

WEC8500/ WEA3xx/WEA4xx Release Notes (v2.4.19.R)

1. Revision History

Date	Version	File	Remarks
2012.11.19	1.0.6.R (1.0.10.R)	wec8500_1.0.6.R.bin wea302_1.0.10.R.bin	Initial Version WEA302i supported.
2013.04.01	1.2.25.R	wec8500_1.2.25.R.bin weafama_1.2.25.R.bin	WEA303i//303e are supported. weafama_xx.bin is for WEA3xx.
2013.04.12	1.2.26.R	wec8500_1.2.26.R.bin weafama_1.2.26.R.bin	
2013.04.25	1.2.29.R	wec8500_1.2.29.R.bin weafama_1.2.29.R.bin	
2013.05.24	1.3.8.R	wec8500_1.3.8.R.bin weafama_1.3.8.R.bin	
2013.06.08	1.3.11.R	wec8500_1.3.11.R.bin weafama_1.3.11.R.bin	
2013.07.18	1.3.12.R	wec8500_1.3.12.R.bin weafama_1.3.12.R.bin	
2013.08.12	1.3.13.R	wec8500_1.3.13.R.bin weafama_1.3.13.R.bin	
2013.08.22	1.3.14.R	wec8500_1.3.14.R.bin weafama_1.3.14.R.bin	
2013.09.05	1.3.15.R	wec8500_1.3.15.R.bin weafama_1.3.15.R.bin	
2013.10.22	1.4.8.R	wec8500_1.4.8.R.bin weafama_1.4.8.R.bin	
2013.12.17	1.4.12.R	wec8500_1.4.12.R.bin weafama_1.4.12.R.bin	
2014.01.29	1.4.13.R	wec8500_1.4.13.R.bin weafama_1.4.13.R.bin	
2014.02.19	1.4.15.R	wec8500_1.4.15.R.bin weafama_1.4.15.R.bin	
2014.02.20	1.5.9.R	wec8500_1.5.9.R.bin weafama_1.5.9.R.bin	
2014.03.25	1.6.2.R	wec8500_1.6.2.R.bin weafama_1.6.2.R.bin	
2014.04.15	1.6.4.R	wec8500_1.6.4.R.bin weafama_1.6.4.R.bin	
2014.04.22	2.0.3.R	wec8500_2.0.3.R.bin weafama_2.0.3.R.bin weafamb_2.0.3.R.bin	WEA312i/313i/412i/403i are supported. weafamb_xx.bin is for WEA4xx.
2014.05.14	2.0.4.R	wec8500_2.0.4.R.bin weafama_2.0.4.R.bin	

		weafamb_2.0.4.R.bin	
2014.06.09	2.2.4.R	wec8500_2.2.4.R.bin weafama_2.2.4.R.bin weafamb_2.2.4.R.bin	
2014.07.01	2.2.7.R	wec8500_2.2.7.R.bin weafama_2.2.7.R.bin weafamb_2.2.7.R.bin	
2014.08.01	2.2.11.R	wec8500_2.2.11.R.bin weafama_2.2.11.R.bin weafamb_2.2.11.R.bin	
2014.09.23	2.3.5.R	wec8500_2.3.5.R.bin weafama_2.3.5.R.bin weafamb_2.3.5.R.bin	
2014.09.30	2.3.8.R	wec8500_2.3.8.R.bin weafama_2.3.8.R.bin weafamb_2.3.8.R.bin	
2014.12.04	2.3.11.R	wec8500_2.3.11.R.bin weafama_2.3.11.R.bin weafamb_2.3.11.R.bin	
2015.01.05	2.4.12.R	wec8500_2.4.12.R.bin weafama_2.4.12.R.bin weafamb_2.4.12.R.bin	
2015.03.24	2.4.17.R	wec8500_2.4.17.R.bin weafama_2.4.17.R.bin weafamb_2.4.17.R.bin	
2015.03.27	2.4.18.R	wec8500_2.4.18.R.bin weafama_2.4.18.R.bin weafamb_2.4.18.R.bin	
2015.04.08	2.4.19.R	wec8500_2.4.19.R.bin weafama_2.4.19.R.bin weafamb_2.4.19.R.bin	

2. Modification

[Version 1.0.6] – Initial Version

[Version 1.2.25]

Added/Modified :

- The location information of WiFi Station and interference is provided per floor.
- The location information of Rogue Device is provided per floor.
- MAC Filter white list supported
- When the system uploads AP statistics files to WEM, it uploaded 2 files per AP. Now, it uploads only 1 file per AP.

