



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

Release ORK-25.04.16.000

Hardware Models	GW1150; GW1400; GW2124P; GW2300; GW3300D
Revision	1.00.24
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Brief description	Details the release of system software ORK-25.04.16.000 for GW1150/1400/2124P/2300/3300D Series

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

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1 ORK-25.04.16.000 release statement

ORK-25.04.16.000 has formally passed internal acceptance and regression testing and is available for general release on hardware platforms as stated below.

1.1 Firmware information

Filename	Size (bytes)	Build Date	Checksum (md5)
ORK-25.04.16.000.image	19,546,112	27/08/2024	c30338bf4b79a89b097c54a6cdce1eee

1.2 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.

1.3 Important upgrade information

1.3.1 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

1.3.2 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:

1.3.2.1 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

2 Mobile module support

2.1 5G modules

Firmware introduced	Vendor	Module	Region	3G bands	LTE Bands	5G Bands
25.02.85.000	Quectel	RM520N-GL	-	1,2,4,5,8,19	1,2,3,4,5,7,8,12,13,14,17,18,19,20,25,26,28,29,30,32,34,38,39,40,41,42,43,46,48,66,71	1,2,3,5,7,8,12,13,14,18,20,25,26,28,29,30,38,40,41,48,66,70,71,75,76,77,78,79
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

2.2 4G modules

Firmware introduced	Vendor	Module	Region	Cat	2G bands	3G bands	LTE Bands
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	WP7600G-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	Australia	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,
	Unitac	ML620EU	-	4	-	-	B3, B7, B20, B31, B72
		ML660P	-	4	-	-	B3, B20, B87
25.02.14.000	Sierra Wireless	WP7607-G	EMEA	4	900/1800	B1, B8	B1, B3, B7, B8, B20, B28
		WP7608-G	Asia/Pacific	4	900/1800	B2, B4, B5	B2, B4, B5, B12, B13, B14, B17, B66
		WP7610-G	North America	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			

3 Security fixes

Firmware	Module	Description	CVE identifier	Mantis
25.04.16.000	dnsmasq	Updated to version 2.90	CVE-2023-28450 CVE-2022-0934	7796
	dropbear	Updated to version 2024.85		7560
	frr	FRRouting (FRR) does not check the actual remaining stream length before taking the TLV value.	CVE-2024-44070	7858
	PPP	Updated to version 2.5.0		

	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		6884
25.03.23.000	telnetd	Remove telnetd support		
	password	Resetting password via web UI now requires input of current password		5261
	SSH	Added grace period after console login failure to disrupt brute force attacks		5853
25.02.80.000	dnsmasq	Updated to 2.85	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)	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	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		

ORK-22.00.96.000	chrony	Disable internet command sockets		4995
	chrony dropbear iecd iosrzd openvpn rtud snmpd strongswan trsservd xl2tpd	Applications now run with dedicated unique user and group id instead of root privileges		4964 4965 4966 4968 4970 4971 4973 4974 5003

4 Security vulnerabilities

No.	Module	Short Description	Severity	Mantis
1.	net-snmpd	requires update from v5.7.3 to v5.9.4 to fix known vulnerabilities: 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

5 New features

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 route translate	See user manual for full list of options
Console			
Console disable	Support new option for disabling the console port (Mantis: 7802)		
	Package	Section	Options
	system	failsafe	console
Management Users			
User groups	Support new group configuration which contains a list of <code>allowed_pages</code> . A user can be assigned to multiple groups. This allows a user to be able to visit pages from their own <code>allowed_pages</code> as well as from any assigned groups (Mantis: 7158)		
	Package	Section	Options
	management_user	user group	groups enabled; allowed_pages

Mobile			
5G band selection	Support space separated 5G band selection.		
	Package	Section	Options
	mobile	mobile	sim1_5g_sa_bands; sim1_5g_nsa_bands; sim2_5g_sa_bands; sim2_5g_nsa_bands
Airplane mode in backoff	Support new option to enter Airplane Mode during the interface back off period (Mantis: 7032)		
	Package	Section	Options
	network	interface	airplane_mode_backoff
LTE power saving mode	Support LTE PSM mode for SIMCom7070E mobile module (Mantis: 7841)		
	Package	Section	Options
	mobile	mobile	sim1_enable_psm; sim2_enable_psm
SKU display	Add display of Sierra Wireless module SKU to mobile diagnostics (Mantis: 7725)		
SMS security	Improvements to SMS queue processing and support new options for better control on how SMS messages are handled (Mantis: 3976)		
	Package	Section	Options
	mobile	mobile	sms_read_interval; sms_check_time; sms_past_margin; sms_future_margin
SMS whitelisting	Support whitelisting commands allowed to be executable by SMS (Mantis: 6931)		
	Package	Section	Options
	mobile	caller	allowed_commands
Watchdog timeout behaviour	Support advanced configurable action [<code>log reset reboot</code>] to take when a watchdog timeout occurs for a mobile module. Currently only supported for QMI modules (Mantis: 5719)		
	Package	Section	Options
	mobile	main	netdev_wd_action
OpenVPN			
TPM support	Support OpenVPN keys in TPM. The existing key option should be configured to the TPM label for the OpenVPN key (Mantis: 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 (Mantis: 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 (Mantis: 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 (Mantis: 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 (Mantis: 7157)		
PPP			
Adaptive LCP Echo	When enabled LCP echo will only be sent if no traffic is received on the interface. This avoids the situation where PPP is terminated on a congested PPP link because LCP echos are not received in time (Mantis: 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 (Mantis: 7374)		
	Package	Section	Options
	system	pam_auth	radius_nasid
Scada			
AI Scaler	Extended AI scaler support <code>iecd.port.ai_scaler</code> for DNP3 slave to Modbus master conversion. The analog inputs received from the RTU are divided by the scaler before conversion to SCADA protocol. Previously only DNP3 to IEC104 supported. (Mantis: 7287) AI scaler now supports both divisor and multiplier (Mantis: 7506)		
	Package	Section	Options
	iecd	port	ai_scaler_op
Critical process support for IEC104	IECD now added to list of critical processes that are automatically restarted (Mantis: 7294)		
DNP3 group 40 analog output variation	Added support for DNP3 slave group 40 analog output variation (Mantis: 7548)		
	Package	Section	Options
	iecd	port	dnp3s_g40_variation
DNP3 relay type	Support new configuration option for specifying command point relay type (Mantis: 7518)		
	Package	Section	Options
	iecd	cmdpoint	dnp3_relay_type
IEC101RTR TCP Server Mode	Support TCP Server Mode for IEC101RTR IEC101 connection (Mantis: 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 (Mantis: 7579)		
	Package	Section	Options
	iecd	cmdpoint	iec104m_cmd_ioa
IEC104 to DNP3 double command conversion	New option values [4 5] added to <code>iecd.port.dnp3_app_output_mode</code> option that determine behaviour when an IEC104 command with S/E bit is received (Mantis: 7423)		

MQTT Azure DPS	Added support for MS Azure's IOT hub Device Provisioning Service (DPS) (Mantis: 7028)		
	Package	Section	Options
	iecd	port	See user manual for full list of options
MQTT read specific data point	MQTT can now be configured to read specific data points (Mantis: 7474)		
Modbus bitmap	Support bitmap handling in Modbus master (Mantis: 7371/7473)		
	Package	Section	Options
	iecd	point	mb_bitmask
Modbus data formats	Extend supported data format values for MODBUS data points (Mantis: 6890)		
	Package	Section	Options
	iecd	point	mb_data_fmt; modbus_data_fmt
Modbus DI inversion	Support DI inversion for Modbus master (Mantis: 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 (Mantis: 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 (Mantis: 7125)		
	Package	Section	Options
	strongswan	scep_cert	use_tpm; key_label
SNMP			
Multiwan state OID	Added ifMultiwanState to VA-UCI-MIB (Mantis: 6915)		
Sim detection OID	Added SimIn to VA-MODEM-MIB (Mantis: 6915)		
SSH			
Limit concurrent users	Support new option for limiting concurrent authenticated user sessions (Mantis: 7160)		
	Package	Section	Options
	dropbear	dropbear	MaxConnections
Strongswan			

Multiple subnet support	Support multiple subnets for ikev2 (Mantis: 6026)		
	Package	Section	Options
	strongswan	connection	locallanextra; remotelanextra
TPM support	Support strongswan keys in TPM. TPM keys are supported via the <code>token</code> secret type. In this case the value of the secret specifies the label of the key to use. (Mantis: 4660)		
	Package	Section	Options
	strongswan	secret	secrettype 'token'; secret '<TPM-label>'
XAuth EAP support	Added support for xauth-eap and eap-radius authentication methods (Mantis: 6294)		
	Package	Section	Options
	strongswan	connection	localauth; localauth2; remoteauth; remoteauth2
		radius_server	enabled; address; secret; auth_port; acct_port
System			
Busybox	Enable support for <code>who</code> command (Mantis: 6788)		
Change Log	Change log now records active image number and version on reboot (Mantis: 7728)		
Port mirroring	Support software port mirroring. All ingress and egress traffic on an interface can be mirrored to an alternate interface (Mantis: 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)		
Terminal Server			
Show configuration CLI command	Added support for display of running terminal server configuration CLI command (Mantis: 6893) <code>cli: show config</code>		
VA Events			
802.1x events	VA Event System now supports <code>ieee8021x</code> event class and events (Mantis: 6528)		
	Id	Name	Severity
	1	IEEE8021xRestrictingIf	notice
	2	IEEE8021xAllowingAllonIf	notice
	3	IEEE8021xAllowingMAConIf	notice
4	IEEE8021xBlockingMAConIf	notice	
Web UI			
Disable web UI	Added new option to disable web UI (Mantis:7068)		
	Package	Section	Options
	uhttpd	main	webui_enabled

Limit concurrent users	Support new option for limiting concurrent user sessions (Mantis: 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		
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		

6 Deprecated features

Firmware	Package	Description	Mantis
25.04.16.000	mobile	Deprecated PPP mode for Quectel and Sierra Wireless modules	7337 7517
		Deprecated Quectel EC20 mobile module support	7337
	strongswan	strongswan.connection.authby deprecated. Now supported by new options localauth; localauth2; 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 administration -> startup	

7 Known issues

No.	Module	Short Description	Mantis
1.	Firewall	Firewall zone with name longer than 12 characters breaks NAT	7791
2.	GPS	No GPS support for SIMCOM7070	
3.	Mobile	Do not display RSSI in mobile stats for 5G mobile modules	
4.	OSPF	When the remote connection (from a remote OSPF peer) is dropped, OSPF crashes intermittently.	5677
5.	PPPoE	Manual <code>ifup pppoe-<interface></code> causes default route to be lost for <code><interface></code>	6276
6.	Strongswan	Strongswan memory footprint increases slowly with tunnel restart	5866
7.	Syslog	No web UI support for syslog filter rules	3705
8.	System	Misleading diagnostic message <code>'failed to kill...for device portWAN'</code> generated on network restart or <code>ifup</code>	7817
9.	Web/IPsec	Unable to configure <code>strongswan.connection.disable_mobike</code> , <code>strongswan.connection.mobike_send_additional_self</code> or <code>strongswan.connection.disable_natt</code> via web UI	5437
10.	Web/Management Users	Unable to configure management users via web UI	5503
11.	Web/WiFi	Web UI not allowing configuration of all available WiFi <code>hwmode</code> and <code>htmode</code>	5552
12.	Web/WiFi	Web UI presents WiFi configuration even when no WiFi available on router	5519
13.	xDSL	<code>/etc/init.d/dsl_control restart</code> does not bring down the physical connection on GW2300 models.	5689

8 Problems resolved

No.	Module	Short Description	Mantis
1.	802.1x	Fix 802.1x authentication	4290 7464
2.	802.1x	Fix 802.1x restart after <code>ifup</code> or cable unplug/plug	7530
3.	Activator	Fix issue with multiple downloads from different services (active update, inventory, audit) running simultaneously	6321
4.	Asterisk	Handle timestamp jumps when the remote end switches between tone generation and call media	
5.	Boot	Improve power-on sequencing for USB hub on GW2124P, Merlin series	
6.	Cwatch	Change Cwatch <code>'Interface does exist'</code> message to NOTICE severity	7078
7.	Data Usage	Fix mobile phy detection on data usage start using faster processors	7865
8.	DHCP	Fix corrupted IA address when sending <code>OPTION_IA_N</code>	7424
9.	Ethernet	Fix Ethernet ports intermittently reflecting incorrect state when bridging	7795

10.	Event System	Correctly handle double quotes in event target <code>cmd_template</code> value	5736
11.	Event System	Fix <code>va_event</code> syslog messages showing with no space between date and serial number	7513
12.	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)	
13.	GRE	Validate configured keys are unique	6769
14.	HTTP Client	Include all CPUs in interrupt count value in <code>hdl</code> request field <code>irq_cnt</code>	6228
15.	IECD	Added timestamp to <code>iecd show stats</code> diagnostics command	7339
16.	IECD	Enhancement to <code>iecd show config</code> command to show full config and not just main section	6894
17.	IECD	Fix error in converting clock value from IEC104 to UTS seconds	7022
18.	IECD	Fix excessive logging of DNP3 point updates	7521
19.	IECD	Fix serial interface name selectors for DNP3, Modbus and IEC101 to match physical port names	7180
20.	IECD	IEC104 to IEC101 health point now correctly sent to IEC104 master when IEC101 data link gets established	
21.	IECD	Improvements to IEC104 Setpoint to DNP3 Analog Output conversion	7015
22.	IECD/Modbus	Added bitmap handling for DI register type in Modbus master	7371
23.	IECD/Modbus	Extend supported data format values for MODBUS data points	6890
24.	IECD/Modbus	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
25.	IECD/Modbus	Fix issue with detection of serial interface names on Merlin4400 causing inconsistency with <code>iecd.port.modbus_serial_ifnum</code> option	7051
26.	IECD/Modbus	Fix issue with IEC104 to Modbus AI scaling	7375
27.	IECD/Modbus	Fix missing display of point value in Web UI for Modbus to MQTT	7189
28.	IECD/Modbus	Fix support for conversion of Modbus slave to DNP3 master	7186
29.	IECD/Modbus	Fixed MODBUS master command not timing out when RTU does not reply	
30.	IECD/Modbus	Improvements to Modbus trace feature	7470
31.	IECD/Modbus	Minimum Modbus master polling time reduced from 500ms to 50 ms	7228
32.	IECD/DNP3	Added support for DNP3 analog output command <code>g41 v1, v2, v3</code> and <code>v4</code>	
33.	IECD/DNP3	Allow non-contiguous point indexes for DNP3 slave	7275
34.	IECD/DNP3	Changed DNP3 master integrity poll request for class 0 static data poll	7392

