time2a for IEC101 to 104 conversion	5980
IEC104 Double Bit command conversion	IECD now supports double bit command conversion to two single DNP3 commands when option dnp3option is set to 0x0001	6052

For the IEC104 Double Bit command conversion:

Package	Section	Options
iecd	point	index2; dnp3options
	cmdpoint	Index2; dnp3options

IEC104 multi master support	The IEC104 slave now supports up to 6 SCADA masters that can control the same RTU. In a normal scenario there is a single IEC104 SCADA master connecting to the router. It may sometimes use several TCP concurrent connections, however only one connection is active and transferring data at a time. All configured data points are sending data to the same connected IEC104 master. In some scenarios it may be necessary that several IEC104 SCADA masters are polling and controlling the same RTU concurrently. Moreover, it may be desirable that one master polls or receives data from a specific set of data points (identified by IOAs (information object addresses)) while another master polls a different set of data points within the same RTU.		6012

Package	Section	Options
iecd	port	iec104_multi_master_on (def: 0);
		iec104_conn1_casdu; iec104_conn2_casdu; iec104_conn3_casdu; iec104_conn4_casdu; iec104_conn5_casdu; iec104_conn6_casdu; iec104_local_ip1; iec104_local_ip2; iec104_local_ip3; iec104_local_ip4; iec104_local_ip5; iec104_local_ip6; iec104_local_tcpport1; iec104_local_tcpport2; iec104_local_tcpport3; iec104_local_tcpport4; iec104_local_tcpport5; iec104_local_tcpport6
	point	iec104_conn_mask
	cmdpoint	iec104_conn_mask

Ignore status points	Setting option iec104_status_ioa in a cmdpont section to 0 makes the IECD ignore the feedback point, but the commands still work.	5981

Modbus HMI support	VHMI (Virtual HMI) is a human machine interface exposed to an externally connected software. Current version supports only Modbus TCP protocol for the connection to the HMI software. The router acts as a Modbus TCP slave/server. External HMI software is a Modbus TCP master/client. When VHMI is enabled, the Modbus TCP client can poll the values of all data point objects in parallel to normal protocol conversion process	6040

Package	Section	Options
iecd	port	vhmi_enabled; vhmi_proto; vhmi_listen_port; vhmi_debug_on
	point	vhmi_on; vhmi_regaddr; vhmi_dword

Step and Bitstring commands	Added IEC101 to IEC104 conversion support for commands • C_RC_NA_1 Regulating step • C_BO_NA_1 Bitstring of 32 bit	6030

Strongswan

SCEP certificate debug level	The SCEP client natively supports debug options with 4 levels levels - 0,1,2,3 and 4. These can now be configured using new config option `debug_level`. Set to 0 to disable.	5881

Package	Section	Options
strongswan	scep_cert	debug_level

SCEP certificate user option	Added new config option user, which is the high-level concept of the user of the certificate. This user gets read access via its group. The owner is root, the group is the user. The user is expected to be a member of its group.			5908 5913
	Package	Section	Options	
	strongswan	scep_cert	user (def: strongswan)	

10.15   25.02.14.000

BGP				
eBGP multihop and source peer configuration	Support for allowing multihop ebgp neighbourhood for the peer and specifying source address for communicating with the peer. Option source can be either ip4 address or UCI interface name			5609
	Package	Section	Options	
	bgp	peer	ebgp_multihop; source	
Inbound and outbound route map	Support for BGP inbound and outbound route map configuration. Previously it was only possible to specify either inbound or outbound route map.			
	Package	Section	Options	
	bgp	peer	inbound_route_map; outbound_route_map	
Peer password configuration	Support for BGP peer password configuration			5090
	Package	Section	Options	
	bgp	peer	password	

CWATCH			
Ping Health Check	Cwatch now supports ping as a monitoring method. Previously only supported receive byte count		
	Package	Section	Options
	cwatch	watch	method; icmp_hosts; icmp_attempts; icmp_timeout; icmp_size; icmp_ttl; icmp_reliability

Digital Input			
Wet/dry configuration	Support for digital input wet/dry configuration for Merlin4600 and GW2300 series using new gpio package		
	Package	Section	Options
	va_eventd	target	vrf

Event System			
VRF	Support for events for syslog and email targets to be isolated from general routing using VRF		
	Package	Section	Options
	va_eventd	targt	vrf

FXS			

FXS interface	Configuration section `config main` is now replaced with `config interface`. This section contained one configuration option `low_zero_pulse` which has now moved to the new interface configuration section

Package	Section	Options
fxs	interface	low_zero_pulse

Receive and Tranmit gain	Support receive and transmit parameter configuration

Package	Section	Options
fxs	interface	rx_gain; tx_gain;

GRE

GRE Keepalive	Support for automatic responding to received GRE keepalive messages. Added multiwan support for GRE keepalive tests which sends a single GRE keepalive message and waits for either reply or timeout. Only relevant for GRE interfaces.

Package	Section	Options
system	main	audit_interface; audit_interface_log_file; audit_interface_log_size; audit_interface_log_count

Interface

Interface status loging	New feature for historical interface status logging for each configured interface for defined periods - day/week/month. Log can then be used to determine the reliability of an interface over time. Feature is enabled by setting `system.main.audit_interface`. When enabled, interface up/down events are logged to `root/interfacelog[*]`. Log can be displayed via the web UI at `status->interface log`, or using the command `iflog (up|down)`.

Package	Section	Options
system	main	audit_interface; audit_interface_log_file; audit_interface_log_size; audit_interface_log_count

Mobile

Multi-APN	Added support for Multi-APN using Sierra Wireless WP76XX modules

	New feature to identify all available roaming operators visible on the SIM card assigned to a 3G interface, and dynamically select the most appropriate one whenever the 3G interface attempts to connect, rather than sticking with a single operator.

Unlike the existing roaming support (configured via `/etc/config/mobile` roaming section) which creates a dynamic UCI interface for each discovered mobile operator, this new support will use a single UCI interface and will dynamically decide which physical operator to connect to at any time. This decision may be based on criteria such as signal strength, ping response time, and other metrics.

Roaming SIM enhancements

Package	Section	Options
network	interface	roaming_enabled; roaming_operator_exclude; roaming_ordering; roaming_ordering_function; roaming_ping_count; roaming_ping_hosts; roaming_ping_interval_ms; roaming_ping_timeout_ms; roaming_ping_size; roaming_full_scan_timer; roaming_allow_scan_inheritance; roaming_full_scan_window_start; roaming_full_scan_window_end

Power over Ethernet

Port restart

New option to restart an individual port using `/etc/init.d/vapoe restart` [A|B|C|D]

Routing

FRR Protocol suite

Quagga routing software suite is now replaced by FRR routing software suite for ORK and SXL families.

Bidirectional Forwarding Detection (BFD)

Added support for BFD protocol for fast detection of link failures - ORK and SXL families only

Package	Section	Options	
bfdd	routing	enabled; vty_enabled	5820 5821
	peer	address; multihop; detect_multiplier; receive_interval_ms; transmit_interval_ms; echo_interval_ms; echo_mode; passive_mode; min_ttl	
	route	bfd_gw_peer; target; netmask	

Routing table display

Enhanced display of routing table via web UI at Status->Active Routes to include Protocol and VRF

5823

SCADA

Data point and command point import

Support for import of data points and command points from file. This information will replace any UCI configuration. The format of each CSV file will consist of a header that specifies the datapoint options (in double quotes) followed by comma separated values for each of the datapoint options (in double quotes).