Bug Fixes :

- WLAN service can be stopped if different APs use the same MAC address.
- The time of AP is delayed than APC, if the time is synchronized via CAPWAP.
- The CPU usage of CLI process rises up to 100%, if a user closes a terminal window while typing a password.
- The system is restarted when it is attacked by port scanning.
- If special characters (*#!) are used when the user is created in WEC, the system does not allow the corresponding username.
- 'tcp any port 80' has to configured as ACL rule for web-redirect. But this rule is not necessary.
- Accounting-stop message is not sent on re-authentication failure.
- The change of radius attribute is not applied into accounting message after re-authentication.
- FTP events occur too many times. So, it is difficult to find critical event.

[Version 1.2.26]

Added/Modified :

- Band Steering supported
- [WEC] Management port configuration supported
- [WEC] AP Fallback configuration supported

Bug Fixes :

- [WEC] '=' cannot be used when 'web server redirect url' is configured.
- Flow cache is not deleted, when AAA ACL is applied and deleted in state that WLAN ACL has been configured.
- The system discards DHCP packets, if Win7 host sends security information in assoc message for open mode SSID abnormally.

[Version 1.2.29]

Added/Modified :

- WIPS(AirDefense) interoperation supported.

Bug Fixes :

- P580(Note PC) fails on DHCP renewal. (Modified so that the system uses the received broadcast flag from station when it replies to DHCP request)
- User id and/or IP address can be omitted in radius account message.

[Version 1.3.8]

Added/Modified :

- Clustering Service supported
- Band Steering feature supported
- White List (MAC Filter) supported
- Redirect URL configuration is supported per WLAN ID.
- SSID Name can be changed without interruption of WLAN service.
- AP can be upgraded via http/https method.
- The location information of WiFi Station and Interference is provided per Floor. (WEM interoperability)
- The location information of rogue device is provided per Floor. (WEM interoperability)
- Station information is provided per AP in order to support RF map. (WEM interoperability)
- GUI Menu(General, 802.11a/n, 802.11b/g/n, Advanced) has been added in AP group.

[Version 1.3.11]

Added/Modified :

- Call drop rate is provided per AP/radio. (WEM interoperability)
- Packet loss rate per AP is provided. (WEM interoperability)
- Station's OS-type can be detected through DHCP fingerprint.

Bug Fixes :

- [WEC] ACL information cannot be shown.
- Radio Base Mac can be displayed as 00:00:00:00:00:00.
- PM process can restart when it uploads PM files to WEM.
- WLAN service can be stopped for in-service station when Static-IP denial has been configured.

[Version 1.3.12]

Added/Modified :

- Air resource usage has been improved. (Modified so that probe response is reduced. 2G: 7~8% reduced, 5G: 20~30% reduced)

Bug Fixes :

- The system cannot communicate with a station which has a specific MAC address(90:xx:xx)
- Some stations cannot connect to AP on re-association because they use an invalid RSN IE. (Galaxy S2, Note, Nexus 10.1)
- Some stations cannot access network when session key is changed because they use an incorrect PN number.
- Location tracking task restarts and CPU usage rises highly while upgrading WEM.
- NTP client does not work after rebooting.
- WLAN service can be stopped for a while, if a station handovers and then turns back into original APC in a short time.
- WLAN service can be stopped in AP if WLAN is deleted and added again when there is a high interference.
- WLAN service can be stopped in AP if WLAN is deleted and added in a short time.

[Version 1.3.13]

Added/Modified :

- It is configurable to reduce probe responses.
- EAPOL version can be configured. (By CLI)
 - ✓ `configure/wlan 1/security# eapolVersion <version number>`
 - ✓ `configure/wlan 1/security# apply`
 - ✓ `default eapol version = 2`
- Event Driven DCS by High Interference
- The CLI prompt of AP is changed to AP name. (AP)

Bug Fixes :

- After 'no firewall enable' is executed, the configuration of 'http redirect' is removed.
- The system is restarted due to IIM crash.
- When an unknown dhcp packet is received, CPU load alarms occur.
- When a address range is changed in dhcp pool, duplicated IP addresses can be assigned.
- When a DNS server address is changed in dhcp pool, the internal dhcp server doesn't work.
- [WEC] Fixed address in dhcp pool cannot be added more than 10.
- Call statistics is different from actual value. (WEM interoperability)

- Channel utilization information cannot be shown for some AP if many APs are deployed.
- Managed APs can be shown as a rogue AP if many APs are deployed.
- When there is not ICMP reply, AP cannot connect to APC. (AP)

[Version 1.3.14]

Bug Fixes :

- An interface group cannot be added in WEC after factory-reset.