35.	IECD/DNP3	Fix converting DNP3 double precision float types to IEC104 floats	7533
36.	IECD/DNP3	Fix DNP3 slave to IEC104 master protocol conversion	7579
37.	IECD/DNP3	Fix incorrect float translation for group 40 var 3 and 4	7536
38.	IECD/DNP3	Fix issue with converting DNP3 counter to IEC104 Integrated Total	7531
39.	IECD/DNP3	Fix issue with DNP3 master in processing multi-fragment responses	7409
40.	IECD/DNP3	Fix to provide output control feedback for DNP3 slave to MODBUS master	
41.	IECD/DNP3	Fix transmission of spontaneous update to IEC104 master on DNP3 static variation value change	7410
42.	IECD/DNP3	Fixed issues in DNP3 slave processing Binary Output and Analog Output commands	7548
43.	IECD/DNP3	Implemented common DNP3 trace functions for slave and master side	7557
44.	IECD/DNP3	Implemented several new features for IEC104 to DNP3 double command conversion	7423
45.	IECD/DNP3	Improve DNP3 slave processing of Binary and Analog Commands; now allow all combinations of OpCode and TCC fields: LATCH_ON, LATCH_OFF, CLOSE, TRIP	
46.	IECD/DNP3	Increased size of DNP3 analog output block buffer to handle possible size of variation 4 – 64 bit double with single byte status	
47.	IECD/MQTT	Fix data point map value update with Modbus master to MQTT conversion that generates events to MQTT subscribers	7465
48.	IECD/MQTT	Increased supported character length for MQTT topic name, client id and client name	7173
49.	IECD/VHMI	Fix issue related to DPS not starting for VHMI MQTT mode	7081
50.	IECD/VHMI	Fix to report data point by VHMI only when value changes	
51.	Mobile	Allow backslash '\' in username and password	7360
52.	Mobile	Custom interface DNS now supported by Unitac modules	7192
53.	Mobile	Ensure 5G networks are presented in operator search results	7219
54.	Mobile	Fix 5G band selection for Quectel RM500Q module	7703
55.	Mobile	Fix 5G NSA mode when service is set to 5G	7469
56.	Mobile	Fix auto restart of Telit and Cellient CDMA modules by critical process utility	6371
57.	Mobile	Fix band selection for SIMCom7070E module	7833
58.	Mobile	Fix EID detection when APDU contains the tag and length	7522
59.	Mobile	Fix LTE band selection for bands larger than 63 for Sierra Wireless modules	7680
60.	Mobile	Fix operator scan	7693
61.	Mobile	Fix Quectel registration status poller	7484
62.	Mobile	Fix Sierra Wireless module FOTA upgrade CRC32 checksum calculation	7724
63.	Mobile	Fix va_mobile failing to start if LTE band list is empty	7495
64.	Mobile	Fixed network status constantly changing textual description (LTE/LTE-M) for used radio technology	7340

65.	Mobile	Fixes to ensure APN information is set properly for Sierra Wireless radio modules	7777 7797
66.	Mobile	Fixes to ensure the manual network operator selection is executed in the right order	7797
67.	Mobile	Ignore SIM in/out events from eSIM that could lead to crash on Sierra Wireless modems	
68.	Mobile	Improve behaviour on network down for QMI connections to ensure reconnection after network outage	6325
69.	Mobile	Log a warning that GNSS is not supported for SIMCom7070E mobile module	7822
70.	Mobile	LTE band locking configuration option <code>simX_lte_bands</code> now supports space separated bands	
71.	Mobile	<code>sendsms</code> command now handles '+' at the beginning of international numbers	
72.	Mobile	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
73.	Mobile	Unitac modules now use <code>wan0</code> interface rather than <code>eth0</code>	6899
74.	Monitor	Fix mobile phy detection on monitor start using faster processors	7863 7864
75.	Multiwan	Fix crash caused by incorrect mobile phy detection on start up using faster processors	7835
76.	Multiwan	Produce warning for interfaces that do not exist	7857
77.	Network	Add interface name and state for aliases to <code>network_status</code>	6716
78.	Network	Fix dependant interfaces starting correctly on a network restart	7598
79.	Network	Remove the minimum IPv6 fragment size check	7320 7324 7325 7326
80.	OpenVPN	Allow <code>tun</code> or <code>tap</code> setting to create interfaces correctly.	7114
81.	OpenVPN	Don't create new <code>linux</code> and <code>uci</code> interface on openvpn restart	7735
82.	SCEP	Fix certificate expiration date calculation	7572
83.	SCEP	SCEP ATQ time now synchronised with NTP	7083
84.	Serial Broadcast Server	Fixed incorrect handling of TCP connection to Terminal Server	7231
85.	SNMP	Fix UCI MIB ifName truncation	6981
86.	SNMP	SNMP <code>engineID</code> now has fixed value that persists through reboot	7355 7358
87.	System	Adds the ability to define a COMMENT environment variable when invoking any process for display by <code>ps</code> command	7020
88.	System	Fix minimum machtype firmware version checking	7717 7722 7714
89.	System	Fix misleading 'cannot find device' messages on network restart or <code>ifup</code>	7798

90.	System	Panic log now contains timestamp on crash events	5608
91.	System	Replace invalid spaces in hostnames with '-' at run time	7829
92.	TACACS	Fix IPv6 support	6620
93.	Terminal Server	Start serial device in RS232 mode to ensure terminal server initialises correctly	7009
94.	VA Event System	Fix buffer overflow crash and add new internal warning event upon event buffer overflow	7176 7163
95.	VRRP	Allow multiple groups in <code>vrrp status</code> command	7246
96.	Web	ADSL configuration options no longer displayed when not supported on the hardware	6919
97.	Web	Fix issue socket closing before HTTP data is complete which can result in UI not displaying correctly	6738 7752
98.	Web	Prevent capitalisation of configuration section names	7856
99.	Web/ Interfaces	Ensure interface names are not automatically capitalized on the web UI	7678
100.	Web/ Interfaces	Remove PPTP protocol from available interface protocols	7354
101.	Web/ Modbus	Fix display of IECD status page to show data points	7170
102.	Web/ Multiwan	Support <code>multiwan.interface.state_transition_hook</code> configuration via the web UI	5433
103.	Web/ OpenVPN	Implement dependency between <code>local</code> and <code>nobind</code> option to avoid OpenVPN failing to start when both enabled in config	6819
104.	Web/ WeConnect	Added support for DCU VPN Concentrator configuration options	
105.	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
106.	Web/Dynamic DNS	Restart DDNS when settings are changed from web UI	6491
107.	Web/Firewall	Fix add and edit of firewall zones and rules via web UI	7573
108.	Web/Firewall	Support firewall rule <code>chain</code> option web: <code>security->firewall->traffic rules</code> cli: <code>firewall.rule.chain</code>	6898
109.	Web/IECD	Change MODBUS serial interface presentation to a selection of detected serial interface names	
110.	Web/IECD	Changed IEC104 TI option to list value instead of range	
111.	Web/IECD	Fix delete button on web UI for IECD	7181
112.	Web/IECD	Fix incorrect display of values in DNP3 slave to DNP3 master mode	7571
113.	Web/IECD	Fixed web UI error in setting value range for IEC104 link number	6911
114.	Web/IECD	IEC61850 client web UI enhancements	6600
115.	Web/IECD	Improvements for IECD command points	7015 7019
116.	Web/IECD	Improvements to MODBUS master configuration	
117.	Web/IECD	Improvements to VHMI web configuration	7062

118.	Web/IOSERV	Add support for upload of CID file	6897
119.	Web/Mobile	Added display of LTE bands supported by SIMCom7070E	7565
120.	Web/Mobile	Fix <code>va_mobile</code> restart on save & apply via web UI	7494
121.	Web/Mobile	Simplify mobile configuration using tabs via web UI	7707
122.	Web/Mobile Manager	Show supported LTE bands for enable/disable via Web. <code>web: services->mobile manager->lte</code>	
123.	Web/Realtime Graphs	Fix display of Realtime Graphs for mobile interfaces <code>web: status->Realtime Graphs</code>	7029
124.	Web/Status	Only show hardware capable features	6966
125.	Web/Status	Only show multiwan status when enabled	6966
126.	Web/System	Fix duplicate firewall package in configuration export	6904
127.	Web/System	Support missing configuration options for SSH connection identity, verbose and VRF via web UI <code>web: security->ssh->Identity</code> <code>cli: dropbear.dropbear.Identity</code> <code>web: security->ssh->Verbose</code> <code>cli: dropbear.dropbear.verbose</code> <code>web: security->ssh->VRF</code> <code>cli: dropbear.dropbear.VRF</code>	6703
128.	Web/VHMI	Fix broken upload of DPS private key file	
129.	WeConnect	Add missing <code>ripd</code> and <code>openvpn</code> packages during provisioning	7687 7688
130.	WeConnect	Fix auto generated RIP configuration to ensure WeConnect correctly connects in a Ethernet bridge scenario and also reestablishes on disconnect.	7427 7539 7591
131.	WeConnect	Fix duplicate interface creation on connect	7547
132.	WeConnect	HTTPS support for DCU VPN Concentrator auto enrolment	6961
133.	WeConnect	Network status diagnostics now correctly show WeConnect interface IP address	7682
134.	WiFi	Use serial number as base for WiFi interfaces	6256
135.	xDSL	Fix <code>dsl</code> command output if DSLAM info is not available	6990
136.	xDSL	Fix xDSL diagnostic 'Transfer Power' units to dBm from dB	7140
137.	xDSL	Reduce unwanted DSL diagnostics messages filling up syslog	6908

9 Appendix 1: New features history

9.1 25.03.43.021

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

9.2 25.03.43.019

No new features

9.3 25.03.43.014

General	
Sierra Wireless	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.

9.4 25.03.43.011

No new features

9.5 25.03.43.010

Certificates	
Check both TPM and flash for certificate key	<p>If the key cannot be found in the location specified in the configuration file, the router will automatically check an alternate location using the following methodology (Mantis: 6820).</p> <ul style="list-style-type: none"> When configured for PEM key and key cannot be found at the configured location, the router will try to use a TPM key with name corresponding to base file name (/etc/uhttpd.key -> "uhttpd"). When configured for TPM key and key cannot be found in the TPM, the router will try to use file "/etc/<tpm label>.key"
Mobile	
FOTA support for Unitac modules	Support FOTA upgrade for Unitac modules
Neighbour cell information	<p>Added display of neighbouring cell information. Currently only supported on Unitac ML620/660 and Quectel EC200x series</p> <pre>cli: vam -n</pre>

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 <code>retry_on_first_fail</code> enabled, to avoid getting stuck on one SIM, a new multiwan configuration parameter defines the maximum number of seconds to stay with an interface after its first failure before proceeding. (Mantis: 6975)		
	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 (Mantis: 6827) <code>web: status->PoE</code>		
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 (def: 0)
MODBUS to Remote IO protocol conversion	Added support for MODBUS to Remote IO (<code>ioservd</code>) protocol conversion (Mantis: 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 (def: 0)
TPM			
List TPM keys	Support new diagnostic command to list TPM keys <code>cli: tpm-cli listkeys</code>		

9.6 25.03.43.000

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 (Mantis: 6739)		
	Package	Section	Options
	network	interface	ignore_carrier_state (def: no)
System			
IP PAD support	Added <code>padd</code> and <code>vald</code> 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 (Mantis: 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;

9.7 25.03.37.000

GPS	
GPS MIB support	Added support for VA-GNSS-MIB for retrieval of GPS values
Network	
Dummy interface support	Added support for dummy interfaces. Dummy interfaces are real kernel interfaces (unlike alias interfaces) and support all the configuration options of a static interface. Dummy interfaces are useful in combination with VRFs as they can be isolated from general routing.

9.8 25.03.35.000

SCADA			
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 (Mantis: 6723)		
	Package	Section	Options
	tserverd	port	udpMultiPointOn (def: no); remote_ipX; udpRemotePortX

9.9 25.03.33.004

BGP			
BGP MIB support for LIS family	Added BGP4-MIB support to LIS family so BGP information can be retrieved via SNMP (Mantis: 6733) Note: already supported in DRS, ORK and SXL families		
General			
Merlin4100 support	Added support for Merlin4100 series		
SCADA			
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 (Mantis: 6723)		
	Package	Section	Options
	tserverd	port	udpMultiPointOn (def: no); remote_ipX; udpRemotePortX

9.10 25.03.23.000

General			
GW6650V external watchdog	Added support for external watchdog on GW6650V hardware (Board machtype MTGR5004)		
Roaming Manager			
Roaming Manager connection retry options	Added new connection retry options for Roaming Manager feature		
	Package	Section	Options
	network	interface	roaming_link_success_time (def: 600 secs); roaming_prefer_best_operator (def: no); roaming_scan_inheritance (def: no)
	multiwan	interface	retry_on_first_fail (def: no)
SCADA			
MODBUS TCP routes	Added support for MODBUS TCP routes (Mantis: 6643)		
	Package	Section	Options
	iecd	mbtcp_route	ifnum; devaddr, ipaddr
IECD104 Slave cyclic transmission	Support for cyclic transmission of data point messages		
	Package	Section	Options
	iecd	port	iec104_cyclic_on (def: 0)
Transparent mode offline queue	Added support for IEC104 slave offline queue when using transparent mode (no iec104s application layer)		
VRF	Support for binding IEC104 Slave socket to a VRF for isolation from general routing (Mantis: 4802)		
	Package	Section	Options
	iecd	port	iec104_ip1_vrf; iec104_ip2_vrf; iec104_ip3_vrf; iec104_ip4_vrf; iec104_ip5_vrf; iec104_ip6_vrf;
SIP			
SIP Server support	GW1151-FXS series can now also act as a SIP server (registrar). Note: Cannot be both SIP client and server		
	Package	Section	Options
	asterisk	main	bindaddress; bindport (def:5060)
System			
GNSS time synchronisation	Added support for time update via GNSS. Note: Router requires GNSS capabilities and GNSS is enabled (Mantis: 6229)		
	Package	Section	Options
	system	timeserver	gnss_clock_source_enabled (def: no)

9.11 25.03.05.000

SCADA			
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TPM key storage support	Added TPM support for TLS based protocols in IECG and Terminal Server (IEC62351-9) (Mantis: 6552)		
	Package	Section	Options
	iecd	port	iecd104_tls_keytype; dnp3s_tls_keytype; modbus_slave_tls_keytype; mqtt_tls_keytype; dnp3_tls_keytype; modbus_tls_keytype; modbus1_tls_keytype; vhmi_mqtt_tls_keytype (def: 0 [0=PEM, 1=TPM])
	tservd	port	tcp_tls_keytype (def: 0 [0=PEM, 1=TPM])

9.12 25.03.03.000

Mobile	
GW6650V support	Support new hardware GW6650V. VDSL2/ADSL 2+, Dual SIM LTE/LTE M, 5xGigE Ethernet interface, TPM and secure boot. Optional second LTE, WiFi
Merlin4700 support	Support new hardware Merlin4700 Industrial VDSL2/ADSL 2+, Dual SIM LTE/LTE-M, 4xGigE Ethernet interface, 2xSerial, 6xDI, 2xDO, TPM and secure boot

9.13 25.02.99.000

No new features

9.14 25.02.95.000

Mobile	
FOTA upgrade via CURL	FOTA upgrade can now use CURL to download a firmware image from remote location
SCADA	
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 (Mantis: 5955)
New IECG diagnostics	Added new command line diagnostics to show all possible point and cmdpoint options (Mantis: 6556) <code>cli: iecd show point options</code> <code>cli: iecd show cmdpoint options</code>

9.15 25.02.85.000

Mobile	
Quectel RM520N-GL 5G mobile support	Added support for Quectel RM520N-GL 5G mobile module