Package	Section	Options
iecd	port	pointmap_file; cmd_pointmap_file;

DNP3 over TLS (IEC62351-3)	Support for DNP3 connection over TLS (IEC62351-3)		
	Package	Section	Options
	iecd	port	dnp3_use_tls; dnp3_tls_cacertfile; dnp3_tls_crlfile; dnp3_tls_certfile; dnp3_tls_keyfile; dnp3_tls_pass; dnp3_tls_common_name; dnp3_tls_validate_peer_cert; dnp3_tls_verify_depth; dnp3_tls_force_tls1_2; dnp3_tls_cipherlist

System events for data point changes	Added new event system events for data point changes			
	Id	Name	Sev	Event Template
	1	IecdPointValueChange	Info	IOA %{p1} point value changed to %{p2}
	1	Rtud104PointValueChange	Info	IOA %{p1} point value changed to %{p2}
	2	RtudDnp3PointValueChange	Info	group %{p1} index %{p2} point value changed to %{p3}
	3	RtudModbusPointValueChange	Info	regtype %{p1} regaddr %{p2} point value changed to %{p3}

HART master protocol	Support added for HART master protocol conversion. The terminal server (tservd) configuration serial settings are set by IECD automatically when master protocol is HART. Note that the correct serial interface must still be enabled in tservd config		
	Package	Section	Options
	iecd	port	hartm_serial_ifnum; hartm_poll_intvl_secs; hartm_reply_timeout_secs; hartm_cmd_max_retries; hartm_debug_on ; hartm_dump_data

IEC101 automatic time update	Support for automatic time update at specified interval. If the NTP stratum received from chrony matches the configured IEC101 CS Stratum then the time frame sync is sent to the RTU on the specified interval		
	Package	Section	Options
	iecd	port	iec101_force_time_sync_secs; iec101_inter_char_timeout_ms; iec101_force_time_sync_first_ms;

IEC104 to DNP3 write time	New functionality to initiate DNP3 Time Synchronization sequence of commands immediately after reception of IEC104 Clock Synchronization command		
	Package	Section	Options
	iecd	port	iec104_cs_instant_sync_rtu

IEC104 time synchronisation RES1 bit	The router will not manipulate any timestamps which are included in any messages received from the local Master. This is reflected within a dedicated RES1 bit. The RES1-bit is used in the monitor direction to indicate whether the time tag was added
	to the information object when it was acquired by the RTU (genuine time) or the time tag was substituted by intermediate equipment such as concentrator stations or by the controlling station itself (substituted time): • RES1 Value <0> - Genuine time • RES1 value <1> - Substituted time

IEC104 last gasp virtual point	Added capability to send IEC104 Single Point message with configurable IOA to SCADA master once host device detect power loss		
	Package	Section	Options
	iecd	port	iec104_last_gasp_ioa; iec104_last_gasp_val
IECD web UI redesign	Redesign of IECD web UI to dynamically show chosen master and slave protocol options rather than all possible options at `scada->iecd`		
IEC61850 master protocol	Support added for IEC61850 master protocol conversion when connected to IEC61850 RTU. Current implementation supports up to 2 concurrent links		
IEC104 slave data point averaging mode	Support for data point averaging mode for IEC104 slave. When the configured sampling period (time or number of samples collected from RTU) is reached the average is sent to the SCADA Master		
	Package	Section	Options
	iecd	point	iec104_param_avg_on; iec104_param_avg_sampling_period_secs; iec104_param_avg_transmit_period_secsiecd.port.iec104_param_avg_transmit_threshold
WeConnect			
WeConnect Support	WeConnect allows secure remote access to both the network behind the devices and the devices themselves. WeConnect solves the complexity of managing VPNs over the Internet. With WeConnect users can easily and securely connect to any IP-device on the network using their normal PC, smartphone or tablet		
	Package	Section	Options
	weconnect	weconnect	weaddress; weint_name; confver; wetoken; weotp; rip_int

10.16   25.01.40.033

NTP			
Custom chrony configuration	Support for configuration of custom chrony options through web UI		
	Package	Section	Options
	system	timeserver	list text
Local clock drift factor recording	Hidden configuration option `system.timeserver.driftfile` now defaults to `/root/chrony/chrony.drift` to record local clock drift factor and reduce synchronisation time on subsequent boots		
SCADA			
Close RTU link when IEC104 master down	New option to stop transmitting on the RTU link when the IEC104 master data link goes down. This will allow the RTU to time out normally and use its own transmission queue to store events		
	Package	Section	Options
	iecd	port	iec104_close_rtu_link_on_master_down

	New option to support IEC104 data point background scan. When enabled, periodic messages with COT=Background Scan shall be sent if the iec104_type_id is compatible with COT background scan, and if the global configuration option iec104_bg_scan_secs is not zero		
Data point background scan	Package	Section	Options
	iecd	point	iec104_bgscan_on
		port	iec104_bg_scan_secs
	New configuration option to optionally send DNP3 delay measurement ACK in DNP3 initialisation sequence		
Delay measurement ACK in DNP3 initialisation	Package	Section	Options
	iecd	port	dnp3_app_send_delay_measure
	New configuration option to convert received time to UTC offset or pass through unmodified		
DNP3 app time selection control	Package	Section	Options
	iecd	port	dnp3_app_cs_use_local_time
	DNP3 to IEC104 protocol conversion support for IEC104 QU field - Pulse command operations. New options allow for configuration of individual cmdpoint with parameter required for Pulse command operations		
DNP3 to IEC104 IEC104 QU field – Pulse command	Package	Section	Options
	iecd	port	dnp3_app_crob_ontime_ms; dnp3_app_crob_offtime_ms; dnp3_app_crob_count
	Support for configuration of GI and CS parameters for clock synchronisation intervals		
IEC101 Forced Application Mode	Package	Section	Options
	iecd	port	iec101_gi_time_secs; iec101_cs_time_secs
	New options to support the handling of IEC104 parameters of measured values		
IEC104 parameters of measured values	Package	Section	Options
	iecd	point	iec104_param_on; iec104_param_thres_on; iec104_param_lolim_on; iec104_param_hilim_on; iec104_param_val_thres; iec104_param_val_lolim; iec104_param_val_hilim
	Added new configuration options for configuration version and IOA address for IEC104 Virtual Point		
IEC104 virtual point configuration version	Package	Section	Options
	iecd	port	iec104_cfgver_ioa; iec104_cfgver_val
Redundancy for up to 6 SCADA Masters	SCADA master redundancy support has been increased from 2 to 6 SCADA Masters		
Support for 2408 data points	Maximum supported data points have now increased from 1200 to 2048.		
	Support VA event generation on data point IOA value change so VA event system can send an alarm to configured target		
Data point change event	Package	Section	Options
	iecd	cmdpoint	log_vaevent_on_change

System
Syslog entries since boot	New parameters added to logread to only show log entries since boot. • `logread -r` – show current log entries since boot • `logread -ar` – show log entries since boot and include disk archive files

10.17   25.01.40.028

Mobile		
LTE band MIB support	Added LTE band to vaModem.mib	
	MIB	Description
	vaModem.32	LTE band

10.18   25.01.40.019

No new features

10.19   25.01.40.016

No new features

10.20   25.01.40.004

Mobile			
Backoff configuration	New feature to support configuration of backoff and reconnection timers on mobile interfaces. This allows for configuration for the number of `ifup` failures before backoff and the amount of time to wait before connection retry. The connection retry timer can be configured to incrementally increase		
	Package	Section	Options
	network	interface	failures_to_backoff; backoffminutes
CDMA 450 MIB support	Added CDMA 450 MIB support to vaModem.mib for EC/IO, DRC and PN-Code		
	MIB	Description	
	vaModem.29	EC/IO	
	vaModem.30	DRC	
	vaModem.31	PN-Code	

Custom initialisation string	New feature for ability to pass custom AT commands to the mobile module at mobile startup and SIM switch. The custom AT commands allow for independent configuration for each SIM		
	Package	Section	Options
	mobile	main	sim1_custom_pre_init_at_string; sim2_custom_pre_init_at_string; sim1_custom_pre_init_at_string_timeout; sim2_custom_pre_init_at_string_timeout; sim1_custom_post_init_at_string; sim2_custom_post_init_at_string; sim1_custom_post_init_at_string_timeout; sim2_custom_post_init_at_string_timeout
GPS support	GW1150 series now supports GPS		

OpenVPN			

Configuration import	Support for web import of OpenVPN `.ovpn` file. This file will override any configured UCI options		
	Package	Section	Options
	openvpn	openvpn	config_file
Web UI redesign	Redesign of web UI OpenVPN manual configuration with support for upload of Pre-shared key; CA certificate; Peer's Public Certificate; Peer's Private Key; Diffie Hellman; TLS Auth Key		
	Package	Section	Options
	openvpn	openvpn	tls_auth; key_direction

SCADA			

IEC104 CS_REWRITE	New functionality to provide checking Chrony NTP sync status and stratum before clock rewrite		
IEC104 timer	Added new options for configuration of IEC104 T1, T2 and T3 timers in seconds		
	Package	Section	Options
	iecd	port	iec104_t1_sec; iec104_t2_sec; iec104_t3_sec

SCADA Applications	Integrated all SCADA applications into ORK family. New SCADA web UI tab for grouping together SCADA related features. Feature naming has also been updated to be consistent with firmware packages and Activator.	