[Version 1.3.15]

Added/Modified :

- Jitter buffer control is supported for AP Uplink RTP packets. (By CLI)
 - ✓ `configure/wlan 1/iuts`
- The speed/duplex information of AP uplink port is supported in APC.
- The operation of AP console has been changed.
 - ✓ When CAPWAP is connected : disabled
 - ✓ When CAPWAP is disconnected: enabled.
- The operation of AP telnet/ssh has been changed
 - ✓ Default port has been changed (23->50023, 22->50022)
 - ✓ When CAPWAP is connected : according to the configuration on APC
 - ✓ When CAPWAP is disconnected : telnet=disabled, ssh=enabled
- **antenna pattern selection is supported (By CLI)**
 - ✓ `configure/80211a/antenna`
 - ✓ `configure/80211bg/antenna`
- AP LED can be turned off.

Bug Fixes :

- An active alarm can be duplicated in WEM.
- A date can be different from a real date in VQM History information.
- After ACL Rules are configured up to maximum, the addition/deletion of ACL doesn't work properly.
- Sub-channel group is not configured if many APs are selected.
- AP name is changed to default AP name when an AP is added in WEM.
- The op-status of VLAN interface can be down although the VLAN interface has an port which is forwarding state.
- MAC address based filtering doesn't work.
- Forwarding engine can restart when it handles fragmented multicast IP packets.

- If forwarding engine is restarted, multicast traffic is dropped.
- [AP] AP can restart due to memory exception.

[Version 1.4.8]

Added/Modified :

- Voice Monitoring Enhancement
 - ✓ Voice Station
 - ✓ Active Call/Complete Call
 - ✓ Voice Event, Voice Troubleshooting Log
- Network Quality Statistics
 - ✓ Station association time and H/O time statistics
 - ✓ Station association and H/O success-rate
 - ✓ AP Packet Loss statistics
 - ✓ Call drop rate, MOS statistics
- Branch Office Solution
 - ✓ Local Switching in remote AP
 - ✓ Remote AP group management
 - ✓ configuration save in remote AP
 - ✓ Survivable mode
 - ✓ internal hostapd in AP
 - ✓ internal radius server in AP
 - ✓ AAA-Override VLAN for station which connects to remote AP
- Captive Portal
- Smart Handover (Edge-AP based)
- Station-count-based Load Balancing
- RRM DCS Enhancement
 - ✓ Station/Traffic Aware DCS
 - ✓ Delayed Channel Change
 - ✓ Root/Repeater/Sniffer APs are supported in DCS
 - ✓ Default Anchor Time Change (04:00~05:00)
- WIDS Enhancement
 - ✓ Configuration in WEC
 - ✓ Automatic update of Client White List (CLI command to configure client white list has been removed)

- ✓ Automatic synchronization of WIDS Lists among Clustered APCs (SSID, OUI, AP Black/White List, Client Black/White List, Friendly list)
- ✓ Stations which are registered to white list are remains for some time.
- ✓ 802.1x fail count detection
- SSD lifetime alarm
- Speed/duplex configuration for UTP port.
- The max packet size for ping has been changed from 9216 to 4096.
- The max count of SNMP community has been extended to 10.
- OSPF support
- OS-type detection by DHCP fingerprint
- OS-aware ACL
- The max count of WLAN has been extended to 240 (One AP can support up to 16 WLANs)
- multi-ntp server configuration for AP
- global radio enable/disable
- Modified such that the system checks 'Radio disabled' while configuring Country Code.
- **VLAN is assigned automatically when a station uses a static IP address.**
- [WEC] English manuals have been removed in help menu.

Bug Fixes :

- A timeout can happen when APC upgrade command is executed.
- When ssh is executed in CLI, ssh is reverted to CLI after some time.
- When a telnet client is executed, the port argument is ignored.
- When APC is connected to iES switch which STP is enabled on, APC doesn't respond.
- Pimd process can restart in multicast operation.
- The APC system can restart in DTLS operation.
- The APC system can restart if it receives a double-tagged IGMP packet.
- When APC is in private network, remote APs cannot be upgraded.
- [WEC] If an AP name includes a quotation mark, APs are not shown in AP group.