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

9.16 25.02.80.000

BGP							
BGP MIB support	Added BGP4-MIB support so BGP information can be retrieved via SNMP (Mantis: 6347)						
FXS							
Analogue gain	Added options to store FXS card gain						
	<table border="1"> <thead> <tr> <th>Package</th> <th>Section</th> <th>Options</th> </tr> </thead> <tbody> <tr> <td>fxs</td> <td>interface</td> <td>rx_analogue_gain (def: 0.0); tx_analogue_gain (def: 0.0)</td> </tr> </tbody> </table>	Package	Section	Options	fxs	interface	rx_analogue_gain (def: 0.0); tx_analogue_gain (def: 0.0)
	Package	Section	Options				
fxs	interface	rx_analogue_gain (def: 0.0); tx_analogue_gain (def: 0.0)					
General							
Merlin4400 support	Added support for Merlin4400 series						
Sierra Wireless	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						
GPS							
GPS diagnostics	Added new <code>gps</code> diagnostics command						
SNMP							
LAPB MIB support	Added support for VA-LAPB-STATS-MIB which provides level 2 statistics for the serial interface (Mantis: 4695).						
Modem firmware version MIB support	VA-MODEM-MIB modemTable now supports <code>modemFirmwareVersion</code> and <code>modemGsmLtePci</code> (Mantis: 5912)						
VA roaming manager MIB support	Added MIB support for VA Roaming Manager (<code>vaRoamingManagerModule</code>) feature to VA-MODEM-MIB (Mantis: 5842)						
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 <code>vam -a</code> command (Mantis: 6236)						
FOTA upgrade	Support Quectel FOTA upgrade via locally stored file						
Monitor							
LTE band and cell diagnostics	Added support for LTE band and cell information in ISAD bins (Mantis 6007)						

VRF support for monitor keepalive	Added support for configuration of VRF domain for Monitor keepalive traps (Mantis: 5983)		
	Package	Section	Options
	monitor	keepalive	vrf
Multiwan			
Multiwan interface scanning timeout	New multiwan config parameter to extend <code>ifup</code> timeout when a mobile roaming operator scan is active. Used in conjunction with VA Roaming Manager feature, this parameter is added to the normal <code>ifup_timeout_sec</code> used for <code>ifup</code> operations whenever the <code>ifup</code> occurs during a 3G operator background scan, or the <code>ifup</code> itself triggers such a scan, on the modem being used for the current interface.		
	Package	Section	Options
	multiwan	interface	<code>ifup_scanning_timeout_sec</code> (def: 480 secs)
SCADA			
DNP3 to IEC104 DI inversion and AI Scaling	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 (mantis: 6419)		
	Package	Section	Options
	iecd	port	<code>di_invert</code> (def: 0); <code>ai_scaler</code> (def: 0)
Health points in multi master mode	Added support for health points (6) in multi-master mode		
	Package	Section	Options
	iecd	port	<code>iec104_rtuX_health_ioa</code> ;
HMI second interface	Added support for HMI Second Control Interface (MQTT)		
	Package	Section	Options
	iecd	port	<code>modbus_slave_devaddr</code> ; <code>modbus_slave_protocol</code> ; <code>modbus_slave_local_ip</code> ; <code>modbus_slave_tcp_port</code> (def: 502); <code>modbus_slave_serial_ifnum</code> ; <code>modbus_slave_use_tls</code> ; <code>modbus_slave_tls_cacertfile</code> ; <code>modbus_slave_tls_crlfile</code> ; <code>modbus_slave_tls_certfile</code> ; <code>modbus_slave_tls_keyfile</code> ; <code>modbus_slave_tls_pass</code> ; <code>modbus_slave_tls_common_name</code> ; <code>modbus_slave_tls_validate_peer_cert</code> ; <code>modbus_slave_tls_verify_depth</code> ; <code>modbus_slave_tls_force_tls1_2</code> ; <code>modbus_slave_tls_cipherlist</code>
IOSRVD direct serial comms	Support IOSRVD interface to serial using direct driver calls instead of UNIX sockets to <code>tservd</code> (Mantis: 6322)		
	Package	Section	Options
	iecd	port	<code>modbus_serialX_mode</code> ; <code>modbus_serialX_speed</code> ; <code>modbus_serialX_wsize</code> ; <code>modbus_serialX_parity</code> ; <code>modbus_serialX_stops</code> (where X is 0 or 1)
IOSRVD MQTT	Added support for remote IO and MQTT slave (Mantis: 6315)		

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 (Mantis: 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_crfile; 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 offline queue	Added support for MQTT offline message queue for storing public messages in memory while MQTT broker is offline.		
	Package	Section	Options
	iecd	port	mqtt_offline_q_on (def: 0)
MQTT payload logging	Added payload logging for MQTT publish (Mantis: 6317)		
	Package	Section	Options
	iecd	port	mqtt_debug_on (def: 0)
MQTT Slave to Modbus conversion	Added support for MQTT slave to Modbus protocol conversion (Mantis: 6319)		
RTU test emulator	Added support for VRTU (RTU Test Emulator) for pre-production SCADA connectivity and operations testing (Mantis: 6225)		
	Package	Section	Options
	iecd	port	vrtu_simulation_interval_sec (def: 30)
Windows file format data point import	Support windows .xlsx extension for data point files import (Mantis: 6027)		

9.17 25.02.14.032

No new features

9.18 25.02.14.030

No new features

9.19 25.02.14.027

No new features

9.20 25.02.14.024

9.20.1 Mobile

9.20.1.1 EID retrieval using SIMCOM 7070E

The SIMCOM 7070E mobile module can now report EID information on the SIMs using `vam -a` command (Mantis: 6236)

9.20.1.2 Merlin4600 LTE-450 mobile module support

Merlin4600 series now supports an alternate mobile module via PCIe slot in order to support frequency bands not supported by the on board Sierra Wireless radio, in particular, LTE-450 bands 31, 72 and 87 using Unitac and SIMCOM 7070E modules.

9.21 25.02.14.016

9.21.1 Digital Input

Merlin4600 series digital input values changed to match GW2020 series for compatible SCADA operation

Input value	State
0	Input not detected / open / low
1	Input detected / closed / high

9.21.2 GW2124P support

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

9.22 25.02.14.010

No new features

9.23 25.02.14.009

9.23.1 SCADA

9.23.1.1 Allow commands to work without status points

Setting option `iec104_status_ioa` in a `cmdpoint` section to 0 makes the IEC104 ignore the feedback point, but the commands still work. (Mantis: 5981)

9.23.1.2 IEC104 Double Bit command conversion to two DNP3 single commands

IECD now supports double bit command conversion to two single DNP3 commands when option `dnp3option` is set to 0x0001. (Mantis: 6052)

Package	Section	Options
iecd	point	index2 (def 0); dnp3options (def: 0)
	cmdpoint	Index2 (def: 0) dnp3options (def: 0)

9.23.1.3 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. (Mantis: 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

9.23.1.4 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. (Mantis: 6040)

Package	Section	Options
iecd	port	vhmi_enabled (def: 0); vhmi_proto (def: modbus_tcp); vhmi_listen_port (def: 502); vhmi_debug_on (def: 0)

	point	vhmi_on (def: 0); vhmi_regaddr (def: 0); vhmi_dword (def: 0)
--	-------	--

9.23.1.5 Support CP24 timestamp format messages in IEC101 to 104 conversion

IEC101 Type ID 2, 4, 6, 8, 10,12,14,16 now supports CP24Time2a (Mantis: 5980)

9.23.1.6 Support Regulating Step and Bitstring commands for IEC101 to IEC104 conversion

Added IEC101 to IEC104 conversion support for commands (Mantis: 6030):

- C_RC_NA_1 Regulating step
- C_BO_NA_1 Bitstring of 32 bit

9.23.2 Strongswan

9.23.2.1 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. (Mantis 5881)

Package	Section	Options
strongswan	scep_cert	debug_level (def: 0)

9.23.2.2 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. (Mantis: 5908/5913)

Package	Section	Options
strongswan	scep_cert	user (def: strongswan)

9.24 25.02.14.002

No new features

9.25 25.02.14.000

9.25.1 BGP

9.25.1.1 Peer password configuration

Support for BGP peer password configuration (Mantis: 5690)

Package	Section	Options
bgp	peer	password

9.25.1.2 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

9.25.1.3 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 (Mantis: 5609)

Package	Section	Options
bgp	peer	ebgp_multihop; source

9.25.2 Cwatch ping health check

Cwatch now supports ping as a monitoring method. Previously only supported receive byte count.

Package	Section	Options
cwatch	watch	method (def: statistics); icmp_hosts; icmp_attempts (def: 10); icmp_timeout (def: 3); icmp_size (def: 56); icmp_ttl (def: 128); icmp_reliability (def: 50)

9.25.3 Digital input wet/dry configuration

Support for digital input wet/dry configuration for Merlin4600 and GW2300 series using new gpio package

Package	Section	Options
gpio	gpio	wet (def: 0)

9.25.4 Event System VRF

Support for events for syslog and email targets to be isolated from general routing using VRF

Package	Section	Options
va_eventd	target	vrf

9.25.5 FXS

9.25.5.1 FXS main configuration section deprecated

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 (def: 0)

9.25.5.2 Receive and transmit gain configuration

Support receive and transmit parameter configuration

Package	Section	Options
fxs	interface	rx_gain (def: 0.0); tx_gain (def: 0.0);

9.25.6 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
multiwan	interface	gre_ka_enabled (def: false); gre_ka_timeout_sec (5 secs)

9.25.7 Interface status logging

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 (def: 0); audit_interface_log_file (def: /root/interfacelog); audit_interface_log_size (def: 64); audit_interface_log_count (def: 4)

9.25.8 Mobile

9.25.8.1 Multi-APN support for Sierra Wireless WP76XX

Added support for Multi-APN using Sierra Wireless WP76XX modules

9.25.8.2 Quectel support for GW6600V

Added support for Quectel modules on GW6600V series

9.25.8.3 Roaming SIM enhancements

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.

Package	Section	Options
network	interface	roaming_enabled (def: 0); roaming_operator_exclude (def: <empty>); roaming_ordering (def: signal); roaming_ordering_function (def: <empty>); roaming_ping_count (def: 3); roaming_ping_hosts (def: <empty>); roaming_ping_interval_ms (def: 1000); roaming_ping_timeout_ms (def: 500); roaming_ping_size (def: 1360); roaming_full_scan_timer (def: 0); roaming_allow_scan_inheritance (def: no); roaming_full_scan_window_start (def: <empty>); roaming_full_scan_window_end (def: <empty>)

9.25.9 Power over Ethernet port restart

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

9.25.10 Routing

9.25.10.1 FRR protocol suite

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

9.25.10.2 Bidirectional Forwarding Detection (BFD)

Added support for BFD protocol for fast detection of link failures - ORK and SXL families only. (Mantis: 5820; 5821)

Package	Section	Options
bfd	routing	enabled; vty_enabled
	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

9.25.10.3 Routing table display

Enhanced display of routing table via web UI at `Status->Active Routes` to include Protocol and VRF (Mantis: 5823)

9.25.11 SCADA

9.25.11.1 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).

Example data point file:

```
"name","iec104_type_id","iec104_ioa","group","index"
"testPoint1","1","1234","1","0"
"status_2","3","10030","11","0"
```

Example command point file

```
"name","iec104_cmd_type_id","iec104_cmd_ioa","iec104_status_ioa","group","index"
"cmdPoint1","46","111","10030","12","0"
```

Package	Section	Options
iecd	port	pointmap_file (def: <empty>); cmd_pointmap_file (def: <empty>);

9.25.11.2 DNP3 over TLS (IEC62351-3)

Support for DNP3 connection over TLS (IEC62351-3)

Package	Section	Options
iecd	port	dnp3_use_tls (def: 0) dnp3_tls_cacertfile; dnp3_tls_crlfile; dnp3_tls_certfile; dnp3_tls_keyfile; dnp3_tls_pass; dnp3_tls_common_name; dnp3_tls_validate_peer_cert (def: 0); dnp3_tls_verify_depth (def: 1); dnp3_tls_force_tls1_2 (def: 0); dnp3_tls_cipherlist

9.25.11.3 Event System events for data point changes

Added new event system events for data point changes

Class	Id	Name	Sev	Event template
iecd	1	IecdPointValueChange	Info	IOA %{p1} point value changed to %{p2}
rtud	1	Rtud104PointValueChange	Info	IOA %{p1} point value changed to %{p2}
rtud	2	RtudDnp3PointValueChange	Info	group %{p1} index %{p2} point value changed to %{p3}
rtud	3	RtudModbusPointValueChange	Info	regtype %{p1} regaddr %{p2} point value changed to %{p3}

9.25.11.4 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 (def: 0); hartm_poll_intvl_secs (def: 3); hartm_reply_timeout_secs (def: 2); hartm_cmd_max_retries (def: 2); hartm_debug_on (def: 0); hartm_dump_data (def: 0)

9.25.11.5 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 (def: 60); iec101_inter_char_timeout_ms (def: 90) iec101_force_time_sync_first_ms (def: 1200);

9.25.11.6 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 (def: 1)

9.25.11.7 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

9.25.11.8 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 (def: 0) iec104_last_gasp_val (def: 0)

9.25.11.9 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`

9.25.11.10 IEC61850 master protocol

Support added for IEC61850 master protocol conversion when connected to IEC61850 RTU. Current implementation supports up to 2 concurrent links.

Package	Section	Options
iecd	port	master_protocol (new option value iec61850); iec61850mX_enabled; iec61850mX_remote_ip; iec61850mX_scl_file; iec61850mX_remote_port; iec61850mX_remote_ap_title; iec61850mX_remote_ae_qualifier; iec61850mX_remote_psel; iec61850mX_remote_ssel; iec61850mX_remote_tsel; iec61850mX_local_ap_title; iec61850mX_local_ae_qualifier; iec61850mX_local_psel; iec61850mX_local_ssel; iec61850mX_local_tsel
	point	iec61850m_linkno; iec61850m_value_type; iec61850m_ld_name; iec61850m_node_name; iec61850m_cdc_name; iec61850m_do; iec61850m_in_dynamic_ds; iec61850m_dynamic_dsid
	iec61850m_dataset	linkno; poll_on; is_dynamic; dsid; dataset_ref
	iec61850m_rcb	linkno; intgpd; buftm; rcb_ref

9.25.11.11 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	iecd.port.iec104_param_avg_on (def: 0); iecd.port.iec104_param_avg_sampling_period_secs (def: 0); iecd.port.iec104_param_avg_transmit_period_secs (def: 0); iecd.port.iec104_param_avg_transmit_threshold (def: 0)

9.25.12 WeConnect

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.

Contact your local Westermo reseller or visit weconnect.westermo.com for further information.

Package	Section	Options
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weconnect	weconnect	weaddress (def: weconnect.westermo.com); weint_name (def: tap0); confver (def: 1.0); wetoken; weotp; rip_int
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9.26 25.01.40.033

9.26.1 NTP

9.26.1.1 Custom chrony configuration

Support for configuration of custom chrony options through web UI at `system->system->time synchronisation->Custom Chrony configuration options`

Package	Section	Options
system	timeserver	list text

Configured via web UI at `System->System->Time Synchronisation->Custom Chrony configuration options`

9.26.1.2 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

9.26.2 SCADA

9.26.2.1 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

9.26.2.2 Data point background scan

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.

Package	Section	Options
iecd	point	iec104_bgscan_on
	port	iec104_bg_scan_secs

9.26.2.3 Delay measurement ACK in DNP3 initialisation

New configuration option to optionally send DNP3 delay measurement ACK in DNP3 initialisation sequence.

Package	Section	Options
iecd	port	dnp3_app_send_delay_measure

9.26.2.4 DNP3 app time selection control

New configuration option to convert received time to UTC offset or pass through unmodified.