Web	Package	Description
DNPOSD	dnposd	DNPOSD is a SCADA application which emulates a DNP3 controlled station and presents status of monitored interfaces and device information as DNP3 objects
IEC101MON	iec101mon	IEC101MON is a router application that monitors IEC 60870-5-101 link and forwards the decoded messages over MQTT
IEC101RTR	iec101rtr	IEC101RTR is a SCADA protocol conversion application which acts as IEC101 Slave and converts SCADA traffic to IEC104 Master
IECD	iecd	IECD is a SCADA protocol conversion application supporting many SCADA protocols: IEC 60870-5-104, IEC 60870-5-101, IEC61850, DNP3, Modbus, MQTT
IOSRVD	iosrvd	IOSRVD is a router application working with IECD to communicate to Remote IO devices
Modbus Gateway	modbus_gw	Modbus Gateway SCADA protocol conversion application which acts as Modbus Slave and converts SCADA traffic to IEC104 Master
RTUD	rtud	RTUD allows the remote SCADA master to monitor and control the digital IOs of the router that acts as the RTU slave. RTUD supports IEC 60870-5-104, DNP3 and Modbus.

Secure Modbus TCP	Support for secure Modbus TCP with introduction of modbus TLS security extension

Strongswan

Interoperability improvements	New options added to strongswan configuration for better interoperability with 3rd party vendor peers

Package	Section	Options
strongswan	connection	disable_mobike; mobike_send_additional_self; disable_natt

Terminal Server

Hardware independent device naming	Added new option for configuration of user-friendly terminal server serial port naming. This allows the terminal server to be configured with the serial port label name in place of the linux `devName` (which can vary between hardware models).

series	devName	serialPortName	physical port
GW1150	/dev/ttyUSB0	port-b	Serial
GW2024P/	/dev/ttySC0	serial0	Serial 0
GW7314	/dev/ttySC1	serial1	Serial 1
GW2300	/dev/ttyUSB0	serial0	Serial 0
	/dev/ttyUSB2	serial1	Serial 1
GW3300D	/dev/ttyOBD0	serial1	Serial 1
	/dev/ttyUSB0	serial2	Serial 2
		serial-ext	USB

TLS support for TCP mode	Added support for TLS in TCP server and TCP client mode using `tservd`.

Note: New features prior to ORK-25.01.40.004 have been archived

11 Appendix 2: Problems resolved history

11.125.04.36.000

Module	Short Description	Mantis
Asterisk	Add sample FXS config file	5965
	Added support for PCM capture on outgoing DAHDI channel	7875
	Make `ticks_pushed` incremental rather than absolute to avoid audio loss after a jump in timestamp	7877
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 `recent` option.	8037
	Fix syslog message sending to multiple IP address	8046
FXS	Prevent underrun that causes initial call audio to get dropped	7876
GPS	Fix `gpspeek` 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
	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
	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 `va-mobile` and execute `AT+CFUN=0` 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
	Set minimum firmware software version for Quectel EM060 module to prevent rollback to unsupported firmware	8088
Network	Fix link loss when changing from bridge to single port	7937
	`ifup`/`ifdown` now correctly validate the UCI interface name before execution	6276

OpenVPN	OpenVPN interfaces are no longer deleted on `ifdown/network restart` event	7871
PoE	Generate an error periodically for PoE failure	7538
PPP	Fix option `record` 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 `select operate`	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
Syslog	Fix bad values intermittently generated using firewall recent option	8055
System	Fix memory crash on GW1150 series under heavy load	4681
	Re-enable `nano` support on CPX firmware (disabled in CPX-25.04.19.000)	7998
	Suppress UCI error on `version -a` command if mobile module is not initialised	7984
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
	Ensure lines are visible underneath the login fields	8072
	Fix pixelated background images	8072
	Fix web UI crash when option ifname is missing from an interface	8050
	Removed hsotname and Westermo logo and link from web UI log in page	8072
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
	Update interface pages to show firewall zones as colours	7988
	Allow configuration of an MTU higher than 1500 bytes	7534
Web/Firewall	Add option to WebUi to raise va events on zone dropped/rejected traffic. `web:` cli: firewall.zone.discard_event	7769
Web/HTTP Server	Fix typo on web UI HTTP Server TPM Key Name	8079
Web/Mobile	Removed choice for selection of the assigned radio module. Radio selection is now done via the SIM slot selection.	7893
Web/PoE	Add warning for PoE failure	7538

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

11.225.04.16.000

Module	Short Description	Mantis
802.1x	Fix 802.1x authentication	4290
		7464
802.1x	Fix 802.1x restart after `ifup` or cable unplug/plug	7530
Activator	Fix issue with multiple downloads from different services (active update, inventory, audit) running simultaneously	6321
Asterisk	Handle timestamp jumps when the remote end switches between tone generation and call media	
Boot	Improve power-on sequencing for USB hub on GW2124P, Merlin series	
Cwatch	Change Cwatch 'Interface does exist' message to NOTICE severity	7078
Data Usage	Fix mobile phy detection on data usage start using faster processors	7865
DHCP	Fix corrupted IA address when sending OPTION_IA_N	7424
Ethernet	Fix Ethernet ports intermittently reflecting incorrect state when bridging	7795
Event System	Correctly handle double quotes in event target `cmd_template` value	5736
	Fix `va_event` syslog messages showing with no space between date and serial number	7513
FXS	Treat FXS port as single channel instead of group to ensure `486 (Busy Here)` response for an incoming call while FXS port is off-hook instead of `503 (Service Unavailable)`	
GRE	Validate configured keys are unique	6769
HTTP Client	Include all CPUs in interrupt count value in hdl request field `irq_cnt`	6228
IECD	Added timestamp to `iecd show stats` diagnostics command	7339
	Enhancement to `iecd show config` 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
	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 `iecd.port.modbus_serial_ifnum` 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 50 ms	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 auto restart of Telit and Cellient CDMA modules by critical process utility	6371
	Fix band selection for SIMCom7070E module	7833
	Fix EID detection when APDU contains the tag and length	7522
	Fix LTE band selection for bands larger than 63 for Sierra Wireless modules	7680
	Fix operator scan	7693
	Fix Quectel registration status poller	7484
	Fix Sierra Wireless module FOTA upgrade CRC32 checksum calculation	7724
	Fix `va_mobile` 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 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
	Ignore SIM in/out events from eSIM that could lead to crash on Sierra Wireless modems	
	Improve behaviour on network down for QMI connections to ensure reconnection after network outage	6325
	Log a warning that GNSS is not supported for SIMCom7070E mobile module	7822
	LTE band locking configuration option `simX_lte_bands` now supports space separated bands	
	`sendsms` command now handles '+' at the beginning of international numbers	
	Split registration check and signal check to avoid overload on Quectel RM520 5G module which could result in module no longer responding to AT commands	7296
	Unitac modules now use `wwan0` interface rather than `eth0`	6899
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
Network	Add interface name and state for aliases to `network_status`	6716
	Fix dependant interfaces starting correctly on a network restart	7598
	Remove the minimum IPv6 fragment size check	7320 7324 7325 7326
OpenVPN	Allow `tun` or `tap` setting to create interfaces correctly.	7114
	Don't create new `linux` and `uci` interface on openvpn 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 `engineID` 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 `ps` command	7020
	Fix minimum machtype firmware version checking	7717 7722 7714
	Fix misleading '`cannot find device`' messages on network restart or `ifup`	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
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 `vrrp status` 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
	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/ Modbus	Fix display of IECD status page to show data points	7170
Web/ Multiwan	Support `multiwan.interface.state_transition_hook` configuration via the web UI	5433
Web/ OpenVPN	Implement dependency between `local` and `nobind` 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/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 `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
Web/VHMI	Fix broken upload of DPS private key file	
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
	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 `dsl` 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
Firmware	Prohibit downgrading router firmware on models using Sierra Wireless Toshiba NAND flash to an unsupported version (< 25.03.43.014)	7488
Mobile	Fix Quectel RM520N restart after switching to QMI mode	7243