[Version 1.4.12]**Added/Modified :**

- Smart Handover (RSSI based)
- AirMove supported (Supported stations: Galaxy S3, S4, Note2, Note3)
- MAC filter interoperating with RADIUS Server
- Radius Configuration fields have been changed in Remote AP Group
 - Old Fields: Primary Radius Server, Secondary Radius Server, AP Local Authentication

- New Fields: Radius Server 1, Radius Server 2, Radius Server 3
- [AP] Band-steering suspending function

Bug Fixes :

- A specific station can fail to communicate due to an invalid station-id in L2 table.
- A VLAN disappears after reboot if the VLAN name includes a space.
- When web-auth-type is 'customized', web-auth doesn't work if LOGO-file is not configured.
- WLANs of AP group can be deleted (This happens when WLAN id is greater than 16)
- APC list or NTP list can be configured incorrectly in AP.
- Managed APs can be classified as a rogue AP.
- WLAN service can be stopped if big packets are received from a station.
- The count value of DCS Aware Option can be 0 in RRM
- Some WIDS configuration is not saved and backed up.
- Security weakness of web server (phpinfo.php is removed, trace method is disabled)
- VLAN is assigned automatically when a station uses a static IP address.
- [Remote-AP] Station can obtain an invalid IP address if wlan-vlan mapping is used in AP.
- [AP] Repeater mode doesn't work.
- [AP] An adjacent AP can be omitted in AP neighbor list.
- [AP] If CAPWAP Data DTLS is working, AP can be restarted intermittently.

[Version 1.4.13]**Added/Modified :**

- Broadcast/Multicast filtering (Bonjour service support)
 - 63 APs per VLAN can be supported
 - Bonjour service between different subnets is not supported
- The procedure of APC package upgrade has been enhanced. (WEC)
- [AP] ftp mode has been changed from active to passive

Bug Fixes :

- Security weakness to SecuiScan
- Call statistics files are not transferred to WEM
- Voice statistics of AP is not shown if the AP id is ≥ 256 .
- If the httpd process receives a big URL request, it is restarted.
- MAC Filter Interval can be configured incorrectly.
- If a lobby ambassador creates a user account, the user cannot log in.
- The address of internal web server is set to 0.0.0.0 initially (changed so that it is set to the IP address of ap-mgmt-if)

- Wlan id which is ≥ 17 can be assigned into the default AP group.
- When a specific port runs as 10Mbps, some packets are dropped or delayed on the other port.
- Buffer resource can be reduced in forwarding engine when AirMove occurs.
- iPhone can fail to connect in case that it connected to a different WiFi previously.
- WEC can be non-accessible after booting.
- If a station associate/reassociate to a different BSSID without disassociation, the station fails to communicate.
- Memory leaks when IGMP snooping runs.
- [AP] When a remote AP changes to survival mode, a tunnel mode wlan does not become down state.
- [AP] When a handover occurs between bands in the same AP, EAPoL timeout happens.
- [AP] AP can restart after the file system is changed to read-only.

Attention :

- **Not recommended version (refer to v1.4.15)**

[Version 1.4.15]

Bug Fixes :

- CVO (Controlled Voice Optimization) doesn't work.
- [AP] When DFS channel is configured, BSS down alarm is generated.
- [AP] AP can restart several times after it is upgraded.

[Version 1.5.9]

Added/Modified :

- Internal RADIUS Server (WEC8500)
- SLM license is supported
- SNMP v3 user management on WEC
- Video Call Admission Control
- Multicast Stream Admission Control
- Captive Portal enhancement
 - Session cache management
 - session count management
 - guest user-id length is extended.
 - company information for guest user
 - sponsor information for guest user

- random generation feature for guest user-id & password
- to print a guest information
- to import/export guest information
- Registration of guest users is limited to 2048.
- The source IP address in DHCP relayed packet will be selected automatically according to routing table.
- ACL function for wireless broadcast/multicast
- Role Based Access Control
 - Supported for 802.1x users
 - Tunneled Mode : ACL/QoS/VLAN per user
 - Local Switching Mode : ACL/VLAN per user
- Packet capture for AP/station
- The max count of WLAN has been extended to 255 (One AP can support up to 16 WLANs)
- An AP group which includes a root AP can service up to 15 WLANs.
- CAPWAP Auto Discovery is enabled as default.
- CAPWAP Auto Discovery can be configured on WEC.
- Integrated management of AP account on APC
- The operation of AP console has been changed.
 - When CAPWAP is connected : according to the configuration on APC
 - When CAPWAP is disconnected: enabled.
- Country code selection is limited if AP Model Type is XAR.
- Branch Office solution enhancement
 - Broadcast/Multicast filtering
 - Captive portal supported (not supported in NAT network and survival mode)
- ANR(Automatic Neighbor Relation) based H/O
- When a country code is North America, TxPower complies to FCC regulation.
- Detection/containment of Rogue AP based on white-list
- SON (Self Organizing Network)
 - Dynamic Channel/TxPower Optimization
 - Coverage Hole Detection & Control
 - Sleeping cell detection
 - AP Energy Saving Management
- [AP] Model Type is added in version information. (General/XAR)
- [AP] auto discovery type supported
 - Static IP mode: Last Connected APC -> broadcast -> multicast