Package	Section	Options
iecd	port	dnp3_app_cs_use_local_time

9.26.2.5 DNP3 to IEC104 IEC104 QU field – Pulse command

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

Package	Section	Options
iecd	port	dnp3_app_crob_ontime_ms; dnp3_app_crob_offtime_ms; dnp3_app_crob_count

9.26.2.6 IEC101 Forced Application Mode

Support for configuration of GI and CS parameters for clock synchronisation intervals

Package	Section	Options
iecd	port	iec101_gi_time_secs; iec101_cs_time_secs

9.26.2.7 IEC104 parameters of measured values

New options to support the handling of 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

9.26.2.8 IEC104 virtual point configuration version

Added new configuration options for configuration version and IOA address for IEC104 Virtual Point

Package	Section	Options
iecd	port	iec104_cfgver_ioa; iec104_cfgver_val

9.26.2.9 Redundancy for up to 6 SCADA Masters

SCADA master redundancy support has been increased from 2 to 6 SCADA Masters

Package	Section	Options
iecd	port	iec104_local_ip3; iec104_local_tcpport3; iec104_remote_ip3; iec104_local_ip4; iec104_local_tcpport4; iec104_remote_ip4; iec104_local_ip5; iec104_local_tcpport5; iec104_remote_ip5; iec104_local_ip6; iec104_local_tcpport6; iec104_remote_ip6;

9.26.2.10 Support for 2408 data points

Maximum supported data points have now increased from 1200 to 2048.

9.26.2.11 VA event generation on data point change

Support VA event generation on data point IOA value change so VA event system can send an alarm to configured target.

Package	Section	Options
iecd	cmdpoint	log_vaevent_on_change

9.26.3 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

9.27 25.01.40.028

9.27.1 LTE band MIB support

Added LTE band to vaModem.mib

MIB	Description
vaModem.32	LTE band

9.28 25.01.40.019

No new features

9.29 25.01.40.016

No new features

9.30 25.01.40.004

9.30.1 OpenVPN

9.30.1.1 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 (def: /etc/openvpn/my-vpn.conf)

9.30.1.2 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

9.30.2 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

9.30.3 GPS support for GW1150 series

GW1150 series now supports GPS

9.30.4 IEC104 CS_REWRITE option functionality extension

New functionality to provide checking Chrony NTP sync status and stratum before clock rewrite

9.30.5 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

See user manual for more information.

9.30.6 Mobile 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:

- The initialisation string
- The response to wait for
- The timeout to wait for the response

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

9.30.7 SCADA

9.30.7.1 IEC104 timer configuration

Added new options for configuration of IEC104 T1, T2 and T3 timers in seconds

Package	Section	Options
iecd	port	iecd104_t1_sec; iecd104_t2_sec; iecd104_t3_sec

9.30.7.2 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	iecd101mon	IEC101MON is a router application that monitors IEC 60870-5-101 link and forwards the decoded messages over MQTT
IEC101RTR	iecd101rtr	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	iosrsvd	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.

9.30.7.3 Secure Modbus TCP

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

9.30.8 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

9.30.9 Terminal server

9.30.9.1 Hardware independent device naming

Added new `serialPortName` 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).

Hardware Series	devName	serialPortName	Physical port
GW1150	/dev/ttyUSB0	port-b	Serial
GW2024P/GW7314	/dev/ttySC0	serial0	Serial 0
	/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

9.30.9.2 TLS support for TCP mode

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

9.31 ORK 22.00.96.000

9.31.1 Change log

New change log feature enabled via existing system audit configuration option `system.main.audit_cfg`. Changes are logged to a change log file (in addition to being displayed in syslog) and can be viewed using `changes -h` command or via the web at `status->change log`.

Package	Section	Options
system	main	audit_cfg_log_file; audit_cfg_log_size; audit_cfg_log_count;

Configured via the web at `system->system->audit configuration`.

9.31.2 Cwatch support for mobile roaming template interfaces

Roaming interfaces can now be monitored via Cwatch using a new `roaming_template` option `cwatch_entries`. This can be configured with a list of a space-separated `watch` section names from the `cwatch` configuration. At boot time, after mobile roaming discovery completes, all `cwatch` sections listed in the new option have their `test_ifaces` entry amended to include discovered operators from the roaming scan, and `cwatch` is automatically restarted so the changes can take effect.

Package	Section	Options
mobile	roaming_template	cwatch_entries

9.31.3 Ethernet port separation

Ethernet port separation now supported using `va_switch` configuration.

Package	Section	Options
network	va_switch	eth0; eth1; eth2; eth3

9.31.4 Event system

9.31.4.1 Event acknowledgement

VA event system sends a new boolean `vaEventAcknowledgementRequired` field with every snmp trap. Field is set according to boolean option `acknowledgement_required` in forwarding section

Event name	Event class	Event Id
va_event	forwarding	6

9.31.4.2 Firewall recent rule event

New firewall event added to VA event system triggered when a firewall recent rule is violated

Event name	Event class	Event Id	Severity
RecentRule	Firewall	1	Warning

9.31.4.3 Parameter based event filtering

Support for parameter-based filtering in the `forwarding` configuration section of `va_eventd` package. Available options depend on the event type. See user manual for full list of available options.

9.31.5 IPsec

9.31.5.1 FlexVPN interoperability

Added support for FlexVPN interoperability with third party VPN hubs for advertising and receiving IPv4 and IPv6 routes in IKEv2 authentication.

If strongswan IKEv2 connection contains the `route_interface` option configured with one of uci network interfaces, strongswan will request IPv4 and IPv6 subnets and if the peer (responder) returns any subnet routes they will be installed via configured `route_interface` without a gateway. The new `flexvpn_prefixes` option defines any routes to be advertised.

Package	Section	Options
strongswan	connection	route_interface; flexvpn_prefixes

9.31.5.2 SCEP CA fingerprint validation

Added a new option `fingerprint` which specifies a fingerprint that can be matched against the fingerprint (MD5 or SHA1) of a CA certificate during authentication

Package	Section	Options
strongswan	scep_cert	fingerprint

9.31.6 Interface status

New command `ifstatus` to display detailed interface status summary for all UCI-configured interfaces including their current state and IP address.

See user manual for more information.

9.31.7 Mobile

9.31.7.1 Cold restart of mobile module

A cold restart of `va-mobile` can now be executed via the command `'vam init'`. To reset the modem hardware, use `'vam resetmodem'`.

9.31.7.2 Diagnostics

New command `vam` to provide easy access to most available `va-mobile` diagnostics.

See user manual for more information.

9.31.7.3 Roaming templates multiwan group

New option for configuration of multiwan exclusive group. Previously this was hard configured to 3g.

Package	Section	Options
mobile	roaming_template	multiwan_excusive_group

9.31.7.4 Reset LOCI file content on SIM on startup

New option `sim[1|2]_loci_file_reset_enabled` when enabled will lead to a fresh operator search at radio module startup instead of the module trying to register with the last used network again.

Package	Section	Options
mobile	main	sim1_loci_file_reset_enabled; sim2_loci_file_reset_enabled

9.31.8 OSPF interface cost metric support

New option to set the OSPF interface cost metric

Package	Section	Options
ospfd	interface	cost

9.31.9 Overlay diagnostics

New command `checkov` to show modified overlay files (excluding configs and files stored under `/root/`).

9.31.10 Reset

Config1 and config2 configuration files are now deleted when router is reset to factory config using the reset button press

9.31.11 Password hash

Support for configurable password hashing algorithm using SHA-512 algorithm.

Note: if using SHA-512 password hash then firmware cannot be rolled back to a version that does not support SHA-512 ie prior to ORK-22.00.96.000.

Package	Section	Options
system	main	passwd_hash_algo

9.31.12 Power over Ethernet power control

New feature for configuration of a power budget that can be defined to control the overall power delivered to be shared between Ethernet ports. When you configure the Ethernet ports, you must set the priority for power delivery on each port.

Package	Section	Options
vapoe	main	power_budget
	port	priority

9.31.13 SIP

9.31.13.1 SIP proxy configuration

Added new option `outboundproxy` for configuring a SIP proxy

Package	Section	Options
asterisk	provider	outboundproxy

9.31.14 SNMP

Enabled MIBs for CPU load average and memory usage

MIB	Description
.1.3.6.1.4.1.2021.4	CPU load average
.1.3.6.1.4.1.2021.10	Memory usage

9.31.15 Terminal server

The terminal server debug log for serial data output can now be configured using option `max_dump_data_size`. Default size is 128 bytes. Previously debug was limited to 15 bytes.

Package	Section	Options
tservd	main	max_dump_data_size

9.31.16 System information

New short command `version` to display system firmware and other information as an alias for existing command `vacmd show vars`. The new command includes an additional '-a' option to display additional information.

See user manual for more information.

9.31.17 TOS/DSCP value configuration

Added configuration support to change the TOS byte value in the IP header when using VA applications.

Package	Section	Options
asterisk	main	tos_sip; tos_audio
cesopd	port	tos_value
tservd	port	tos_value

9.31.18 VRF application support

Support for binding the following applications to a specific VRF and isolated from general routing

Application	Package	Section	Options
ADAT	adatcd	main	vrf
HTTP Client	httpclient	core	vrf
SNMP	snmpd	system	vrf
SSH	dropbear	dropbear	interface (existing option)
Syslog	system	system	log_vrf
Web Server	uhttpd	uhttpd	vrf

9.31.19 VRRP diagnostics

New command `vrrp` to display additional VRRP diagnostic commands.

9.31.20 VRRP support for roaming template interfaces

Roaming interfaces can now be tracked via VRRP using a new `roaming_template` option `vrrp_groups` which can be configured with a list of space-separated VRRP group names. Any roaming interfaces discovered will be automatically to the VRRP track interface list (`track_iface`) for each VRRP group listed.

Package	Section	Options
mobile	roaming_template	vrrp_groups

9.31.21 Support for Qualcomm WiFi driver

Support for new Qualcomm proprietary driver for models with a Dakota processor (GW1400; GW2300; GW3300D)

9.32 ORK 22.00.93.000

No new features

9.33 ORK 22.00.90.000

9.33.1 Event log

9.33.1.1 Custom facility and severity for VA event syslog messages

VA event messages with a syslog target can now be configured with a custom facility and severity which will override the default values. New configuration options `option facility` and `option severity`.

Package	Section	Options
va_eventd	target	facility; severity

See the user manual for more information.

9.33.1.2 Digital output change event

New events added for digital output changes.

Event name	Event class	Event Id
DigitalOutputChange	system	6

9.33.2 FXS pulse dial configuration support

A new FXS configuration option `low_zero_pulse` allows changing from normal pulse dial operation (1 pulse = 1; 2 pulse = 2; 10 pulse = 0) to Swedish pulse dial operation (1 pulse = 1; 2 pulse = 1; 10 pulse = 9).

Package	Section	Options
---------	---------	---------

fxs	global	low_zero_pulse
-----	--------	----------------

See the FXS pseudowire section in the user manual for more information.

9.33.3 Inventory upload

The inventory upload feature automatically uploads interface statistical information periodically to Activator. Inventory collection produces a JSON document which is uploaded using the http client. The stored data can be communicated between Activator and third-party applications using a restful API.

Package	Section	Options
monitor	inventory	enabled; upload_interval; trigger_upload_delay_sec

See the user manual for more information.

9.33.4 Monitor speed test

New feature for router speedtest using VA Monitor application. The router will:

- listen on TCP port 9 and discard all received data
- listen on TCP port 19 and stream data to the connected client at maximum possible speed.

Package	Section	Options
monitor	speedtest	chargen_enabled; discard_enabled

See the user manual for more information.

9.33.5 Multiwan signal_test option now supports UDS

A UDS script can now be entered as a parameter in option `signal_test` in the format `option signal_test "uds(script_name)"`.

UCI values can now also be checked from within the script using the format `uci.<pkg>.<section>.<option>`.

Package	Section	Options
multiwan	multiwan	signal_test

See the user manual for more information.

9.33.6 OSPF/BGP routing

9.33.6.1 OSPF/BGP support for adding applications to VRF

VRF support added to BGP and OSPF to enable protocols to be added to a VRF. A new option `vrf` can be configured to allow multiple routing sections to have several instances in different VRF's.

Package	Section	Options
bgpd	routing	vrf
ospfd	routing	vrf

See the user manual for more information.

9.33.6.2 Support for assigning peers to particular BGP instance

A new routing option is introduced for for section `peer`, `peer_group` and `routemap`. This can be configured to the name of a routing section you want it to be related to.

Package	Section	Options
bgpd	peer	routing
	peer_group	routing
	routemap	routing

See the user manual for more information.

9.33.7 SCADA

9.33.7.1 IEC104 Gateway support

Added support for IEC104 Gateway.

9.33.7.2 IEC104 redundant connection support

Implemented support for multiple IEC104 master support. Router will accept IEC104 connections from alternate SCADA masters as detailed in IEC 60870-5-104 standard.

No new configuration options are required for operation.

9.33.7.3 SCADA application level firewall

SCADA application level firewall allows valiating and filtering SCADA messages covering the following protocols:

- IEC 608-5-104 (IEC104)
- IEE Std 185-2012 (DNP3)
- Modbus TCP

This feature is part of the general firewall feature implemented as part of the `iptables` package.

9.34 ORK 22.00.89.000

No new features

9.35 ORK 22.00.88.000

9.35.1 FXS

FXS pseudowire is delivered over an RJ11 port on GW1150 series hardware. This allows existing FXS equipment such as phones, alarm controllers, and so on, to be connected directly to the router.

Package	Section	Options
asterisk	client	username; secret; host; hostport
	provider	username; secret; network_prefix; msn; address

Configured via the web UI at `Network->SIP`

9.35.2 Mobile operator search

Mobile operator scan can now be executed via command line using the command `mobile_operators -s`. This command displays a list of available mobile networks on roaming SIMs.

9.36 ORK 22.00.82.000

9.36.1 Power over Ethernet

Support for 802.3at Type 2 Power over Ethernet Plus with a total power limit of 120 Watts. Each port can support 30W from 50V and 57V DC.

Package	Section	Options
vapoe	port	enabled

Configured via the web UI at `services->poe`.

9.36.2 Multi-APN

Support for for multiple APN connections via single SIM. Depending on the mobile module, up to four APNs are supported.

Package	Section	Options
network	interface	pdp_context

Supported mobile modules

Vendor	Module	Firmware
Quectel	EC25-EU	EC25EUGAR06A02M4G
SIMCOM	Sim7600E-H	LE11B07SIM7600M22

Configured via the web UI at `network->interface`.

9.36.3 VRF

An interface can now be configured to belong to a VRF. Interfaces included in the VRF form an independent routing domain, so routing of incoming and outgoing packets only happens within a VRF. It's also possible to add individual routes to a VRF using static routes.

Package	Section	Options
network	interface	vrf
	route	vrf

See the user manual for more information.

9.36.4 GPIO

Support for

- Two digital input ports with 2 controls for Wet/Dry control
- Two digital outputs driving relays

An event is raised in the router's syslog when the status of the digital inputs/outputs changes. The routers event system can be used to forward the events to a Syslog Server, SNMP, email or SMS. Refer to the Event System section for configuration.