11.425.03.43.019

Module	Short Description	Mantis
IECD	Fix clock sync time in IEC101 `force_clock_sync` to use local time instead of UTC	7208
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 selection of bands above band 63 for SIMCom7600G-H	7356
	Use Unitac-specific AT commands `AT!UBAND`, `AT!UTEMP` and `AT!UREBOOT` instead of GCT commands	
PoE	Fix missing event on powered device disconnect	7195
Strongswan	General improvements to memory usage	
Syslog	Fix syslog timestamp to use local time instead of UTC	7240
Web/PoE	Web UI now correctly displays the number of PoE ports available	
Web/PoE Status	Web UI PoE Status enhancements - Fix values table values when device not connected; Add power info; Remove volts and current;	7166 7196 7198 7199
WeConnect	Fix support for WeConnect	6793 7218

11.525.03.43.010

Module	Short Description	Mantis
Activator	Set model URL parameter to uimodel rather than machtype in updates to Activator	6761
Certificates	Improve error reporting for common issues with HTTPS certificates	6987
CLI	Improve error message for `uci show xy` when `xy` does not exist	
Ethernet	Add `arp-scan` utility to DRS, ORK and SXL families for consistency with EDG family cli: arp-scan -l	5829

Firewall	Fix variable name clash in zone option presence test causing occasional restart issue	
Firewall	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	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	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 detection of Quectel RM520N 5G mobile module running latest firmware (RM520NGLAAR01A07M4G)	
	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 Initialisition was indicated in OMADM	
	Record Unitac AUX antenna values regardless of MIMO state	
	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	
TPM	Don't allow loading a new key if a key with the same label is already present	
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/Event System	Support configuration of Event System Digital Input change event input number and value via web UI	6839

```
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

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	6827
Web/Realtim e Graphs	Fix web UI real time graphs for QMI mobile connections `web: status->Realtime Graphs`	7029
Web/System	Restore javascript validation preventing underscores in system hostname	4555

11.625.03.43.000

Module	Short Description	Mantis
BGP	Fix local VRF IP subnet not being advertised over WAN VRF using a BGP instance in the same VRF	6799
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 inititialisation error when loading TCP routes	6803
Mobile	Fix signal strength detection on older Unitac modules	6805
Web	Fix slow web SSL access when using keys from TPM	6734

Web/HTTP Server	Support configuration certificate keys in TPM
	
	`web: services->http server->Certificate Key Format`
	
	`cli: uhttpd.uhttpd.keytype [PEM|TPM]`
		6756

Web/ Asterisk	Fix incorrect tos_audio and tos_sip range	6792
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
	
	`web: status->System Log`
	
	`web: status->Kernel Log`
		6794

11.725.03.37.000

Module	Short Description	Mantis
Firewall	Fix issue with `fw reload` command	6773
USB Hub	Improve USB hub initialisation on boot. Also introduced automatic USB hub restart on failure detection	

11.825.03.35.000

Module	Short Description	Mantis

Activator	Fix Activator active update command returning incorrectly parsed IPv6 addresses	4727
CWATCH	Cwatch now ignores non-existing UCI network interfaces	6644
	Ensure cwatch can handle comma separated ping destinations	
Cwatch	Fix cwatch using cached interface values rather than current values which caused cwatch to intermittently miss state changes	6784
Ethernet	Ensure Ethernet ports aren't bridged during startup on GW1042 to avoid leaking traffic between LAN segments during reboot	5906
	Fix Ethernet configuration when using ifnames portA and portB instead of va_switch	6743
	`ifup` now preserves VLAN interfaces when configuration has non VLAN and multiple VLANs attached to the same Ethernet interface	6247
	Increase frame size limit to accommodate large VLAN packets	6307
Event System	Fix boot success event	5927
Failsafe	Failsafe mode now uses SSH instead of telnet access	6663
Firewall	Fix issue with `fw reload` command	6773
	Insert the `MARK` configuration rule before the `redirect` rules in the firewall table	5405
FXS	Ensure `fxs0` is the default for option `fxs.interface.ifname`	
	Fix error messages when running `/etc/init.d/dahdi restart`	5959
	Fix FXS drivers not loaded when asterisk 'main' config section is not presen	6607
	Prevent creation of duplicate entries in `dhadi/system.conf` which prevented E1 spans being registered with asterisk	6174
	Remove `callerid` option from `sip.clients.conf` as no longer used and causes issues with hunt groups	6175
GRE	Fix GRE keepalives	6554
IECD	Added conversion from 4 Modbus 16-bit registers (int64) to iec104 float	

	Added missing implementation of T0, T1 and T3 timers to address IEC104M link not closing on `ifdown`
	
	`web: scada->iecd->master protocols->configure iec104->iec104-X`
	`cli: iecd.port.iec104m_t0 (def: 5 secs)`
	`cli: iecd.port.iec104m_t1 (def: 15 secs)`
	`cli: iecd.port.iec104m_t3 (def: 20 secs)`	

	Added RTS-CTS flow control of the serial (when not using tservd)	6615
	Added support for conversion of 2 modbus 16-bit registers storing FLOAT32 to IEC104 type 13 float	
	Fetch CRL file using a link from peer certificate	5955
	Fix CSV import issue when parsing bitmap options	6555
	Fix issue in IEC104S to IEC101 in transparent mode, where 104 ASDU CA=65535	
	Fix issue in IEC61850 master to DNP3 slave conversion of analog float values	6593
	Fix issue processing IEC101 reset process response	

Fix issue with DNP3 Gr3 (double bit) to IEC104 single point conversion	6671
Fix parsing parsing of `-casdu` switch in IEC104 firewall	6298
Fix serial configuration in modbus master	6540
Fix tx buffer overflow and iecd crash when DNP3 Slave serving large number of points and events (500+)	6609
Fixed incorrect cleanup while closing during IEC104S TLS session establishment	6636
Fixed incorrect parsing of MQTT `SUB-ACK` packet	6295
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
Fixed load errors for custom SCADA firewall rules	6025
Fixed MQTT hostname resolution	6308
Handle multiple sessions, cleaning up in case of errors when fetching CRL file using a link from peer certificate	5955
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
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	
IEC61850 Server: Update points from Modbus RTU when point have not been changed before in addition to when value changed	
Improve debugging of IEC61850 client when processing control commands	
Improved IEC61850 control command processing in relation to IEC101 and IEC104 single-double select-execute sequence	
Improved IEC61850 SCL import and export into UCI file	6581
Improved show statistics command when multiple RTU protocols are used per point	6580
Improvements in the VRTU to IEC61850 slave conversion	
MQTT Slave to MODBUS RTU: send MQTT publish only on value change	6376

Support configurable IED name and LD name for IEC61850 slave
 	
`web: scada->iecd->slave protocols->configure iec61850->IEC61850`
`IED Name`
`cli: iecd.port.iec61850_ied_name`
`web: scada->iecd->slave protocols->configure iec61850->IEC61850 LD`
`Name`
`cli: iecd.port.iec61850_ld_name`	

Support for Digital Input inversion in the IEC61850 server	

LED	Fix mobile signal strength LEDs on GW2300 series	
	Fix Port D LED operation on GW3300D	6243
Memory	Fix memory errors on GW1400 series	5620
Mobile	Add data-only configuration for Quectel EP06 module	
	Add display of additional Unitac signal values to `vam` command and web UI	
	Add MTU detection for Unitac modules	
	Add switch to add switch to data-centric mode for Quectel EC25 and SIMCOM modules	
	Added 5G network registration status	
	Added PCI display for Unitac modules	6251
	Disable the APNs when connection is terminated for Unitac modules	6484
	Ensure MTU does not exceed 1500 bytes on QMI links	6567
	Ensure Quectel EC25/EG25 modules use GSM format for SMS messages	