- DHCP IP mode: Last Connected-APC -> DHCP option -> broadcast -> multicast

- [AP] The default value of discovery type has been changed(DHCP -> auto)

Bug Fixes :

- APC can enter to debugging mode due to corrupted DB file for alarm/event.
- auto-discovery-ap-group has been configured, but AP is assigned to default-ap-group after connecting to APC via auto-discovery.
- Guest user authentication remains after the guest user has been deleted.
- NAT and port-forwarding cannot be configured simultaneously in WEC.
- Internal radius user information is not forwarded to remote AP if ssh/sftp port is changed on APC.
- When MAC-Filter allow policy is applied, the allowed station is disconnected from APC.
- After a WLAN is deleted and added, the configuration values can be different from default.
- When country code is changed, the running channel in AP can diff from the configured channel in APC.
- Very big values can appear in station traffic information.
- APC's SSID is not registered to white-list automatically.
- [AP] When VLAN configuration is changed, the DHCP IP address is not updated.

[Version 1.6.2]

Added/Modified :

- [APC boot] An SDK patch is applied regarding DDR3.
- Management for up/down status of 3rd party AP
- [AP] The performance of buffered forwarding has been enhanced when AirMove works.

Bug Fixes :

- Watchdog timeout can occur as soon as the system boots up
- Multicast-to-unicast doesn't work on some WLANs.
- [AP] The RSSI value of station can be gathered incorrectly.

[Version 1.6.4]

Added/Modified :

- [APC boot] DDR3 related parameters has been adjusted.
- Multicast Stream Handover
- A redirect-address can be configured for captive portal.
- The system allows stations to use VLAN's secondary IP Zone.

Bug Fixes :

- Broadcast/multicast packet is dropped when DTLS is configured.
- Multicast configuration for WLAN is not saved.
- Multicast streaming can be stopped on WLAN after some time.
- Forwarding engine can restart when DTLS works.
- Description for timezone CST is not correct.
- Managed AP can be detected as a rogue AP incorrectly.
- Google Play Store doesn't work under NAT environment.
- [AP] AP can restart after buffered forwarding when AirMove works.
- [AP] AP can fail to boot due to kernel loading error.
- [AP] AP can fail to reconnect to APC after disconnection when DHCP is used.

[Version 2.0.3]

Added/Modified :

- Supported AP count is extended (centralized: max 1000 EA, distributed: max 3000EA)
- Rate limit is supported per user on local switching WLAN
- **Role Based Access Control**
 - Supported for 802.1x users
 - Tunneled Mode : ACL/QoS/VLAN per user (already)
 - Local Switching Mode : ACL/QoS/VLAN per user (QoS added)
- Network-quality related statistics is enhanced
- Distributed AP-upgrade is supported
- AP SNMP configuration is supported
- Intensified security for operator-account
- Air Packet Capture is supported (By CLI)
- TACACS+ server interoperation for operator-account authentication
- Package is rolled back if APC upgrade fails.
- APC system can back up its configuration data to external server periodically. (By CLI)
- SALB (Station-based Adaptive Load Balancing) is supported
- Special characters are allowed for APC login ID.
- SIP monitoring port configuration is supported.
 - SIP port which FMC station uses needs to be configured.
 - SIP port 5080 has to be configured in case of Samsung FMC station.
- Footnotes for Max Allowed Stations has been added.
- Station information is sent to syslog server when it connects to AP.

- Additional APs are supported (WEA312i, WEA313i)
- Additional APs are supported (WEA412i, WEA403i)
- [APC boot] User alarm is generated if partition swap happens due to booting failure.
- [AP] Hybrid monitoring is supported (WEA312i/313i/412i/403i)
- [AP] Standalone mode is supported
- [AP] Discovery via DNS is supported

Bug Fixes :

- APC can be restarted during snmpwalk execution
- WLAN service can be stopped for a moment if abnormal assoc frame is received.