9.36.5 Last gasp

Power fail event generated in syslog and optionally delivered via an SNMP trap when power is lost. SNMP power event trap is enabled using the `trapreceiver` configuration section in `snmpd` package. Example traps include

Shutdown:

```
{ SNMPv1 { Trap(28) E:8072.4 192.168.100.1 enterpriseSpecific s=2 8382 } }
```

Startup:

```
{ SNMPv1 { Trap(29) E:8072.3.2.10 192.168.100.1 coldStart 9 } }
```

10 Appendix 2: Problems resolved history

10.1 25.03.43.021

No.	Module	Short Description	Mantis
1.	Firmware	Prohibit downgrading router firmware on models using Sierra Wireless Toshiba NAND flash to an unsupported version (< 25.03.43.014)	7488
2.	Mobile	Fix Quectel RM520N restart after switching to QMI mode	7243

10.2 25.03.43.019

No.	Module	Short Description	Mantis
1.	IECD	Fix clock sync time in IEC101 <code>force_clock_sync</code> to use local time instead of UTC	7208
2.	Mobile	Ensure PDP context is deactivated before attempting to establish connection to avoid issue with connection attempt	7168
3.	Mobile	Fix selection of bands above band 63 for SIMCom7600G-H	7356
4.	PoE	Fix missing event on powered device disconnect	7195
5.	Strongswan	General improvements to memory usage	
6.	Syslog	Fix syslog timestamp to use local time instead of UTC	7240
7.	Web/PoE	Web UI now correctly displays the number of PoE ports available	
8.	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
9.	WeConnect	Fix support for WeConnect	6793 7218

10.3 25.03.43.014

No.	Module	Short Description	Mantis
No fixes			

10.4 25.03.43.011

No.	Module	Short Description	Mantis
1.	Mobile	Use Unitac-specific AT commands <code>AT!UBAND</code> , <code>AT!UTEMP</code> and <code>AT!UREBOOT</code> instead of GCT commands	
2.	Mobile	Added a module reboot after executing a factory reset of the Unitac module	
3.	Mobile	Ensure Unitac module comes back in ECM/VLAN mode after factory reset	

4.	Mobile	Added an extra delay before issuing the AT command to switch the Unitac modules into ECM mode.	
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10.5 25.03.43.010

No.	Module	Short Description	Mantis
1.	Activator	Set model URL parameter to uimodel rather than machtype in updates to Activator	6761
2.	Certificates	Improve error reporting for common issues with HTTPS certificates	6987
3.	CLI	Improve error message for <code>uci show xy</code> when <code>xy</code> does not exist	
4.	Ethernet	Add <code>arp-scan</code> utility to DRS, ORK and SXL families for consistency with EDG family cli: <code>arp-scan -l</code>	5829
5.	Firewall	Fix variable name clash in zone option presence test causing occasional restart issue	
6.	Firewall	Simplify firewall forwarding within a bridge by avoiding calls to iptables	
7.	Firmware	Prevent downgrade of router firmware to a version that is incompatible with the on board Sierra Wireless module	6878
8.	IECD	Fixed issue with IEC104 clock synchronization on conversion from CP56TIME2A to time format where memory was not being cleared correctly	
9.	IECD	Improvements for Analog Input integer to float conversion for IEC104 to DNP3	
10.	Mobile	Ensure ARP is not turned off for the Unitac Ethernet interface causes problems with the firmware upgrade tool.	
11.	Mobile	Ensure NOARP flag is set on mobile Ethernet devices to avoid the ARP table from filling up with entries from the mobile connection	6676
12.	Mobile	Ensure the SMS format is set correctly and interfaces restarted after Verizon provisioning.	
13.	Mobile	Fix detection of Quectel RM520N 5G mobile module running latest firmware (RM520NGLAAR01A07M4G)	
14.	Mobile	Fix handling of 5G status when operating in an 5G SA network	
15.	Mobile	Fix to ensure the Verizon attach APN is set correctly	
16.	Mobile	Only restart interfaces when Network Initialisation was indicated in OMADM	
17.	Mobile	Record Unitac AUX antenna values regardless of MIMO state	
18.	Mobile	Switch to AT!GSTATUS to retrieve signal information for Unitac modules	
19.	OpenVPN	Fix privileges in OpenVPN to allow automatic restarts and fix open SSL errors in WeConnect	6793
20.	SNMP	Correct vaUciMib implementation so that it matches the previous implementation	6903
21.	SNMP/GPS	Fix GPS heading in MIB from degrees to micro degrees	6901

22.	System	Fix issues when config files have execute permissions set and configuration audit is enabled	
23.	TPM	Don't allow loading a new key if a key with the same label is already present	
24.	VLAN	Fix VLAN bridging on Merlin and GW6650V models	6768 6844
25.	Web	Fix error message typo when SSL subsystem fails to initialise	
26.	Web	Print openssl errors when init, cert load or key load fail	
27.	Web/ Interfaces	Avoid restarting all interfaces when adding new interface via web UI	6922 6923
28.	Web/Cwatch	Fix display of bridge interface on Cwatch interface list	6824
29.	Web/Event System	Support configuration of Event System Digital Input change event input number and value via web UI web: services->va event system->event filters->Input Number cli: va_eventd.forwarding.input_number web: services->va event system->event filters->Input Value cli: va_eventd.forwarding.value	6839
30.	Web/IECD	Added selector lists in place of fixed values where possible	
31.	Web/OSPF	Support configuration of OSPF VRF via web UI web: network->ospf->global settings->VRF cli: ospfd.routing.vrf	6964
32.	Web/PoE	Modifications to a PoE port configuration via the web UI no longer result in the other PoE ports being reset	6827
33.	Web/Realtime Graphs	Fix web UI real time graphs for QMI mobile connections web: status->Realtime Graphs	7029
34.	Web/System	Restore javascript validation preventing underscores in system hostname	4555

10.6 25.03.43.000

No.	Module	Short Description	Mantis
1.	BGP	Fix local VRF IP subnet not being advertised over WAN VRF using a BGP instance in the same VRF	6799
2.	IECD	Fix IEC104 operation when IEC104 local TCP port configured to '0'	6778
3.	IECD	Fix unwanted Health Point updates during normal master switchover for IEC104 RTU's	6463
4.	IECD	Fixed Modbus master initialisation error when loading TCP routes	6803
5.	Mobile	Fix signal strength detection on older Unitac modules	6805
6.	Web	Fix slow web SSL access when using keys from TPM	6734
7.	Web/HTTP Server	Support configuration certificate keys in TPM web: services->http server->Certificate Key Format cli: uhttpd.uhttpd.keytype [PEM TPM]	6756
8.	Web/ Asterisk	Fix incorrect tos_audio and tos_sip range	6792

9.	Web/Mobile	Correct display of mobile interface type on web UI interface overview page	6787
10.	Web/SCADA	Moved COSEM HDLC Bridge configuration from Services to SCADA tab	6781
11.	Web/Status	Add download button for kernel and system log web: status->System Log web: status->Kernel Log	6794

10.7 25.03.37.000

No.	Module	Short Description	Mantis
1.	Firewall	Fix issue with <code>fw reload</code> command	6773
2.	USB Hub	Improve USB hub initialisation on boot. Also introduced automatic USB hub restart on failure detection	

10.8 25.03.35.000

No.	Module	Short Description	Mantis
12.	Firewall	Fix issue with <code>fw reload</code> command	6773
13.	IECD	IEC61850 Server: Add conversion from Modbus DI to DPS objects	
14.	IECD	IEC61850 Server: Added mapping of Modbus DI to integer types (INS, etc)	
15.	IECD	IEC61850 Server: Fix error with double init of data points for Modbus master	
16.	IECD	IEC61850 Server: Update points from Modbus RTU when point have not been changed before in addition to when value changed	
17.	SNMP	Fix SNMP configuration using TCP protocol	5930
18.	Web/Firewall	Fix summary page showing rules with <code>option enabled '1'</code> in configuration file as disabled	6765
19.	Web/FXS	Support FXS configuration web: network->fxs	5930

10.9 25.03.33.004

No.	Module	Short Description	Mantis
1.	Cwatch	Fix cwatch using cached interface values rather than current values which caused cwatch to intermittently miss state changes	6784
2.	Ethernet	Fix Ethernet configuration when using <code>ifnames portA</code> and <code>portB</code> instead of <code>va_switch</code>	6743
3.	IECD	Improve debugging of IEC61850 client when processing control commands	
4.	Mobile	Rename 'phone number' to 'MSISDN' in mobile stats	
5.	VRF	Fix DNAT behaviour for alias interface within VRF	6705
6.	Web/ IPsec	Fix error on saving of configuration general section	6281

7.	Web/ Network	Show colour codes for interface status in network overview	6536
8.	Web/ OpenVPN	Automatically add and remove OpenVPN network interfaces	6296

10.10 25.03.23.000

No.	Module	Short Description	Mantis
1.	Activator	Fix Activator active update command returning incorrectly parsed IPv6 addresses	4727
2.	CWATCH	Cwatch now ignores non-existing UCI network interfaces	6644
3.	Failsafe	Failsafe mode now uses SSH instead of telnet access	6663
4.	Firewall	Insert the <code>MARK</code> configuration rule before the <code>redirect</code> rules in the firewall table	5405
5.	IECD	Fix issue in IEC104S to IEC101 in transparent mode, where 104 ASDU CA=65535	
6.	IECD	Fix issue processing IEC101 reset process response	
7.	IECD	Fix issue with DNP3 Gr3 (double bit) to IEC104 single point conversion	6671
8.	IECD	Fixed incorrect cleanup while closing during IEC104S TLS session establishment	6636
9.	IECD	Fixed issues with events not sent from IEC104 slave offline queue after connection is restored	6648
10.	IECD	Fixed issues with processing TI 105 Reset Process command	6640
11.	IECD	IEC104 slave: Fixed incorrect application of clock synchronization command	
12.	IECD	IEC104 to IEC101 conversion: fixed issue with converting QU field of commands from Master (104) to RTU (101)	
13.	IECD	IEC104 to IEC104 conversion: Fix Double command Execute part of Select Execute sequence not passing on QU field of command	6656
14.	Mobile	Add MTU detection for Unitac modules	
15.	Mobile	Ensure MTU does not exceed 1500 bytes on QMI links	6567
16.	Mobile	Ensure Quectel EC25/EG25 modules use GSM format for SMS messages	
17.	Mobile	Fix crash when <code>switch_sim</code> command is executed with no value	
18.	Mobile	Fix for interfaces not coming up after SIM switch on GW1400 series	6675
19.	Mobile	Fix interface name and type for Unitac modules on Merlin series	
20.	Mobile	Fix performance issues on Sierra Wireless modules (introduced in 25.02.80.000)	6708
21.	Mobile	Prevent crash when handling SIMs with invalid ICCID	6635
22.	Mobile	Prevent crash when no SIM slot specified for SIM switch command	
23.	Mobile	va-mobile no longer automatically changes GNSS configuration as this is now done in manufacturing	6659

24.	Monitor	Fix Monitor Keepalive configuration changes taking effect immediately when changed from web UI or Activator	6650
25.	NTP	Improvements to chrony operation for interface state changes	6631
26.	PPP	Fix connection issue when two ppp links have similar UCI name	6654
27.	Roaming Manager	Retry existing connection after routine disconnect when using Roaming Manager feature	
28.	SIP	GW1151 can now also act as a SIP server (registrar)	5758
29.	SNMP	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
30.	SSH	Fix SSH login via private and public key.	6425
31.	TACACS	Fix ipv6 address support	6620
32.	Web	Sort web UI drop down headings	5909
33.	Web/ Multiwan	Allow multiwan configuration via web UI when no multiwan config options exist in configuration file	
34.	Web/HTTP Client	Support configuration of Http Client certificate key format web: services->http client->advanced->Certificate Key Format cli: httpclient->httpclient->KeyFormat	5792
35.	Web/IECD	Changed default location of TLS certs to /etc/cert	6643
36.	Web/IECD	Only show IEC104 TLS Common Name and IEC104 TLS Verify Depth options when IEC104 TLS Validate Peer Cert is enabled	6643
37.	Web/IECD	Removed unused iec101_cmd_type_id option from web UI	6627
38.	Web/IECD	Support SCL import file upload for IEC61850 master web: scada->iecd->master protocols->configure IEC61850->Select IEC61850M SCL File for Upload	
39.	Web/IECD	Support upload capability for TLS cert, key and CRL files via web UI	6643
40.	Web/IPsec	Web UI IPSEC configuration improvements	6281
41.	Web/System	Fix firmware flashing error message	6286
42.	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

10.11 25.03.05.000

No.	Module	Short Description	Mantis
1.	Mobile	Fix missing LTE band information on older Unitac firmware	6630
2.	Web/BGP	Fix BGP network option for IP address/subnet input rather than interface name web: network->bgp->global settings->Network	6619

10.12 25.03.03.000

No.	Module	Short Description	Mantis
1.	IECD	Added RTS-CTS flow control of the serial (when not using tserverd)	6615

2.	Mobile	Prevent +CGEV: NW DETACH trigger warnings in the logs	6616
3.	Routing	Enable FRR vty_enabled option in user interface	6613
4.	Web/BGP	Fix BGP network option for IP address/subnet input rather than interface name web: network->bgp->global settings->Network	6619

10.13 25.02.99.000

No.	Module	Short Description	Mantis
1.	FXS	Fix FXS drivers not loaded when asterisk 'main' config section is not present	6607
2.	IECD	Fix issue in IEC61850 master to DNP3 slave conversion of analog float values	6593
3.	IECD	Fix tx buffer overflow and iecd crash when DNP3 Slave serving large number of points and events (500+)	6609
4.	IECD	Handle multiple sessions, cleaning up in case of errors when fetching CRL file using a link from peer certificate	5955
5.	IECD	Improvements in the VRTU to IEC61850 slave conversion	
6.	Mobile	Fix for SMS received by Quectel EG25G via IMS in Verizon network	6594
7.	QoS	Fix QoS initialisation	6560
8.	Web/Interfaces	Fix default gateway handling for DHCP protocol	6601
9.	Web/FXS	Add option to enable asterisk via web interface Web: services->sip->general->Enabled	
10.	Web/SNMP	Improvements to web UI SNMP configuration	

10.14 25.02.95.000

No.	Module	Short Description	Mantis
1.	CWATCH	Ensure cwatch can handle comma separated ping destinations	
2.	GRE	Fix GRE keepalives	6554
3.	IECD	Added conversion from 4 Modbus 16-bit registers (int64) to iec104 float	
4.	IECD	Added support for conversion of 2 modbus 16-bit registers storing FLOAT32 to IEC104 type 13 float	
5.	IECD	Fetch CRL file using a link from peer certificate	5955
6.	IECD	Fix CSV import issue when parsing bitmap options	6555
7.	IECD	Fix serial configuration in modbus master	6540
8.	IECD	Improved IEC61850 SCL import and export into UCI file	6581
9.	IECD	Improved show statistics command when multiple RTU protocols are used per point	6580
10.	IECD	MQTT Slave to MODBUS RTU: send MQTT publish only on value change	6376
11.	Mobile	Add data-only configuration for Quectel EP06 module	

12.	Mobile	Add display of additional Unitac signal values to <code>vam</code> command and web UI	
13.	Mobile	Added 5G network registration status	
14.	Network	Fix dependent interface behaviour when parent WAN interface is using QMI mobile interface	6493
15.	SCEP	Fix intermittent issue where only one SCEP request was sent when multiple SCEP clients were configured	6523
16.	SCEP	Fix loading of SCEP CA certificate	6525
17.	Strongswan	Do not split long PSK into separate lines which would cause PSK to be read incorrectly and Phase1 failure	6537
18.	TACACS	Fix tab correction for TACACS+ user login via SSH	6527
19.	TPM	Improve support for TPM access from multiple processes to avoid TPM being locked by another process	6483
20.	User Limits	Fix Procrustes user limit events	6538
21.	Web	Fix web UI intermittently advising router is running in <code>factconf</code> when in <code>config1</code>	6547
22.	Web/IECD	Fix typo in DNP3 slave protocol option	6578
23.	Web/Mobile	Prevent option <code>ifname</code> configuration being added to mobile interfaces when configured via web UI	6501
24.	WiFi	Fix <code>ifup</code> transmission issue when WiFi is bridged with an Ethernet interface	6514
25.	Mobile	Fix GW1400 series mobile module randomly disconnecting from USB bus	6304
26.	Mobile	Fix second radio module initialisation in GW2300 series	6587
27.	Mobile	Fix <code>vam resetmodem</code> on GW1400 series	5969