	Ensure that Verizon APN is correct for default/initial bearer	6154
	Enter airplane mode before attempting to change the default LTE bearer to avoid issues with SIM failover	5991
	fix `chat` command failing if previous `chat` aborted	6210
	Fix crash when LTE band retrieval for SIMCOM fails	
	Fix crash when `switch_sim` command is executed with no value	
	Fix ESN display where leading zero's were being omitted	6345
	Fix for interfaces not coming up after SIM switch on GW1400 series	6675
	Fix for SMS received by Quectel EG25G via IMS in Verizon network	6594
	Fix GW1400 series mobile module randomly disconnecting from USB bus	6304
	Fix incorrect reporting of RSSI when using Unitac mobile module	6437
	Fix interface name and type for Unitac modules on Merlin series	
	Fix missing LTE band information on older Unitac firmware	6630
	Fix multiwan to run with default group when no group name specified	
	Fix performance issues on Sierra Wireless modules (introduced in 25.02.80.000)	6708
	Fix second radio module initialisation in GW2300 series	6587
	Fix to prevent the modification of the Verizon attach bearer	6043
	Fix va_roaming ignoring `Stat=0` operators in roaming scan	6184
	Fix `vam resetmodem` on GW1400 series	5969
	Ignore network provided DNS addresses if option DNS configured	6372

	Improvements to operator scan:	
	• Now commence an operator scan as follows; `AT+COPS=2` (detach from network); `AT+COPS=0;+COPS=?` (reattach and commence scan, all in one operation) • `AT+COPS=?` timeout increased to 190 seconds • automatically retry a failed `AT+COPS=?` command if it fails within 15 seconds • `vam roaming` now includes scan duration in seconds	
	Incorrect SINR reported for Quectel modules	5951
	Mobile connection no longer dropped when 2nd antenna is docinnected when using Unitac modules	6446
	Prevent `+CGEV: NW DETACH` trigger warnings in the logs	6616
	Prevent crash when handling SIMs with invalid ICCID	6635
	Prevent crash when no SIM slot specified for SIM switch command	
	Re-connect to network automatically if `AT+CGATT=1` fails	
	Rename 'phone number' to 'MSISDN' in mobile stats	

	Support new option to enable MIMO on Unitac modules (disabled by default).
	`web: services->mobile manager->advanced->Enable MIMO for Unitac radio Modules`
	`cli: mobile.mobile.unitac_mimo_enabled`
		6499

	VA Mobile roaming diagnostic now shows roaming info for all modems by default `cli: vam roaming`	
	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
Network	Ensure `ifdown` kills all `ifup` processes on the same interface and not just the child processes	
	Fix dependent interface behaviour when parent WAN interface is using QMI mobile interface	6493
	Fix repeated `ifup` race condition on bridged interfaces	6265
NTP	Improvements to chrony operation for interface state changes	6631
PoE	Prevent attempts to disable ports on non PoE hardware to avoid erroneous syslog warnings	
PPP	Fix connection issue when two ppp links have similar UCI name	6654
QoS	Fix QoS initialisation	6560
Roaming Manager	Retry existing connection after routine disconnect when using Roaming Manager feature	
Routing	Enable FRR `vty_enabled` option in user interface	6613

RTUD	Added support for inverting digital inputs after reading from hardware
	`web: scada->rtud->advanced->Invert Inputs`
	`cli: rtud.main.invert_inputs (def: 0)`
		6208

SCEP	Added certificate expiry check during re-renrollment	6235

	Change new cert and key permissions when they are installed at the end of the SCEP process. Also adjust the CRLs directory to allow strongswan write access for runtime CRL downloads.	5908
	Fix intermittent issue where only one SCEP request was sent when multiple SCEP clients were configured	6523
	Fix loading of SCEP CA certificate	6525
	Strongswan is now restarted after SCEP renewal to ensure the peer correctly deletes the existing IKE_SA	6190
SIP	GW1151 can now also act as a SIP server (registrar)	5758
SNMP	Fix creation of SNMPv3 traps	5943
	Fix failing snmpwalk on vaModem MIB when no roaming info available	5922
	Fix mibwalk error on .1.3.6.1.4.1.2078.3.1.2.4.2 when walking VA-MODEM-MIB::roamingOp* series of values	6618
	Fix SNMP configuration using TCP protocol	5930
SSH	Fix SSH login via private and public key.	6425
Strongswan	Allow IPSec tunnels to start when CA certificate download fails and blocking is disabled in `scep_cert` config	6324
	Do not split long PSK into separate lines which would cause PSK to be read incorrectly and Phase1 failure	6537
	Remove FlexVPN GRE IP addresses on tunnel termination	5924
	Fix IKE SA delete being sent with correct message id to ensure IPSec peer does not discard	6246
Syslog	Fix multiwan errors in log when multiwan not configured	6489
System	Changed password hash algorithm option value to a ListValue `cli: list system.main.passwrd_hash_algo`	5001
Sysem	Fix auditing of DMVPN configuration using option `audit_cfg`	
	Prevent download of incorrect firmware family	
	Prevent download of incorrect firmware family	
	Support image compatibility check on GW1150 to prevent download of firmware that does not support on board Sierra Wireless flash version	
TACACS	Fix ipv6 address support	6620
	Fix tab correction for TACACs+ user login via SSH	6527
Teminal Server	Increase port limit to 16	6267
	Added support for new option in GW2124P to control serial LED detection using DSR control signal when DTR/DSR signals are being used `cli: tservd.port.led_dsr_detect (def: 0)`	
	Auto detect serial mode gpio control settings	5970
	Fix failure to recover from bind failure while interface down	6464
	Fix SNMP poll of TSERV-MIB	6477
	Fixed issue with auto detection of serial port names on GW2028	6313
TPM	Fix RSA key loading on big endian platforms	

	Improve support for TPM access from multiple processes to avoid TPM being locked by another process	6483
User Limits	Fix Procrustes user limit events	6538
VRF	Fix DNAT behaviour for alias interface within VRF	6705
Web	Fix web UI intermittently advising router is running in factconf when in config1	6547
	Improvements to web UI performance and load times	6178
	Sort web UI drop down headings	5909
Web/ Interface	Added `mtu` configuration opton for PPPoEoA and PPPoA ADSL interfaces	5702
	Fix default gateway handling for DHCP protocol	6601
Web/ IPsec	Fix error on saving of configuration general section	6281
Web/ Multiwan	Allow multiwan configuration via web UI when no multiwan config options exist in configuration file	
Web/ Network	Show colour codes for interface status in network overview	6536
Web/ OpenVPN	Automatically add and remove OpenVPN network interfaces	6296
	Do not add `key_direction` option when set to its default value (bidirectional) when OpenVPN configured via web UI	6063
Web/BGP	Fix BGP network option for IP address/subnet input rather than interface name `web: network->bgp->global settings->Network`	6619
	Fix BGP network option for IP address/subnet input rather than interface name `web: network->bgp->global settings->Network`	6619
Web/Firewall	Fix summary page showing rules with `option enabled '1'` in configuration file as disabled	6765
Web/FXS	Add option to enable asterisk via web interface Web: services->sip->general->Enabled	
	Support FXS configuration web: network->fxs	5930
Web/GPIO	Change Web UI digital input mode default to dry mode	6060

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 `/etc/cert`	6643
	Changed free text fields `log_vaevent_on_change`, `vhmi_on` and `vhmi_dword` to selector on-off	6165
	Fix typo in DNP3 slave protocol option	6578
	Fix web UI issue in IEC61850 slave	
	Only show `IEC104 TLS Common Name` and `IEC104 TLS Verify Depth` options when `IEC104 TLS Validate Peer Cert` is enabled	6643
	Removed unused `iec101_cmd_type_id` 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/Mobile	Prevent option `ifname` configuration being added to mobile interfaces when configured via web UI	6501
Web/SNMP	Improvements to web UI SNMP configuration	
Web/System	Fix firmware flashing error mesage	6286

Web/Terminal Server	Added support for TCP Tap Port configuration
	`web: scada->terminal server->port->advanced->TCP Tap Port`
	`cli: tservd.port.tap_port (def: 0)`
		6291