Attention :

- **Not recommended version (refer to v2.0.4)**

[Version 2.0.4]

Added/Modified :

- configure/system/license/analyze command is added

Bug Fixes :

- salbm & wids & apclt process crash (v2.0.3)
- An Old DB is used after DB import (v2.0.3)
- [WEA3xx] WiFi can be disconnected due to CCMP replay

[Version 2.2.4]

Added/Modified :

- Additional APs are supported (WEA403e, WEA413i)
- Multi-Antenna configuration is supported (WEA302i/303i/403i)
- Interoperation with WIPS Server
- **User QoS per WLAN**
 - **Limitation: it is not supported in local switching mode.**
- IP address assignment based on Device OS type
- QoS based on Device OS-type
- The order of configuration menu has been rearranged.
- Information is supported for a tool to analyze FMC quality.
- [WEA4xx] Repeater is supported
- [WEA4xx] Air Packet Capture is supported

Bug Fixes :

- DHCP renew can fail on station

- 'static address disallow' feature doesn't work for some stations.
- A station can fail to get dynamic IP address if 'static IP disallow' is configured.
- Openssl heartbleed bug
- Key is not updated on handover when Dynamic WEP is used.
- DHCP duplicated packets can be generated on APC (from v1.5)
- iPad station can fail to get a dynamic IP address. (Recent iPad)
- Although AP's Radio is off, the AP is detected as neighbor.
- [AP] Radio can be down if radar is detected when DFS channel is used.
- [AP] AP can fail to boot if power is removed during image upgrading.

[Version 2.2.7]

Added/Modified :

- WEA4xx POE type can be configured (802.3at, 802.3af, auto, default=802.3at)

Bug Fixes :

- Guest information can be retrieved without login.
- WLAN service can be stopped for a while during interoperation with WIPS server.
- APC can be restarted when ip route is added.
- AP can't connect to APC after CAPWAP port is changed.
- [WEA4xx] Kernel crashes during running
- [WEA4xx] Kernel loading failure during booting.
- [WEA4xx] AP fails to communicate with station due to the TX failure of ARP packet.

[Version 2.2.11]

Added/Modified :

- RADIUS CoA function is supported.
- One Time Redirection function is supported.
- ftp/sftp/http/https public port can be configured.
- The number of APs which is supported per VLAN in multicast service is increased from 63 to 500.
- Wireless Multicast Proxy function is added.
 - A representative VLAN is used for multicast communication with backbone switch/router.
 - It can resolve the problem that stations can receive duplicated multicast packets.
 - Related CLI: configure/wireless-multicast-proxy <representative-user-vlan-id>
- VQM related functions are supported according to VQM license.
- The file format for downloading in captive-portal is changed from php to tar.
- telnet service is disabled by default.

- [Standalone-AP] NAT/DHCP are supported.
- [WEA4xx] AirMove is supported.
- [WEA4xx] CAPWAP Data DTLS is supported.
- [WEA4xx] Hybrid Spectrum Analysis is supported.
- [WEA4xx] CLM data is updated according to CE & FCC certificate.

Bug Fixes :

- A guest user cannot use '@' sign as username/password.
- vulnerability to openssl MITM attack.
- AP/APC can be abused as attack source via SSH tunnel.
- [AP] TCP RetransSegs value is displayed as very high abnormally.
- [AP] The size of resource log file can be increased continuously.

[Version 2.3.5]**Added/Modified :**

- Device/station/AP information is forwarded when the device is redirected to external captive portal.
- The default value of AP PoE type is changed to auto (US case)
- OS-aware VLAN allocation should be preferred to AAA override.
- Detection and protection of ICMP/ARP Flooding Attack (By CLI)
- Tx Power range is adjusted according to country/channel
- WEA4xx temperature alarm supported (By CLI)
 - alarm on/off level
 - alarm control type (NoOperation/RadioOnOff, Default=NoOperation)
- openssl is upgraded (1.0.1i)
- [WEA4xx] repeater AP feature is changed.
 - A communication method between root AP & repeater AP is changed.
 - The count of repeater APs which can connect to a root AP is changed from 6 to 1.
 - A repeater supports local bridging also.
- [WEA4xx] Device information is provided to switch via LLDP.

Bug Fixes :

- When guest users are authenticated against ISE, NAS-id & called/calling-station-id are missing in radius req message.
- A redirection page is not opened during One Time Redirection.
- TCP MSS adjustment doesn't work while OS-aware & subnet-aware VLAN assignment is configured.
- When a remote-AP reconnects to an APC, station information is not updated on the APC.