10.15 25.02.85.000

No.	Module	Short Description	Mantis
1.	IECD	Improved IEC61850 control command processing in relation to IEC101 and IEC104 single-double select-execute sequence	
2.	IECD	Support configurable IED name and LD name for IEC61850 slave <pre>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</pre>	
3.	IECD	Support for Digital Input inversion in the IEC61850 server	
4.	LED	Fix mobile signal strength LEDs on GW2300 series	
5.	Mobile	Disable the APNs when connection is terminated for Unitac modules	6484
6.	Mobile	Mobile connection no longer dropped when 2 nd antenna is disconnected when using Unitac modules	6446

7.	Mobile	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
8.	Syslog	Fix multiwan errors in log when multiwan not configured	6489
9.	System	Prevent download of incorrect firmware family	
10.	System	Prevent download of incorrect firmware family	
11.	System	Support image compatibility check on GW1150 to prevent download of firmware that does not support on board Sierra Wireless flash version	
12.	Terminal Server	Fix failure to recover from bind failure while interface down	6464
13.	TPM	Fix RSA key loading on big endian platforms	
14.	Web/IECD	Fix web UI issue in IEC61850 slave	

10.16 25.02.80.000

No.	Module	Short Description	Mantis
1.	Ethernet	Ensure Ethernet ports aren't bridged during startup on GW1042 to avoid leaking traffic between LAN segments during reboot	5906
2.	Ethernet	ifup now preserves VLAN interfaces when configuration has non VLAN and multiple VLANs attached to the same Ethernet interface	6247
3.	Ethernet	Increase frame size limit to accommodate large VLAN packets	6307
4.	Event System	Fix boot success event	5927
5.	FXS	Ensure fxs0 is the default for option fxs.interface.ifname	
6.	FXS	Fix error messages when running /etc/init.d/dahdi restart	5959
7.	FXS	Prevent creation of duplicate entries in dhadi/system.conf which prevented E1 spans being registered with asterisk	6174
8.	FXS	Remove callerid option from sip.clients.conf as no longer used and causes issues with hunt groups	6175
9.	IECD	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)	
10.	IECD	Fix parsing parsing of -casdu switch in IEC104 firewall	6298
11.	IECD	Fixed incorrect parsing of MQTT SUB-ACK packet	6295
12.	IECD	Fixed load errors for custom SCADA firewall rules	6025
13.	IECD	Fixed MQTT hostname resolution	6308
14.	LED	Fix Port D LED operation on GW3300D	6243
15.	Memory	Fix memory errors on GW1400 series	5620
16.	Mobile	Add switch to add switch to data-centric mode for Quectel EC25 and SIMCOM modules	

17.	Mobile	Added PCI display for Unitac modules	6251
18.	Mobile	Ensure that Verizon APN is correct for default/initial bearer	6154
19.	Mobile	Enter airplane mode before attempting to change the default LTE bearer to avoid issues with SIM failover	5991
20.	Mobile	fix <code>chat</code> command failing if previous <code>chat</code> aborted	6210
21.	Mobile	Fix crash when LTE band retrieval for SIMCOM fails	
22.	Mobile	Fix ESN display where leading zero's were being omitted	6345
23.	Mobile	Fix incorrect reporting of RSSI when using Unitac mobile module	6437
24.	Mobile	Fix multiwan to run with default group when no group name specified	
25.	Mobile	Fix to prevent the modification of the Verizon attach bearer	6043
26.	Mobile	Fix <code>va_roaming</code> ignoring <code>Stat=0</code> operators in roaming scan	6184
27.	Mobile	Ignore network provided DNS addresses if option DNS configured	6372
28.	Mobile	Improvements to operator scan: <ul style="list-style-type: none"> • Now commence an operator scan as follows; <code>AT+COPS=2</code> (detach from network); <code>AT+COPS=0;+COPS=?</code> (reattach and commence scan, all in one operation) • <code>AT+COPS=?</code> timeout increased to 190 seconds • automatically retry a failed <code>AT+COPS=?</code> command if it fails within 15 seconds • <code>vam roaming</code> now includes scan duration in seconds 	
29.	Mobile	Incorrect SINR reported for Quectel modules	5951
30.	Mobile	Re-connect to network automatically if <code>AT+CGATT=1</code> fails	
31.	Mobile	VA Mobile roaming diagnostic now shows roaming info for all modems by default <code>cli: vam roaming</code>	
32.	Network	Ensure <code>ifdown</code> kills all <code>ifup</code> processes on the same interface and not just the child processes	
33.	Network	Fix repeated <code>ifup</code> race condition on bridged interfaces	6265
34.	PoE	Prevent attempts to disable ports on non PoE hardware to avoid erroneous syslog warnings	
35.	RTUD	Added support for inverting digital inputs after reading from hardware <code>web: scada->rtud->advanced->Invert Inputs</code> <code>cli: rtud.main.invert_inputs (def: 0)</code>	6208
36.	SCEP	Added certificate expiry check during re-renrollment	6235
37.	SCEP	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
38.	SCEP	Strongswan is now restarted after SCEP renewal to ensure the peer correctly deletes the existing <code>IKE_SA</code>	6190
39.	SNMP	Fix creation of SNMPv3 traps	5943
40.	SNMP	Fix failing <code>snmpwalk</code> on <code>vaModem MIB</code> when no roaming info available	5922

41.	Strongswan	Allow IPsec tunnels to start when CA certificate download fails and blocking is disabled in <code>scep_cert</code> config	6324
42.	Strongswan	Remove FlexVPN GRE IP addresses on tunnel termination	5924
43.	Strongswan	Fix IKE SA delete being sent with correct message id to ensure IPsec peer does not discard	6246
44.	System	Changed password hash algorithm option value to a ListValue <code>cli: list system.main.passwr_d_hash_algo</code>	5001
45.	System	Fix auditing of DMVPN configuration using option <code>audit_cfg</code>	
46.	Terminal Server	Increase port limit to 16	6267
47.	Terminal Server	Added support for new option in GW2124P to control serial LED detection using DSR control signal when DTR/DSR signals are being used <code>cli: tserverd.port.led_dsr_detect (def: 0)</code>	
48.	Terminal Server	Auto detect serial mode gpio control settings	5970
49.	Terminal Server	Fix SNMP poll of TSERVER-MIB	6477
50.	Terminal Server	Fixed issue with auto detection of serial port names on GW2028	6313
51.	Web	Improvements to web UI performance and load times	6178
52.	Web/Interface	Added <code>mtu</code> configuration option for PPPoEoA and PPPoA ADSL interfaces	5702
53.	Web/OpenVPN	Do not add <code>key_direction</code> option when set to its default value (bidirectional) when OpenVPN configured via web UI	6063
54.	Web/GPIO	Change Web UI digital input mode default to dry mode	6060
55.	Web/IECD	Changed free text fields <code>log_vaevent_on_change</code> , <code>vhmi_on</code> and <code>vhmi_dword</code> to selector on-off	6165
56.	Web/Terminal Server	Added support for TCP Tap Port configuration <code>web: scada->terminal server->port->advanced->TCP Tap Port</code> <code>cli: tserverd.port.tap_port (def: 0)</code>	6291
57.	Web/VA Event	Add length check in web UI for <code>snmp_auth_pass</code> and <code>snmp_priv_pass</code>	
58.	Web/WiFi	Add WPA Enterprise configuration to web	5963

10.17 25.02.14.032

No.	Module	Short Description	Mantis
1.	Mobile	Fix second radio intermittently not being detected on GW3300D series	
2.	Mobile	Fix Unitac module detection (broken in release 25.02.14.030)	6387
3.	TPM	Fix HTTPS incoming connection activation with key stored in TPM on Merlin4600 series.	6367
4.	TPM	Flush transient objects from TPM RAM upon session open on Merlin4600 series.	

10.18 25.02.14.030

No.	Module	Short Description	Mantis
28.	ADSL	On GW6600 series start all PPPoA interfaces with ifname nasX. Previously only PPPoE and PPPoA interfaces with nas0 are autoamtically started	6061
29.	Download	Fix interrupted download when va_vars incorrectly states image not found. Download now correctly continues rather than starting again.	6354
30.	Mobile	Fix duplicated ICCID when using WP76xx-AU module on Merlin4600 series.	6352
31.	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

10.19 25.02.14.027

No.	Module	Short Description	Mantis
1.	WiFi	Fix intermittent incorrect WiFi interface name generated by ifup command on WiFi interfaces	6253

10.20 25.02.14.024

No.	Module	Short Description	Mantis
1.	BFD	BFD rate changes now working as expected when multihop enabled	6255
2.	BFD	Fix BFD multiplier configuration	6242
3.	Download	Fix size calculation when image download exceeds 10M	6033
4.	Download	Increase time limit for image download to 5 hours (previously 2 hours)	6266
5.	HTTP Client	Set download minimum rate limit to 1kBps	6266
6.	PPPoE	ifup <ifname> now correctly re-establishes when <ifname> is a PPPoE link and is already up	6241
7.	Serial	Fix serial LED settings when option serialPortName is configured on GW2124P series	6219
8.	Terminal Server	Fix TOS value support using option tos_value	

10.21 25.02.14.016

No.	Module	Short Description	Mantis
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1.	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	
2.	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
3.	RTUD	Fix defaults for RTUD so web UI no longer shows errors when saving	6075

10.22 25.02.14.010

No.	Module	Short Description	Mantis
1.	LED	Fix serial LED on GW2024P with GW2027 machtype	6167
2.	Mobile	Fix IP connectivity when using Huawei 709 with firmware 11.652.65.00.00	6076
3.	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.	
4.	WiFi	Ignore WiFi type when only single WiFi supported by firmware to avoid issues with third party AP's	5905

10.23 25.02.14.009

No.	Module	Short Description	Mantis
1.	Ethernet	Fix default MAC address for Merlin4600 Ethernet ports	5740
2.	GPIO	Merlin digital inputs now default to dry	5992
3.	IECD	Fix data point handling where previously only the last data point was forwarded the SCADA master when using HART protocol	6046
4.	IECD	Fix IECD CSV files data point import.	5975
5.	IECD	Fix issue in handling periodic GI and Clock Sync timeouts in IEC101 Master	
	IECD	Support for CP24 timestamp format messages in IEC101 to 104 conversion	5980
6.	IP PAD	Fix high CPU load for new IP connection to IP PAD causing data transfer from terminal to X.25 to fail	6006
7.	Memory	Fix GW1400 series memory corruption	5620
8.	Mobile	Fix crash when LTE band retrieval for SIMCom fails	
9.	SFP	Fix interface failing to restart after network package restart	6079
10.	Strongswan	Decrease OCSP/CRL fetch timeout to 3 seconds from 10 seconds to avoid resource issues for multiple tunnels using CRL	5954
11.	Strongswan	Exclude password field from re-enrollment requests	5993

12.	Strongswan	Handle DER or PEM format for SECP fingerprint	5879
13.	Strongswan	In case multiple root CA's downloaded, verify fingerprint of the root	
14.	Strongswan	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
15.	Terminal Server	Fix loopback test for serial ports	5972
16.	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
17.	Web/IPsec	Support configuration of local cert via web UI web: services->ipsec->scep certificate->Local Certificate cli: strongswan.connection.localcert	6000
18.	Web/RTUD	Fix web UI configuration of RTUD auto generate config option	6075
19.	Web/SCEP	Support configuration of SCEP fingerprint and CA Name via web 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
20.	Web/Terminal Server	Support configuration of serial port name via the web UI web: scada->terminal server cli: tserverd.port.serialPortName	5424
21.	Web/Terminal Server	Support configuration of Serial Port Name via the web UI web: scada->terminal server->port settings->serial->Serial Port cli: tserverd.port.serialPortName	5424

10.24 25.02.14.002

No.	Module	Short Description	Mantis
1.	IECD	Fix IEC MIB walk	5920
2.	IOSRVD	Fix for option auto_detect behaviour to not remove undetected devices from iosrvd config file	5522
3.	IP PAD	Fix Flow control from X.25 network to serial in AT mode	5925
4.	Mobile	Fix ICCID collection for second SIM on Sierra Wireless and Quectel EM06 modules. Previously showing same ICCID for both SIMs	5946
5.	Network	Fix static default route configuration using target 'default' and netmask 0.0.0.0	5942

10.25 25.02.14.000

No.	Module	Short Description	Mantis
1.	Activator	Added RADIUS support to active updates	3514
2.	CESOP	Fix CESOP Mcp4821SetVoltage dac write failed on model GW6610-ALL	5747
3.	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
4.	Ethernet	Fix LED port D behaviour on GW3300D	5869
5.	Ethernet	Restored missing arp-scan functionality on GW6600V cli: arp-scan (ip - 1)	5829
6.	Event System	Fix connection tester when using UCI interface name for ping source	5828
7.	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
8.	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) cli: input0_is_wet; input1_is_wet; input2_is_wet; input3_is_wet; input4_is_wet; input5_is_wet;	5145
9.	GRE	Integrate keepalive responder to gre interfacesso every GRE interface will automatically start keepalive responder and reply to all GRE keepalive messages	5249
10.	IECD	Changed IEC104 T2 timer from millisecs to secs web: scada->iecd->port settings->iecd104 master->IEC104 T2 cli: iecd.port.iecd104m_t2	
11.	IECD	Extend the size of config variable ioa_offset from 16 bit to 32 bit	5790
12.	IECD	Fix behaviour of iecd restart cli: /etc/init.d/iecd restart	4981
13.	IECD	Fix behaviour of DNP3 sync time to use time from the RTU/Master rather than local time. cli: iecd.iecd.dnp3_app_sync_time	5429
14.	IECD	Fix incorrect handling of broken iecd ui commands cli: iec set	5461
15.	IECD	Fix missing ACTCON (neg) for received DNP3 response from DNP3 RTU with Status 2	5497
16.	IECD	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

17.	IECD	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
18.	IECD	Fixed DNP3 master issue when parsing g1v1 object not calculating start index correctly	
19.	IECD	IEC104 to Modbus conversion: implemented conversion from fixed point integer to float.	
20.	IECD	IEC104 to Modbus conversion: implemented conversion from fixed point integer to float	
21.	IECD	Modbus master now supports reading non consecutive registers (siemens device)	
22.	IOSRVD	Fix IOS fault inidicator critical-non critical error handling	5431
23.	IOSVRD	Implement monitoring of Beijer IOS fault register to detect device faults	5404
24.	IP PAD	Improvements to padd show config.	
25.	IP PAD	Set default AT commmand mode break detect default to enabled	
26.	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
27.	L2TP	Fix vendor name in XL2TPD package	5771
28.	Mobile	Add LTE band information to /var/state/mobile when using Huawei ME909U module (firmware > 12.63x.x)	3278
29.	Mobile	Added Operator Code (5-digit MCC/MNC) and Cell ID to vam -a command	
30.	Mobile	Always disable fastpath on mobile interfaces on GW6600V	4900
31.	Mobile	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
32.	Mobile	Ensure LTE band lock stays enabled on Hucom modules	5447
33.	Mobile	Fix missing IPv6 default route on QMI interfaces	5755
34.	Mobile	Fix packet corruption caused by too small buffer size in Quectel/Simcom driver when using QMAP	
35.	Mobile	Fix RSRP and RSRQ values reported by Simcom 7070 module using vam -a diagnostic command	5383
36.	Mobile	Fix SIM in/out handling for Quectel modules	
37.	Mobile	Fix SIM switch on Quectel RM500Q mobile module	5863
38.	Mobile	Fix SMS msgs not decoding on 3Ireland Jasper SIMs	5888
39.	Mobile	Fix va_mobile failing to start when SMS is enabled and caller config section is missing caller name option	4507
40.	Mobile	Fixes for Cellient CDMA module crashes while dormant	5760
41.	Mobile	Re enable PPP support on GW1150 series	