Web/VA Event	Add length check in web UI for `snmp_auth_pass` and `snmp_priv_pass`	

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

Web/WiFi	Add WPA Enterprise configuration to web	5963
WiFi	Fix `ifup` transmission issue when WiFi is bridged with an Ethernet interface	6514

11.9 25.02.14.032

Module	Short Description	Mantis
ADSL	On GW6600 series start all PPPoA interfaces with ifname nasX. Previously only PPPoE and PPPoA interfaces with nas0 are autoamtically started	6061
Download	Fix interrupted download when va_vars incorrectly states image not found. Download now correctly continues rather than starting again.	6354
Mobile	Fix duplicated ICCID when using WP76xx-AU module on Merlin4600 series.	6352
	Fix second radio intermittently not being detected on GW3300D series	
	Fix Unitac module detection (broken in release 25.02.14.030)	6387
TACACS	Fix TACACS behaviour when router is configured to only authorise authentication for SSH access (or other configured PAM services). Previously all authentication requests were sent to TACACS server instead of SSH only.	6050
TPM	Fix HTTPS incoming connection activation with key stored in TPM on Merlin4600 series.	6367
	Flush transient objects from TPM RAM upon session open on Merlin4600 series.	

11.10 25.02.14.027

Module	Short Description	Mantis

WiFi	Fix intermittent incorrect WiFi interface name generated by `ifup` command on WiFi interfaces	6253

11.11   25.02.14.024

Module	Short Description	Mantis
BFD	BFD rate changes now working as expected when multihop enabled	6255
	Fix BFD multiplier configuration	6242
Download	Fix size calculation when image download exceeds 10M	6033
	Increase time limit for image download to 5 hours (previously 2 hours)	6266
HTTP Client	Set download minimum rate limit to 1kBps	6266
PPPoE	`ifup <ifname>` now correctly re-establishes when `<ifname>` is a PPPoE link and is already up	6241
Serial	Fix serial LED settings when `option serialPortName` is configured on GW2124P series	6219
Terminal Server	Fix TOS value support using `option tos_value`	

11.12   25.02.14.016

Module	Short Description	Mantis

GPIO	Merlin4600 series digital input values changed to match GW2020 series for SCADA operation compatibility
	`0 = input not detected/open/low`
	`1 = input detected/closed/high`	

RTUD	RTUD auto generate config option now defaults to off in both web UI and router
	`web: scada->rtud->main settings->Auto generate configuration`
	`cli: rtud.rtud.point_auto_config_on`
		6075

	Fix defaults for RTUD so web UI no longer shows errors when saving	6075
LED	Fix serial LED on GW2024P with GW2027 machtype	6167
Mobile	Fix IP connectivity when using Huawei 709 with firmware 11.652.65.00.00	6076
System	Backup, check and fix uboot environment in case of corruption on models using Sierra Wireless WP7600 series processor (GW1150, Merlin4600). Fixes rare situation where machtype could revert to incorrect model.	
WiFi	Ignore WiFi type when only single WiFi supported by firmware to avoid issues with third party AP's	5905

11.13   25.02.14.009

Module	Short Description	Mantis
Ethernet	Fix default MAC address for Merlin4600 Ethernet ports	5740

GPIO	Merlin digital inputs now default to dry	5992
IECD	Fix data point handling where previously only the last data point was forwarded the SCADA master when using HART protocol	6046
	Fix IEC MIB walk	5920
	Fix IECD CSV files data point import.	5975
	Fix issue in handling periodic GI and Clock Sync timeouts in IEC101 Master	
	Support for CP24 timestamp format messages in IEC101 to 104 conversion	5980
IOSRVD	Fix for option auto_detect behaviour to not remove undetected devices from iosrvd config file	5522
IP PAD	Fix Flow control from X.25 network to serial in AT mode	5925
	Fix high CPU load for new IP connection to IP PAD causing data transfer from terminal to X.25 to fail	6006
Memory	Fix GW1400 series memory corruption	5620
Mobile	Fix crash when LTE band retrieval for SIMCom fails	
	Fix ICCID collection for second SIM on Sierra Wireless and Quectel EM06 modules. Previously showing same ICCID for both SIMs	5946
Network	Fix static default route configuration using target 'default' and netmask 0.0.0.0	5942
SFP	Fix interface failing to restart after network package restart	6079
Strongswan	Decrease OCSP/CRL fetch timeout to 3 seconds from 10 seconds to avoid resource issues for multiple tunnels using CRL	5954
	Exclude password field from re-enrollment requests	5993
	Handle DER or PEM format for SECP fingerprint	5879
	In case mulitple root CA's downloaded, verify fingerprint of the root	
	Send DELETE message from IKEv2 delete task for initiator. Previously when initiator, the router terminated the IKE_SA without sending a delete which led to problems when connected against another VA router in responder role.	6052
Terminal Server	Fix loopback test for serial ports	5972

Web/IPsec	Support configuration for FlexVPN via web UI
	
	`web: services->ipsec->connection->Route Interface`
	`cli: strongswan.connection.route_interface`
	`web: services->ipsec->connection->FlexVPN Prefixes`
	`cli: strongswan.connection.flexvpn_prefixes`
		6000

	Support configuration of local cert via web UI
	
	`web: services->ipsec->scep certificate->Local Certificate`
	`cli: strongswan.connection.localcert`
		6000

Web/RTUD	Fix web UI configuration of RTUD auto generate config option	6075

Web/SCEP	Support configuration of SCEP fingerprint and CA Name via wb UI
	
	`web: services->ipsec->scep certificate->CA Fingerprint`
	`cli: strongswan.scep_cert->fingerprint`
	`web: services->ipsec->scep certificate->CA Name`
	`cli: strongswan.scep_cert->ca_name`
		6001

Web/Termin al Server	Support configuration of serial port name via the web UI	5424
	`web: scada->terminal server`	
	`cli: tservd.port.serialPortName`	
	Support configuration of Serial Port Name via the web UI	5424
	`web: scada->terminal server->port settings->serial->Serial Port`	
	`cli: tservd.port.serialPortName`	

11.14   25.02.14.000

Module	Short Description	Mantis
Activator	Added RADIUS support to active updates	3514
CESOP	Fix CESOP Mcp4821SetVoltage dac write failed on model GW6610-ALL	5747
Ethernet	Enhancements to GW1042 Ethernet health check to avoid configuration blocking health check pings. Now allow ping broadcasts through base0 even if default output set to drop in firewall and dynamically add strongswan bypass policy rule	5758
	Fix LED port D behaviour on GW3300D	5869
	Restored missing `arp-scan` functionality on GW6600V	5829
	`cli: arp-scan (ip|- l)`	
Event System	Fix connection tester when using UCI interface name for ping source	5828
FXS	Fix handling of the DTMF characters A-D in SLIC driver. These characters were mapped incorrectly leading to a wrong regeneration by Asterisk when out-of-band signalling was used	5355
GPIO	New user friendly wet/dry configuration commands for USB GPIO daughtercard used by GW2024P (to be used instead of option `inputs_dry_wet_mask`)	5145
	`cli: input0_is_wet; input1_is_wet; input2_is_wet; input3_is_wet; input4_is_wet; input5_is_wet;`	
GRE	Integrate keepalive responder to gre interfacesso every GRE interface will automatically start keepalive responder and reply to all GRE keepalive messages	5249
IECD	Changed IEC104 T2 timer from millisecs to secs	
	`web: scada->iecd->port settings->iec104 master->IEC104 T2`	
	`cli: iecd.port.iec104m_t2`	
	Extend the size of config variable ioa_offset from 16 bit to 32 bit	5790
	Fix behaviour of iecd restart	4981
	`cli: /etc/init.d/iecd restart`	
	Fix behavour of DNP3 sync time to use time from the RTU/Master rather than local time.	5429
	`cli: iecd.iecd.dnp3_app_sync_time`	
	Fix incorrect handling of broken iecd ui commands	5461
	`cli: iec set`	
	Fix missing ACTCON (neg) for received DNP3 response from DNP3 RTU with Status 2	5497

	Fix when iec104_close_rtu_link_on_master_down=1, DNP3 RTU up-down status is not set. Fixes incorrect (UP) value in the RTU health point sent to IEC104 master	5717

	Fixed an issue in MQTT control group mode OR and Implemented new group mode NAND
	
	`web: scada->iecd->port settings->mqtt-s->MQTT Control Group Mode`
	`cli: iecd.port.mqtt_ctl_group_mode (and|or|nand)`
		5723

	Fixed DNP3 master issue when parsing `g1v1` object not calculating start index correctly	