- When APC is restarted, radio bandwidth and MCS configuration for an AP are not restored.
- [AP] AP can fail to boot due to corrupted page of NAND flash memory.
- [AP] booting failure due to bad blocks of NAND flash memory
- [WEA4xx] packets can be dropped when multi-antenna mode is dynamic.
- [WEA4xx] All the stations associated to 5G radio can be disconnected due to idle timeout.
- [WEA4xx] AP can be restarted when stations are disconnected.
- [WEA4xx] AP can be restarted after radio configuration is disabled and enabled.

Attention :

- **Not recommended version (refer to v2.3.8)**

[Version 2.3.8]

Bug Fixes :

- APC can fail to boot after upgrade/reboot command (v2.3.5)
- CPU usage can be 100% in a specific core after long days.

[Version 2.3.11]

Added/Modified :

- If MAC authentication fails, the corresponding station can be blocked or allowed.
 - How to block/allow : `configure/security/mac-filter/filter# mac-auth enable|disable`
 - Blocking time : `configure/security/mac-filter/filter# mac-auth-time`
- The length of guest id is extended to 127.

Bug Fixes :

- ‘#’ character is not allowed as password of Local Net User.
- bash shell weakness
- DHCP service doesn’t work after a vlan shutdown.
- Some channels cannot be enabled after upgrade
- SIPALG module crashes if it receives a SIP packet which includes TEL URI.
- Network forwarding fails when fragmented packets are received during mirroring.
- NSM memory leaks when multicast is enabled.
- NSM memory leaks when AP re-connects to APC
- CHDC doesn’t work if cluster is configured.
- [AP] Country setting cannot be changed on standalone AP
- [WEA4xx] When 2.4G and 5G BSS are mapped to the same VLAN in local switching mode, communication fails between 2.4G and 5G stations.
- [AP] memory leaks if tech-support data is gathered via sftp.

[Version 2.4.12]

Added/Modified :

- DPI (deep packet inspection)
 - 28 Applications-Aware
 - Classification of Application
 - QoS/ACL/Traffic Statistics per Application
 - QoS/ACL/Traffic Statistics of Application per User, WLAN, Device
- 20k stations supported
- 3k AP groups supported
- AP-Group/Remote-AP-Group Integration
- RBAC Enhanced
 - URL-redirect service
 - Role assignment by filter-id attribute
 - conditional role derivation by identity-basis (ex, if ID starts with emp, set employee role)
- Split tunnel supported (allows to optimize traffic flow. Traffic may be tunneled to the controller, or forwarded directly by AP according to ACL in the remote AP)
- Wizard for APC initial configuration
- VLAN Secondary IP supported
- Member management of Interface Group by IP
- acl-profile management per Remote AP Group
- License Redundancy
- License with AP-count=0 is supported
- Automatic scheduled configuration backup
- Buffered forwarding in legacy handover
- SSID length is extended up to 32.
- 2 Factor (L2 & L3) Authentication
- MAC Auth + Web Auth
- DHCP flooding (Transparent DHCP Packet Forwarding to the same VLAN)
- MCS configuration per WLAN
- Traffic load based Energy Saving
- Downed AP is displayed in APC monitor page.
- Max login count of captive-portal is not limited
- Default TCP MSS size is changed into 1400

- Device type based statistics
- Peak count for specific duration is provided in statistics.
- Outdoor AP is supported (WEA453e)
- 2 Hop Service (supported only with WEA4xx)
- speed/duplex are displayed for both of WEA4xx Ethernet ports.
- WEA4xx link aggregation configuration (CLI: configure/ap/profile# link-aggregation)
- [AP] When wlan-vlan mapping is configured in remote AP, stations are induced to re-associate.
- [WEA3xx] Device information is provided to switch via LLDP.
- [WEA4xx] repeater AP feature is changed.
 - The count of repeater APs which can connect to a root AP is changed from 1 to 6.
- [AP] When WIPS is enabled, LED blink on/off can be configured (default=on, default-blink-time=30s)
- [Standalone sensor AP] When the AP is disconnected with WIPS Server, it blinks with bluish-green at 1 second interval.