42.	Mobile	Removed reset of default bearer APN at startup	5775
43.	Mobile	Support custom name for mobile config section	5542
44.	Mobile	Support LTE band limitation for Huawei ME909U module (firmware > 12.63x.x)	3310
45.	Network	Fix va_switch behaviour on network restart on GW3300D	5869
46.	Network	Fixed \$ character in interface password leading to password corruption	5434
47.	NTP	Include new UTC time in syslog message when clock is stepped	5659
48.	OpenVPN	Added support for key direction configuration web: services->openVPN->certificates->Key Direction cli: openvpn.openvpn.key_direction	5762
49.	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
50.	Power over Ethernet	Fix port disconnect disconnect event	4220
51.	Radius	Support for Radius added to JKG family	
52.	SCEP	Support rsaes-oaep encryption for pkcs7 signedData password	5872
53.	SNMP	Fix MIB related issue running snmpd as dedicated unique user	4965
54.	Strongswan	Enable support for GCM encryption algorithm	5774
55.	Strongswan	Fix crash when verifying ECSDA signature	5633
56.	Strongswan	Fix IPSec tunnel operation when with waniface option present	5698
57.	Strongswan	Support multiple FlexVPN tunnels with different interfaces	5862
58.	Syslog	Fix logging when conloglevel set to unsupported value	4482
59.	Syslog	Suppress excessive kernel logging on Dakota WiFi	5312
60.	System	Added -M option to ping for mtu discovery behaviour cli: ping <ip_address> -M PMTUD_OPT	
61.	System	Debrand web and command line interface	5498
62.	System	Fix crash in in uci list command cli: uci list	5596
63.	System	Remove stale sshd service files causing issues with telnet access on GW6600V	5333
64.	TACACS	Stpport for TACACS added to JKG family	
65.	VDSL	Store VDSL firmware version in /tmp/.vdsl220-fw-version in addition to syslog	5583
66.	Web/BGP	Added BGP status page web: status->BGP	5819

<p>67.</p>	<p>Web/BGP</p>	<p>Added missing options to web UI</p> <pre> web: network->bgp->global settings->Maximum Dynamic Neighbours 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 </pre>	<p>5817 5818</p>
<p>68.</p>	<p>Web/IECD</p>	<p>Enhancements and extra diagnostics to IECD status page</p>	<p>5432 5727</p>
<p>69.</p>	<p>Web/IECD</p>	<p>Fix description of IEC104W option in web UI</p>	<p>5441</p>
<p>70.</p>	<p>Web/IECD</p>	<p>Fix IECD status page not displaying results</p>	<p>5529</p>
<p>71.</p>	<p>Web/L2TP</p>	<p>Fix interface connect button for L2TP interfaces</p>	<p>5768</p>
<p>72.</p>	<p>Web/Mobile IP</p>	<p>Fix web UI configuration when no configuration options exist in package dynamics</p>	<p>5787</p>
<p>73.</p>	<p>Web/Power over Ethernet</p>	<p>Added PoE restart button to web UI</p>	<p>4220</p>
<p>74.</p>	<p>Web/RADIUS</p>	<p>Add RADIUS and TACACS support to web UI</p> <pre> web: system->system->PAM Authentication </pre>	<p>5591</p>
<p>75.</p>	<p>Web/SNMP</p>	<p>Fix web UI configuration when no configuration options exist in snmpd system and agent configuration sections</p>	<p>5786</p>
<p>76.</p>	<p>Web/Status</p>	<p>Added VRF and Protocol to routing table display</p> <pre> web: status->active routes </pre>	<p>5823</p>
<p>77.</p>	<p>Web/WiFi</p>	<p>Allow selecting modulation mode for Qualcomm qcawifi drivers</p>	<p>5219</p>

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

10.26 25.01.40.033

No.	Module	Short Description	Mantis
1.	Activator	Information sent to Activator via httpclient now includes all previous values: imei, sim1_iccid, sim2_iccid, hw_rev, sim1_imsi and sim2_imsi	
2.	Busybox	Truncated ping responses now no longer discarded but noted in the ping response message	5658
3.	DHCP	Improved reporting when external DHCP server detected	5520
4.	Dropbear	Remove stale sshd service files causing issues with telnet access	5533
5.	DSL	Improve PPPoE initial connection on DSL lines	5612
6.	Event System	Connection tester type link now correctly checking link state	5535
7.	Event System	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
8.	Event System	Fix crash when invalid options are specified in config	1977
9.	Event System	Fix intermittent delay in sending syslog events	4902
10.	Event System	Fix to ensure failed SNMP traps are retried on delivery failure.	5527
11.	Event System	Fixes for crash caused by recursion	4734
12.	IECD	Fix DNP3 Epox Timestamp (UTC)	5656
13.	IECD	Added command point pass through	
14.	IECD	Changes to support DNP3 Secure (S) for DNP3 non secure (M) application fragment forwarding	
15.	IECD	Do not send IEC104 health point messages while IEC104 master (uplink) is down	
16.	IECD	Fix conversion of DNP3 timestamps to IEC104 if timezone differs from GMT	5653
17.	IECD	Fix DNP3 bulk SP and DP points update	5586
18.	IECD	Fix DNP3 initialization sequence issues	5599 5660
19.	IECD	Fix DNP3 Master object parser incorrectly processing 32 and 16 bit point variations with time	5544
20.	IECD	Fix DNP3 to IEC104 protocol conversion: missing ACTCON(neg) for received DNP3 response with Status 2	5497

21.	IECD	Fix double point sending incorrect DPI: Indeterminate or Intermediate (0)	5524
22.	IECD	Fix I5EC104S TXQ overflow	5650
23.	IECD	Fix IECD DNP3 Master and Slave Transport Function incorrectly sending segmented frames	5541
24.	IECD	Fix IECD DNP3 master parsing of g121 and g122 objects (security statistics)	5543
25.	IECD	Fix IECD file transfer issue in DNP3 Transparent mode (dnp3s_transp_fwd=1)	5592
26.	IECD	Fix incorrect DNP3 tracing in IECD when receiving multi-segment transport sequence	5540
27.	IECD	Fix intermittent crash while processing IEC104S DL TxQ	
28.	IECD	Fix queueing mechanism dropping frames received before IEC104 Datalink is declared as down/deactivated	5572
29.	IECD	Fix time stamp manipulation in IEC101-IEC104 conversion with iec104_force_app_layer enabled	5632
30.	IECD	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
31.	IECD	IEC104 to DNP3 conversion: configurable TRIP-CLOSE depending on 104 cmd value ON - OFF	
32.	IECD	IOSRVD: Added capability to set custom point names	
33.	IECD	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
34.	IECD	MQTT: Fix behaviour of mqtt_ctl_vars_init_state option	5675
35.	IECD	New global config option start_delay_secs sets a wait time before iosrvd proceeds with initialization to avoid starting before tserverd. cli: iosrvd.main.start_delay_secs	5525
36.	IECD	Remove updating of local point after execution of 104 command - instead let RTU update the corresponding feedback point	
37.	IECD	Support for inter-operating with DNP3DCU	
38.	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
39.	NTP	Defer chrony server instances until UCI interface is up to avoid misleading chrony errors in syslog	5550
40.	NTP	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 through configuration of option stratum however this is not recommended.	5550
41.	PPP	Recover from connection stalling indefinitely when CHAP success message is lost in the network	4631
42.	Radius/Tacacs	Support for Radius and TACACS added to JKG family	

43.	Serial	Fixed problem in Atmel firmware leading to a Tx FIFO overflow on hardware models that use the Atmel serial card	5607
44.	Syslog	Fix <code>changelog</code> not recording first change to each module after initialisation	5616
45.	System	Add hotplug script debug logging option <code>cli: system.main.hotpluglog</code>	5646
46.	Web/Event System	Support for custom facility and target configuration options for syslog target <code>web: services->va event system->event destination->Facility</code> <code>cli: va_eventd.target.facility</code> <code>web: services->va event system->event destination->Severity</code> <code>cli: va_eventd.target.severity</code>	4739
47.	Web/xDSL	Removed unsupported xDSL configuration options from web UI for GW2300 models	5518
48.	Web/xDSL	Support for configuration of ATM bridge via web UI on GW2300 models	5516

10.27 25.01.40.028

No.	Module	Short Description	Mantis
1.	Ethernet	Fix intermittent port state status detection on GW3300D series	5385
2.	FXS	Change FXS DTMF handling so tones are untouched once a call establishes.	5355
3.	FXS	Change sip timert1 parsing so it no longer raises a confusing warning.	
4.	Mobile	Fix mobile module intermittently not initialised on USB on boot on GW7300 series	5358
5.	Network	Fix carrier check to only run for Ethernet interfaces	5409
6.	Web/WiFi	Allow configuration of modulation mode	5219
7.	WiFi	Support for option to hide SSID <code>web: network->wifi->interface configuration->Hide ESSID</code> <code>cli: wireless.wifi-iface.hidden</code>	5375

10.28 25.01.40.019

No.	Module	Short Description	Mantis
1.	Activator	Fix to correctly detect 'Software Up To Date' status from Activator	5481
2.	Event System	Fix corrupted email target messages	5463
3.	Event System	Fix crash when SNMP target template length was multiple of 4 bytes	5460
4.	SNMP	Ensure that both specific field (SNMPv1) and <code>snmpTrapOID</code> (SNMPv2+) are set correctly.	5449

10.29 25.01.40.016

No.	Module	Short Description	Mantis
1.	Event System	Fix intermittent memory management error	
2.	Event System	Increase event system target name length from 16 to 127 characters	5420
3.	Event System	Report system error when send fails due to session open failure	
4.	Event System	Use UDP port 162 by default for SNMP trap destination port	5435
5.	Mobile	Add additional echo detection as an indication of radio module reset	5410
6.	SNMP	Revert change to run SNMP with unique user privileges to allow all MIBs to be queried	

10.30 25.01.40.004

No.	Module	Short Description	Mantis
1.	DNS	Properly handle duplicate DNS entries on multiple interfaces	4993
2.	Ethernet	Fix bridging between VLANs	5021
3.	Ethernet	Fix port separation in GW3300D series	
4.	Ethernet	New automatic watchdog script to check switch MIB counters and reset if not incrementing on GW1042 hardware	3589 4423
5.	IEC101	Corrected erroneous message <code>IEC104M APP</code> in IEC101 App layer	5184
6.	IEC104 Gateway	Changed default for <code>iec101_t0</code> option to 700ms to correspond to serial transmission speed of 9600bps <code>cli: iecd.port.iec101_t0</code>	5148
7.	IEC104 Gateway	Fix DNP3 Master sending wrong time to RTU	5289
8.	IEC104 Gateway	Implemented checking chrony NTP sync status and stratum before clock sync rewrite	5079
9.	IEC104 Gateway	Fix issue when converting from two DNP3 single points into a single IEC104 double point	
10.	IEC104 Gateway	Support for IEC104-S File Transfer (control direction)	
11.	IEC104 Gateway	Fix MQTT publish payload missing closing braces in the JSON formatting	5408
12.	IEC104 Gateway	Reject 104 to Remote IO command with Negative ActCon if the value of the point is the same as new value	
13.	IEC104 Gateway	Fix DNP3 sending incorrect time to RTU	
14.	Ignition sense	Fix ignition sense on GW3300D series	5370

15.	ISAD	Add info on cell technology used for each bin	5159
16.	Mobile	Ensure mobile interfaces get a /32 netmask.	5173
17.	Mobile	Fix auto connect if mobile interface dropped during DST transition hour when moving from BST to GMT	5334
18.	Mobile	Fix connectivity issues in PPP mode with some APNs due to dialled address in dial string	5314
19.	Mobile	Fix fix signal strength reporting for Asiatek modules	5146
20.	Mobile	Fix parsing of special characters in mobile username and password	5070
21.	Mobile	Fix Quectel EM06 GPS location	4940
22.	Mobile	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
23.	Mobile	Improvements to detection and recovery of mobile module restart	5310
24.	Network	Prevent duplicate default route when using PPP mode for a mobile connection	5130
25.	Network	Show interface name for WiFi interfaces in <code>network_status</code>	5077
26.	Power over Ethernet	PoE now defaults to off during reboot	4411 4199
27.	Power over Ethernet	Web UI PoE status now shows power used by each port in Watts	5332
28.	RTUD	Auto detect digital IO system paths and auto configure depending on number of detected IOs	5176
29.	Serial	Fix RS485 receive on GW3300D series	5271
30.	SFP	Fix SFP transmission on machtype FW2028	5122
31.	SFP	Use static default MAC addresses for SFP interfaces	5164
32.	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
33.	Strongswan	Ensure all certs and keys are only writable by root and readable by strongswan	5161
34.	Strongswan	Fix crash when responding to connection initiation when NATT disabled	5293
35.	Syslog	Frequent <code>upnp</code> messages in syslog no longer generated	5160
36.	System	Avoid overwriting <code>/dev/null</code> with newly created config file when configuration audit is enabled	5080
37.	System	Fix hotplug loop when <code>asterisk</code> package missing from configuration on GW1150 series	5143
38.	System	Fix network interface initialisation on BMA and JAU families	
39.	System	Support for new machtype MTDK002 and MTDK003 for Rev E power board on GW2300 series	
40.	Terminal Server	Fix tserverd startup	5101
41.	Terminal Server	Fix tserverd crash when receiving split packets in an X25 call	5300

42.	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: <code>tservd.port.serialPortName</code>	5107
43.	VALD	Fix incorrect use of <code>RESET_LINK_STATES</code> for unconfirmed data over TCP	5222
44.	VALD	Implemented wildcard matching in the XOT routes	5174
45.	Web	Fix crash when trying to update configuration while in factcory config	5171
46.	Web/Firewall	Fix issue in port-forward rule creation via web UI	4872

10.31 ORK-22.00.96.000

No.	Module	Short Description	Mantis
1.	CWATCH	CWATCH status now correctly shows when an action is executed	4667
2.	DSL	Allow VDSL PPPoE interfaces with <code>ptm0</code> in addition to <code>dsl0</code> interface name for configuration compatibility with other VDSL firmware families.	4928
3.	DSL	Fix DSL connection when both PPPoA and PPPoE interfaces defined in configuration	4926
4.	DSL	Fix DSL interface populating as a default route when not configured to do so	4924
5.	Event System	Add <code>va-eventd</code> sources for SIP call start and end	
6.	Event System	Fix <code>DigitalInputChange</code> event input number and input value - pressed action as '1'; released action as '0'	4893
7.	Failsafe	Fix <code>reboot</code> command in failsafe mode	4885
8.	GPS	Only try to get GPS coordinates for inventory collection when GPS enabled to avoid unnecessary log messages	4905 4919
9.	GRE	Fix GRE interaction with firewall	4789
10.	GRE	Fix GRE interface crash when running <code>tcpdump</code>	4789
11.	GRE	Fix interfaces not being removed correctly	4789
12.	HTTP Server	Added support for redirecting HTTP to HTTPS web: <code>services->http server->Redirect HTTP requests to HTTPS</code> cli: <code>uhttpd.main.redirect_https</code>	4585
13.	IEC104 Gateway	Added support for cyclic transmission	4852
14.	IEC104 Gateway	Extented IEC104S DL T1 to T3 timers to 32 bits and changed units to seconds. Changed min and max values to comply with IEC 670-5-104.	4879
15.	IEC104 Gateway	Fixed IEC104 to IEC101 balanced mode file transfer (Transparent Mode)	5052