	IEC104 to Modbus conversion: implemented conversion from fixed point integer to float.	
	IEC104 to Modbus conversion: implemented conversion from fixed point integer to float	
	Modbus master now supports reading non consecutive registers (siemens device)	
IOSRVD	Fix IOS fault inidcator critical-non critical error handling	5431
	Implement monitoring of Beijer IOS fault register to detect device faults	5404
IP PAD	Improvements to padd show config.	
	Set default AT commmand mode break detect default to enabled	

L2TP	Add new debug options for L2TP speed
	
	`web: network->interfaces->L2TP->advanced settings->TX Speed`
	`cli: network.interface.l2tp_bps_tx`
	`web: network->interfaces->L2TP->advanced settings->RX Speed`
	`cli: network.interface.l2tp_bps_rx`
		5769
		5770

	Fix vendor name in XL2TPD package	5771
Mobile	Add LTE band information to `/var/state/mobile` when using Huawei ME909U module (firmware > 12.63x.x)	3278
	Added Operator Code (5-digit MCC/MNC) and Cell ID to `vam -a` command	
	Always disable fastpath on mobile interfaces on GW6600V	4900
	Ensure HDR credentials are always provided when needed for CDMA connections. Fixes situations where this information could be lost by module or config transferred to another router.	5735
	Ensure LTE band lock stays enabled on Hucom modules	5447
	Fix missing IPv6 default route on QMI interfaces	5755
	Fix packet corruption caused by too small buffer size in Quectel/Simcom driver when using QMAP	
	Fix RSRP and RSRQ values reported by Simcom 7070 module using `vam -a` diagnostic command	5383
	Fix SIM in/out handling for Quectel modules	
	Fix SIM switch on Quectel RM500Q mobile module	5863
	Fix SMS msgs not decoding on 3Ireland Jasper SIMs	5888
	Fix `va_mobile` failing to start when SMS is enabled and caller config section is missing caller name option	4507

	Fixes for Cellient CDMA module crashes while dormant	5760
	Re enable PPP support on GW1150 series	
	Removed reset of default bearer APN at startup	5775
	Support custom name for mobile config section	5542
	Support LTE band limitation for Huawei ME909U module (firmware > 12.63x.x)	3310
Network	Fix va_switch behaviour on network restart on GW3300D	5869
	Fixed $ character in interface password leading to password corruption	5434
NTP	Include new UTC time in syslog message when clock is stepped	5659

OpenVPN	Added support for key direction configuration
	`web: services->openVPN->certificates->Key Direction`
	`cli: openvpn.openvpn.key_direction`
		5762

Power over Ethernet	Add PoE recover mode for GW2300 Rev E routers. This fixes issue with PoE recovery when moving between battery backup and mains power	5685
	Fix port disconnect disconnect event	4220
Radius	Support for Radius added to JKG family	
SCEP	Support rsaes-oaep encryption for pkcs7 signedData password	5872
SNMP	Fix MIB related issue running snmpd as dedicated unique user	4965
Strongswan	Enable support for GCM encryption algorithm	5774
	Fix crash when verifying ECSDA signature	5633
	Fix IPSec tunnel operation when with `waniface` option present	5698
	Support multiple FlexVPN tunnels with different interfaces	5862
Syslog	Fix logging when conloglevel set to unsupported value	4482
	Suppress excessive kernel logging on Dakota WiFi	5312
System	Added -M option to ping for mtu discovery behaviour `cli: ping <ip_address> -M PMTUD_OPT`	
	Debrand web and command line interface	5498
	Fix crash in in `uci list` command `cli: uci list`	5596
	Remove stale sshd service files causing issues with telnet access on GW6600V	5333
TACACS	Stpport for TACACS added to JKG family	
VDSL	Store VDSL firmware version in `/tmp/.vdsl220-fw-version` in addition to syslog	5583
Web/BGP	Added BGP status page `web: status->BGP`	5819

	Added missing options to web UI	5817
	`web: network->bgp->global settings->Maximum Dynamic Neighbours`	5818
	`cli: bgpd.routing.max_dynamic_neighbors`	
	`web: network->bgp->global settings->VRF`	
	`cli: bgpd.routing.vrf`	
	`web: network->bgp->bgp neighbours->BGP instance`	
	`cli: bgpd.peer.routing`	
	`web: network->bgp->bgp neighbours->Inbound Route Map`	
	`cli: bgpd.peer.inbound_route_map`	
	`web: network->bgp->bgp neighbours->Outbound Route Map`	
	`cli: bgpd.peer.outbound_route_map`	
	`web: network->bgp->bgp neighbours->EBGP Multihop`	
	`cli: bgpd.peer.ebgp_multihop`	
	`web: network->bgp->bgp neighbours->Inbound Soft Reconfiguration`	
	`cli: bgpd.peer.inbound_soft_reconf`	
	`web: network->bgp->bgp neighbours->Source Interface`	
	`cli: bgpd.peer.source`	
	`web: network->bgp->bgp neighbours->Password`	
	`cli: bgpd.peer.password`	
	`web: network->bgp->bgp neighbours group->BGP instance`	
	`cli: bgpd.peer_group.routing`	
	`web: network->bgp->bgp neighbours group->network`	
	`cli: bgpd.peer_group.network`	
	`web: network->bgp->bgp neighbours group->ASN`	
	`cli: bgpd.peer_group.asn`	
	`web: network->bgp->bgp neighbours group-Local Peer`	
	`cli: bgpd.peer_group.next_hop_self`	
	`web: network->bgp->bgp neighbours group->Holdtime`	
	`cli: bgpd.peer_group.holdtime_sec`	
	`web: network->bgp->bgp neighbours group->Keep-Alive Interval`	
	`cli: bgpd.peer_group.keepalive_sec`	
Web/IECD	Enhancements and extra diagnostics to IECD status page	5432 5727
	Fix description of IEC104W option in web UI	5441
	Fix IECD status page not displaying results	5529
Web/L2TP	Fix interface connect button for L2TP interfaces	5768
Web/Mobile IP	Fix web UI configuration when no configuration options exist in package dynamics	5787
Web/Power over Ethernet	Added PoE restart button to web UI	4220
Web/ RADIUS	Add RADIUS and TACACS support to web UI `web: system->system->PAM Authentication`	5591
Web/SNMP	Fix web UI configuration when no configuration options exist in snmpd system and agent configuration sections	5786
Web/Status	Added VRF and Protocol to routing table display `web: status->active routes`	5823
Web/WiFi	Allow selecting modulation mode for Qualcomm qcawifi drivers	5219

Web/X25 PAD	Fix web UI configuration when no configuration options exist in package padd	3053 3054
Web/X25 XOT	Fix web UI configuration when no configuration options exist in package vald	3050 3051
WiFi	Fix Dakota WiFi defaults to be more secure	4408

11.15   25.01.40.033

Module	Short Description	Mantis
Activator	Information sent to Activator via httpclient now includes all previous values: `imei`, `sim1_iccid`, `sim2_iccid`, `hw_rev`, `sim1_imsi` and `sim2_imsi`	
Busybox	Truncated ping responses now no longer discarded but noted in the ping response message	5658
DHCP	Improved reporting when external DHCP server detected	5520
Dropbear	Remove stale sshd service files causing issues with telnet access	5533
DSL	Improve PPPoE initial connection on DSL lines	5612
Event System	Connection tester type link now correctly checking link state	5535
	Fix connection tester failing when ping source is specified `web: services->va event system->connection tester->Ping Source` `cli: va_eventd.conn_tester.ping_source`	5526
	Fix crash when invalid options are specified in config	1977
	Fix intermittent delay in sending syslog events	4902
	Fix to ensure failed SNMP traps are retried on delivery failure.	5527
	Fixes for crash caused by recursion	4734
IECD	Fix DNP3 Epox Timestamp (UTC)	5656
	Added command point pass through	
	Changes to support DNP3 Secure (S) for DNP3 non secure (M) application fragment forwarding	
	Do not send IEC104 health point messages while IEC104 master (uplink) is down	
	Fix conversion of DNP3 timestamps to IEC104 if timezone differs from GMT	5653
	Fix DNP3 bulk SP and DP points update	5586
	Fix DNP3 initialization sequence issues	5599 5660
	Fix DNP3 Master object parser incorrectly processing 32 and 16 bit point variations with time	5544
	Fix DNP3 to IEC104 protocol conversion: missing ACTCON(neg) for received DNP3 response with Status 2	5497
	Fix double point sending incorrect DPI: Indeterminate or Intermediate (0)	5524
	Fix I5EC104S TXQ overflow	5650

	Fix IECD DNP3 Master and Slave Transport Function incorrectly sending segmented frames	5541
	Fix IECD DNP3 master parsing of g121 and g122 objects (security statistics)	5543
	Fix IECD file transfer issue in DNP3 Transparent mode (dnp3s_transp_fwd=1))	5592