16.	IEC104 Gateway	Fixed IEC104 to IEC101 balanced mode issue for local clock synchronization delay and missing 'Day of Week' parameter (Transparent Mode)	5051
17.	IEC104 Gateway	Fixed incorrect processing of idle link timer (link test procedure in IEC101 balanced mode)	5038
18.	IEC104 Gateway	Support for integrated totals mode A and B	4852
19.	IEC104 Gateway	Fixed IOA mapping initialisation error	4851
20.	Ignition Sense	Fix voltage_on/off_scripts called when ignition is detected on/off	4204
21.	Inventory Upload	Fix inventory collection crash if started before modems initialised	4662
22.	Mobile	Do not auto connect PPP roaming interfaces after explicit <code>ifdown</code> using custom <code>ifname</code>	4730
23.	Mobile	Ensure that roaming template generated multiwan interfaces are updated when <code>va_mobile</code> is restarted	5010
24.	Mobile	Fix crash selecting LTE bands for Telit module	4732
25.	Mobile	Fix default route suppression when gateway set to 0.0.0.0 and using DHCP client	4738
26.	Mobile	Fix default routes not appearing on VRF	4713
27.	Mobile	Fix for error messages caused by incorrect AT+CGDAUTH command	4723
28.	Mobile	Fix GW1150 interoperability on Verizon network	4834
29.	Mobile	Fix issue with overlapping remote/broadcast addresses on QMI interfaces	4691
30.	Mobile	Fix LED behaviour on GW3300D	4694
31.	Mobile	Fix LTE default attach bearer configuration	4248
32.	Mobile	Fix NDIS Ethernet calls and startup APN check to speed up connection time	4709
33.	Mobile	Fix Quectel module connection when no username or password specified	
34.	Mobile	Fix signal strength updates when booting with SIM in SIM 2 (with SIM 1 empty)	4736
35.	Mobile	Fix SINR=-1 readings clearing out other mobile status values	4907
36.	Mobile	Fix unexpected <code>wan0</code> root file creation in Ethernet mode on Simcom	4716
37.	Mobile	Fixes race condition using SIMCOM7600 where connection goes down immediately after connecting and intermittently fails to restart	4750
38.	Mobile	Fixes so that we support IPv4, IPv4v6 and IPv6-only modes for PPP and QMI	4839
39.	Mobile	Handle multiple MNCs with same operator name in roaming discovery	4704
40.	Mobile	Improve flushing operator state on SIM change	4724
41.	Mobile	Improve interface status detection for roaming templates interfaces	4988

42.	Mobile	Make CLR (Cancel Location Request) event handling more robust and non-intrusive	4688
43.	Mobile	Only configure the default APN (context 1) when using a non-Verizon SIM	4921
44.	Mobile	Only poll temperature on SIMCom7100 modules that support it to avoid signal quality monitoring not being enabled due to disabling of temperature monitoring	4914 4916
45.	Mobile	Only start first configured <code>auto=1</code> interface for each PDP context	4725
46.	Mobile	Report correct SIM slot after roaming scan	4987
47.	Mobile	Reset operator link if disconnected by CLR or otherwise	4668
48.	Mobile	Support for new option <code>ip6ifaceid</code> for ability to set IPv6 suffix and add to received prefix to form full IPv6 address. <code>cli: network.interface.ip6ifaceid</code>	4840
49.	Mobile	Suppress <code>gpsOneExtra</code> messages	4721
50.	Mobile	Use PDP context 3 for Quectel, Simcom and Sierra Wireless modules as the first data context. This fixes issues on Verizon networks where only context 3 can be used.	4921
51.	Moble	Suppress per-minute 'Normal temperature' syslog msgs on GW1150 series	4745
52.	Multiwan	Now supports separate thread for each interface group to improve performance and avoid starvation between multiwan groups	4772
53.	Network	Always configure loopback inteface with 127.0.0.1/8 address	4760
54.	SCEP	Support for Cisco CA	4841
55.	SIP	Add support for round-robin dialing to SIP providers	
56.	SIP	Adds failed call handling when all SIP providers are unregistered	
57.	SIP	Adds support for realm authentication in SIP clients	
58.	SIP	Checks registration state to a SIP provider before attempting FXS dial	
59.	SIP	Improve round robin behaviour and responsiveness when multiple SIP providers are in user	
60.	SIP	Improves call singalling when redundant SIP providers go offline	
61.	Strongswan	Fix crash in <code>ipsec statusall</code> output parser when lua pattern magic characters are used. Fixes issue with IPsec status web UI page not displaying when using the minus symbol '-' in policy names.	4901
62.	Strongswan	Process <code>option reauth</code> as a boolean so now accepts [0 1] as values as well [yes no]	4756
63.	System	Fix login banner being displayed twice	4537
64.	Terminal Server	Fixed permissions issue when configuring serial port options on GW2300 series	5025
65.	UDS	Stop creating unneeded <code>/etc/crontabs/*</code> files at boot	4717
66.	VA Events	Correct wrong parameter order in BadPasswordSSH event default template	4849
67.	VA Events	Fix <code>cwatch</code> <code>vaevent</code> generation	4904
68.	Web/Flash Operations	Improve hash checking of firmware upgrade via web UI	4984
69.	Web/Login	Changed login text from Authorization to Authentication	4508

70.	Web/System	Web UI now supports % for special parameters for host name configuration	4657
71.	Web/VRRP	Fix VRRP interface selection tooltip	4059

10.32 ORK-22.00.93.000

No.	Module	Short Description	Mantis
1.	Mobile	Fix ICCID collection for second SIM	4687
2.	Mobile	Fix SIM LED behaviour when switching to another SIM slot	4688
3.	System	ps command displays long command lines correctly again. Fixes issue where long command lines were being discarded rather than displayed as truncated, unless ps -ww was used.	4683
4.	VRRP	Fixed issue with use_vmac MAC address flushing	4226

10.33 ORK-22.00.90.000

No.	Module	Short Description	Mantis
1.	Download	Fix problem whereby bytes downloaded so far were not being shown in response to va_hdls or on Activator Active Updates	
2.	Download	Remove large image file if created as part of partial download process.	3848
3.	Ethernet	Fix bridging with VLAN interface	4548
4.	Ethernet	Fix Ethernet interface showing up when cable unplugged	4294 4594
5.	Event system	Fixed event trigger for mobile events on systems with multiple radio cards	4506
6.	Failsafe	Fix missing ip address in failsafe mode	4119
7.	FXS	Add the known callerid for SIP clients serving FXS to CDR	
8.	FXS	Allow faster pulse dial by lowering the expected pause between digits	
9.	FXS	Correct burst of media towards FXS SLIC on call answer	
10.	FXS	Corrects detection of pulse dial digits in FXS interfaces	
11.	FXS	Fix media handling fault when ringing tone is transported over adverse networks to FXS devices	
12.	FXS	Fix problem whereby RTP discards first piggyback packet unnecessarily	
13.	FXS	Fix race condition causing in-band DTMF on FXS products	
14.	FXS	Improve the timeliness of blackbox events originating from the FXS controller	
15.	FXS	Improvements to FXS syslog	
16.	FXS	Increase RMS FXS ring voltage to 75V for Swedish ring profile	
17.	FXS	New configuration option asterisk.provider.clid for presenting egress CLID	

18.	FXS	Now records the en-bloc DNID and call name for the FXS service	
19.	FXS	Render alarm status per DAHDI channel in asterisk CLI	
20.	FXS	Support clock recovery mode as a config option	
21.	FXS	Trigger the RTP blackbox on detection of FXS faults	
22.	FXS	Tune debounce intervals to correct pulse dial from FXO devices	
23.	FXS	Update FXS controller with a higher ring voltage	
24.	FXS	Updates FXS ringing to 25Hz for Swedish signalling profile	
25.	FXS	Upgrade the FXS controller with DMA fixes and latency management	
26.	GPIO	Digital events now use netlink socket for faster processing rather than standard syslog	4606
27.	GPS	Improvements to GPS for SIMCOM modules	3710
28.	IEC104 Gateway	Changed modbus point register type config to accept descriptive names for registers [0-discrete; 1-input_reg; 2-hold_reg; 3-coil]	4598
29.	IEC104 Gateway	Implement IECD QU field control when performing 104 to 104 conversion. Previously defaulted to zero.	4634
30.	ISDN	Allow ISDN clock recovery to correctly handle simultaneous redundant data recovery of part of a packet AND stuffing on the same packet	
31.	ISDN	Improvements to redundant packet mode 1, lost data stuffing and duplicate data discard to produce a more reliable rtp stream for use with FXS, ISDN and PRI solutions.	
32.	ISDN	Update ISDN clock recovery to handle stuffing of any number of frames caused by loss	
33.	Mobile	Added LTE band selection for Quectel modules	4671
34.	Mobile	Added support for SIM-based firmware selection on US model of GW1150	4590
35.	Mobile	Automatic FOTA checks on Huawei ME909 now disabled	4417 4421
36.	Mobile	Concatenated SMS messages with more than 140 characters are now decoded correctly	4523
37.	Mobile	Configure APN before operator selection for LTE connection establishment	4389 4399
38.	Mobile	Default EPS bearer (pdp context 1) no longer used for any communication. Fixes issue where module would connect to UMTS even though LTE available.	4553
39.	Mobile	Fix broken LTE band selection on Simcom7x00	4595
40.	Mobile	Fix crash during roaming scan when <code>option scan_connection_timeout</code> is set in roaming template	4680
41.	Mobile	Fix crash in qmi disconnect code	4524
42.	Mobile	Fix for unnecessary mobile reconnection attempts	4221
43.	Mobile	Fix mobile interface not starting without mobile config section	4419
44.	Mobile	Fix module firmware not being displayed correctly for Huawei module	4588
45.	Mobile	Fixed <code>service_order</code> not working in some cases on Huawei ME909 when in PPP mode	4103

46.	Mobile	No longer allow connection to LTE network when option_service configured to UMTS only.	3673
47.	Mobile	The mobile interface now waits and retries if started before the modem hardware is initialised to avoid instances where a multiwan mobile interface to retry after initial ifup attempt	4627
48.	PPP	Automatically restart a PPPoE connection after <code>network.interface.retry_interval_sec</code> seconds if it has not yet successfully established (default: 60 seconds).	4631
49.	PPP	Fix LCP response under heavy load	4179
50.	RTUD	RTUD input values now persist through reboot	4619
51.	Serial	Fix RS485 serial operation	4473
52.	Syslog	Log error is hardware fails to initialise	
53.	Terminal Server	Terminal server parity option now accepts user friendly values of <code>[none even odd]</code> as well as current values <code>[0 1 2]</code>	4599
54.	Upload	Fix problem whereby Ativator will sometimes reject binary files with a HTTP Status code 302	4512
55.	VRF	Ensure sure two VRF networks don't share the same routing table number	4578
56.	VRF	Now able to assign a GRE interface to a VRF instance	4039
57.	VRF	VRF support for BGP and OSPF to run protocols in particular VRF <code>cli: bgpd.routing.vrf</code> <code>cli: ospf.routing.vrf</code>	4194
58.	Web/Firewall	Fix default zone selection for SNAT/Firewall rule wizard. This fixes an issue where adding SNAT rule in web UI could create a hidden DNAT entry instead	4564
59.	Web/IPsec	Do full restart when committing web changes. Previously web changes to strongswan were causing a 'reload' rather than 'restart' in response to Save & Apply. This refreshed connection changes, but not general config changes.	4682
60.	Web/System	Hostname validation now accepts non-alphanumerics	4555
61.	Web/System	Web support for luci audit_req and audit_level <code>web: system->system->audit configuration->Web Audit</code> <code>cli: luci.main.audit_req</code> <code>web: system->system->Web Audit Level</code> <code>cli: luci.main.audit_level</code>	
62.	Web/UDS	Changed the web UI uds script code input interface to a multi-line text edit box for easier script entry	3953

10.34 ORK-22.00.89.000

No.	Module	Short Description	Mantis
63.	Uboot	Fix upgrade procedure from dakota-gw2300 uboot device tree ID	

10.35 ORK-22.00.88.000

No.	Module	Short Description	Mantis
1.	CWATCH	Added connection watch execution event	4298
2.	CWATCH	Enhancement to status display of cwatch actions	4337
3.	CWATCH	Fix to prevent time collision of multiple actions	4173
4.	Dropbear	Fix dropbear/SSH sessions hanging on exit after changing settings on system->administration web UI page	4454
5.	Dropbear	Fix <code>segfault</code> for authorised key logins	4440
6.	Firewall	Removed invalid icmp-types from default firewall config	4180
7.	GPIO	Added UCI command to configure GPIO debounce interval in milliseconds. web: n/a cli: <code>gpio.gpio.debounce_interval</code>	4237
8.	GPIO	Fix digital input change of value syslog message	4350
9.	GPIO	Log digital IO output changes	
10.	IPSec	Fix strongswan restart when <code>roam_reauth</code> option is present in strongswan connection config	3425
11.	IPSec	Strongswan now retries to initiate the connection after 10 seconds when failing to resolve FQDN remote address.	3921
12.	IPv6	Fix issue where IPv6 default route is lost immediately after boot	4365
13.	ISAD	Support for upload of ISAD bins via HTTP/HTTPS	4139
14.	Last Gasp	Disable power to PoE during last gasp handling	4428
15.	Mobile	Added LTE RSRQ OID (.27.x) to vaModem.mib	4452
16.	Mobile	Added new operator search command to scan and display a list of available mobile networks on roaming SIMs cli: <code>mobile_operators -s</code>	4456
17.	Mobile	Configure APN before operator selection for LTE connection establishment	4389 4399
18.	Mobile	Fix incorrect value for RSRP OID (.25.x)	4452
19.	Mobile	Fix issue with second SIM connecting when ICCID collection enabled	4322
20.	Mobile	Fix parsing issue for <code>-m</code> input phy option to <code>sendsms</code> command	3971
21.	Mobile	Improve Quectel EC25 LTE connection procedure when SIM swapped for a different operator SIM	4453
22.	Mobile	Updates to handle an empty command input error scenario	3503
23.	Mobile	<code>vamobile</code> now forces DHCP release on remote QMI disconnect. Fixes issue on SIMCOM 7600 where a remote QMI disconnect did not correctly re-establish link when disconnected.	4362
24.	PPP	Use eth0 mac address for ipv6 eui-64 generation	4391
25.	Syslog	Increase syslogd buffer size to 400 bytes to allow long log messages to be safely captured without having to omit the hostname prefix.	4481

26.	Terminal Server	Set line termination GPIO when SP339 is configured using GPIOs	4380
27.	USB	Fix resource conflict between tervd and mobile modules	4401
28.	USB	Improve boot sequencing for USB devices	4205
29.	VA Events	Fix va mobile VA Event generation	3768
30.	VRRP	VRRP MAC is now compliant with RFC standard 00-00-5E-00-01-{VRID}	4226
31.	Web/Firewall	Fix DNAT port forwarding configuration via web UI when custom source and destination zones are used	4372
32.	Web/Network	Can now configure an IPv6 address to an alias interface	4357
33.	Web/OSPF	OSPF route priority now configurable via the web interface web: network->ospf->interfaces configuration->Routing Priority cli: ospfd.@interface[0].priority	3872 4145
34.	Web/Syslog	Allow IPv6 addresses for external syslog servers	4102
35.	Web/System	Login banner now configurable via web interface web: system->administration->Console login banner cli: system.main.banner	3901
36.	Web/System	Maximum login attempts now configurable via web interface web: system->administration->ssh access->Maximum login attempts cli: dropbear.dropbear.MaxLoginAttempts	4301
37.	Web/UDS	Added support for <code>exec_type 'once'</code> to web UI configuration web: services->user-defined scripts->Execution Type cli: uds.script.exec_type	4457
38.	WiFi	Start/Stop WiFi interface based on carrier status. Fixes issue where WiFi interface stays active even though WiFi Access Point disappears.	4403