	Fix incorrect DNP3 tracing in IECD when receving multi-segment transport sequence	5540
	Fix intermittent crash while processing IEC104S DL TxQ	
	Fix queueing mechanism dropping frames received before IEC104 Datalink is declared as down/deactivated	5572
	Fix time stamp manipulation in IEC101-IEC104 conversion with iec104_force_app_layer enabled	5632
	IEC101 - IEC104 Transparent Mode conversion now no longer discards the entire message if there are multiple objects present in the message and IOA mapping is not found for one of the objects; any correctly mapped objects will now be sent.	5626
	IEC104 to DNP3 conversion: configurable TRIP-CLOSE depending on 104 cmd value ON - OFF	
	IOSRVD: Added capability to set custom point names	
	IOSRVD: Do not remove undetected device configurations from `/etc/config/iosrvd` file when device is not detected, and option `device_auto_detect` is enabled	5522
	MQTT: Fix behaviour of `mqtt_ctl_vars_init_state` option	5675
	New global config option `start_delay_secs` sets a wait time before `iosrvd` proceeds with initialization to avoid starting before `tservd`. `cli: iosrvd.main.start_delay_secs`	5525
	Remove updating of local point after execution of 104 command - instead let RTU update the corresponding feedback point	
	Support for inter-operating with DNP3DCU	
Mobile	Set LTE attach bearer for Huawei ME909 to ensure attaching to configured APN rather than default APN as detected by the mobile module	5634
NTP	Defer chrony server instances until UCI interface is up to avoid misleading chrony errors in syslog	5550
	Fix incorrect stratum served to local clients. Fixes issue where local NTP server was defaulting to stratum 10, overriding the stratum retrieved from the remote NTP server once the clock had synchronised. Stratum can still be forced though configuration of `option stratum` however this is not recommended.	5550
PPP	Recover from connection stalling indefinitely when CHAP success message is lost in the network	4631
Radius/ Tacacs	Support for Radius and TACACS added to JKG family	
Serial	Fixed problem in Atmel firmware leading to a Tx FIFO overflow on hardware models that use the Atmel serial card	5607

Syslog	Fix `changelog` not recording first change to each module after initialisation	5616
System	Add hotplug script debug logging option `cli: system.main.hotpluglog`	5646

Web/Event System	Support for custom facility and target configuration options for syslog target
	`web: services->va event system->event destination->Facility`
	`cli: va_eventd.target.facility`
	`web: services->va event system->event destination->Severity`
	`cli: va_eventd.target.severity`
		4739

Web/xDSL	Removed unsupported xDSL configuration options from web UI for GW2300 models	5518
	Support for configuration of ATM bridge via web UI on GW2300 models	5516

11.16 25.01.40.028

Module	Short Description	Mantis
Ethernet	Fix intermittent port state status detection on GW3300D series	5385
FXS	Change FXS DTMF handling so tones are untouched once a call establishes.	5355
	Change sip timert1 parsing so it no longer raises a confusing warning.	
Mobile	Fix mobile module intermittently not initialised on USB on boot on GW7300 series	5358
Network	Fix carrier check to only run for Ethernet interfaces	5409
Web/WiFi	Allow configuration of modulation mode	5219

WiFi	Support for option to hide SSID
	`web: network->wifi->interface configuration->Hide ESSID`
	`cli: wireless.wifi-iface.hidden`
		5375

11.17   25.01.40.019

Module	Short Description	Mantis
Activator	Fix to correctly detect 'Software Up To Date' status from Activator	5481
Event System	Fix corrupted email target messages	5463
	Fix crash when SNMP target template length was multiple of 4 bytes	5460
SNMP	Ensure that both specific field (SNMPv1) and snmpTrapOID (SNMPv2+) are set correctly.	5449

11.18 25.01.40.016

Module	Short Description	Mantis
Event System	Fix intermittent memory management error	

	Increase event system target name length from 16 to 127 characters	5420
	Report system error when send fails due to session open failure	
	Use UDP port 162 by default for SNMP trap destination port	5435
Mobile	Add additional echo detection as an indication of radio module reset	5410
SNMP	Revert change to run SNMP with unique user privileges to allow all MIBs to be queried	

11.19 25.01.40.004

Module	Short Description	Mantis
DNS	Properly handle duplicate DNS entries on multiple interfaces	4993
Ethernet	Fix bridging between VLANs	5021
	Fix port separation in GW3300D series	
	New automatic watchdog script to check switch MIB counters and reset if not incrementing on GW1042 hardware	3589 4423
IEC101	Corrected erroneous message `IEC104M APP` in IEC101 App layer	5184
IEC104 Gateway	Changed default for `iec101_t0` option to 700ms to correspond to serial transmission speed of 9600bps `cli: iecd.port.iec101_t0`	5148
	Fix DNP3 Master sending wrong time to RTU	5289
	Implemented checking chrony NTP sync status and stratum before clock sync rewrite	5079
	Fix issue when converting from two DNP3 single points into a single IEC104 double point	
	Support for IEC104-S File Transfer (control direction)	
	Fix MQTT publish payload missing closing braces in the JSON formatting	5408
	Reject 104 to Remote IO command with Negative ActCon if the value of the point is the same as new value	
	Fix DNP3 sending incorrect time to RTU	
Ignition sense	Fix ignition sense on GW3300D series	5370
ISAD	Add info on cell technology used for each bin	5159
Mobile	Ensure mobile interfaces get a /32 netmask.	5173
	Fix auto connect if mobile interface dropped during DST transition hour when moving from BST to GMT	5334
	Fix connectivity issues in PPP mode with some APNs due to dialled address in dial string	5314
	Fix fix signal strength reporting for Asiatel modules	5146
	Fix parsing of special characters in mobile username and password	5070
	Fix Quectel EM06 GPS location	4940
	Fixed bug in the reinitialisation of the QMI control code which led to a failure to detect the loss of connectivity and failures when trying to re-establish connectivity	5242
	Improvements to detection and recovery of mobile module restart	5310

Network	Prevent duplicate default route when using PPP mode for a mobile connection	5130
	Show interface name for WiFi interfaces in `network_status`	5077
Power over Ethernet	PoE now defaults to off during reboot	4411 4199
	Web UI PoE status now shows power used by each port in Watts	5332
RTUD	Auto detect digital IO system paths and auto configure depending on number of detected IOs	5176
Serial	Fix RS485 receive on GW3300D series	5271
SFP	Fix SFP transmission on machtype FW2028	5122
	Use static default MAC addresses for SFP interfaces	5164
Strongswan	Don't reject certificates with invalid certificate policies. The certificate policy itself is still considered invalid and is not returned in the auth config resulting from trust chain operations.	5110
	Ensure all certs and keys are only writable by root and readable by strongswan	5161
	Fix crash when responding to connection initiation when NATT disabled	5293
Syslog	Frequent `upnp` messages in syslog no longer generated	5160
System	Avoid overwriting `/dev/null` with newly created config file when configuration audit is enabled	5080
	Fix hotplug loop when `asterisk` package missing from configuration on GW1150 series	5143
	Fix network interface initialisation on BMA and JAU families	
	Support for new mactype MTDAK002 and MTDAK003 for Rev E power board on GW2300 series	
Terminal Server	Fix tservd startup	5101
	Fix tservd crash when receiving split packets in an X25 call	5300
USB	Fix USB intermittently changing serial port mapping after reboot by introduction of new option for mapping a user-friendly serial port name to the underlying linux device name. See new features section above. `cli: tservd.port.serialPortName`	5107
VALD	Fix incorrect use of `RESET_LINK_STATES` for unconfirmed data over TCP	5222
	Implemented wildcard matching in the XOT routes	5174
Web	Fix crash when trying to update configuration while in factcory config	5171
Web/Firewall	Fix issue in port-forward rule creation via web UI	4872

Note: Changes for releases prior to ORK-25.01.40.001 have been archived