Bug Fixes :

- [GUI] the ping process continues endlessly if there is no ping response.
- If timed-ACL runs while VQM license is not installed, forwarding engine is crashed.
- If a remote relative-path is used, APC system cannot back up its configuration data to external server periodically.
- Pre-Authentication ACL is not configured if WLAN ID is greater than 240.
- When APC is not registered to SCME, memory leaks in Smart Handover module.
- APC can restart rarely when buffered-forwarding is enabled and handover happens.
- awmb process can generate CPU load alarm when the APC system interoperates with WIPS server.
- A VRRP interface cannot be configured as a ap-mgmt-if.
- A station which requests DHCP by broadcast fails to get an IP address.
- awmb process can be restarted when 'show 80211bg hybrid-mode global' is executed.
- [AP] If there is not 'root' account in AP, the AP is not connected via telnet.
- [AP] System Name in LLDP is not showing AP Name.
- [WEA3xx] When radar is detected in DFS channels, some BSSs can be down.
- [WEA31x] After the admin state of AP is disabled and enabled, hybrid monitoring doesn't work.
- [WEA4xx] When CAPWAP is disconnected, the system can run into a crash.
- [WEA4xx] After packet capture, hybrid monitoring doesn't work.
- [WEA4xx] If only 1 radio is enabled, hybrid scanning doesn't work.
- [WEA4xx] After radio down, then tech-support, and then radio up, the radio doesn't work.
- [WEA4xx] AP booting fails due to the operation error of NAND driver.

[Version 2.4.17]

Added/Modified :

- MAC filter registration is supported when MAC authentication is successful.
- APC provides AP's CPU/MEM usage via SNMP

Bug Fixes :

- [GUI] Password cannot be changed after APC factory-reset.
- Although MAC authentication fails, the station is connected to the network.
- Client IP address is used as NAS IP from the captive portal.
- Guest information may not be created when a station associates.
- CPU high alarm and crash due to hostapd process.
- The forwarding engine is restarted if AP's IP address conflicts with station's IP address.
- Stations cannot be connected after upgrade if many http session files were created.
- Stations cannot be connected when the system time is changed.
- ACL rule cannot be added if ACL name includes hyphen on GUI
- CPM crash when a guest types %s in password.
- MCS configuration per WLAN is not saved
- [AP] Communication fails among stations, when a remote AP re-connects to APC momentarily.
- [WEA3xx] Standalone AP crashes when 'auto channel selection' is configured.
- [WEA4xx] AP may crash during handover.
- [WEA4xx] In case of local switching mode, broadcast packets are forwarded to all BSS.
- [WEA4xx] In case of local switching mode, GARP packet is transmitted to a wrong VLAN.

Attention :

- **Not recommended version (refer to v2.4.18)**

[Version 2.4.18]

Bug Fixes :

- When MAC Auth and MAC filter have been configured, awmb process can be restarted if a station is kicked out by MAC Auth.

[Version 2.4.19]

Bug Fixes :

- [WEA4xx] Containment doesn't work and memory leaks out when it runs as WIPS sensor mode.
- [WEA4xx] Statistics per 11ac MCS rate is displayed as 0.

3. Attention to APC License

❑ License variety

- 1) legacy license : is issued as 53byte license key.
- 2) SLM license : is issued as activation key file which includes a 25byte license key.

❑ Supported version

- 1) legacy license : from v1.0
- 2) SLM license : from v1.5
- 3) SLM redundant license: from v2.4

❑ Limitation

- 1) To install/uninstall a legacy license in GUI is not supported from v1.5.
- 2) When downgrading to v1.4+lower, SLM license key is erased.
- 3) When downgrading from v2.0+higher to v1.6+lower, SLM license key is erased.
- 4) The SLM redundant license cannot be uninstalled in v2.3+lower.
- 5) SLM standalone license and SLM redundant license cannot be installed simultaneously.
- 6) SLM Redundant License Limitation
 - 6.1) When you want to change APC configuration (Active-Standby <-> Standalone), a new license should be installed again.
 - 6.2) When you want to replace active or standby APC, a new license should be installed again.
 - 6.3) When Active APC and Standby APC stay disconnected for 60 days or more, the license is removed automatically on Standby APC. (When the cluster connection between Active APC and Standby APC gets restored again, the license will be activated automatically on Standby APC)

❑ Caution (v2.3+lower)

- 1) When a license is installed/uninstalled, it is applied on next booting time.

❑ Caution (v2.4+higher)

- 1) When a license is installed/uninstalled, it is applied at once.
- 2) When a license is uninstalled, APs are disconnected at once.
- 3) If VQM license is enabled during running, call related functions can operate incorrectly.

4. Attention to APC Upgrade

Upgrade Case	Attention
v1.0/1.1 -> v1.2+higher	Upgrade according to the following steps 1) Enter to debugging shell from CLI 2) debug_shell:/user> rm -f /user/etc/.db/user/* 3) debug_shell:/user> upgrade /user/package/<package-filename> 4) debug_shell:/user> sync 5) debug_shell:/user> exit 6) WEC8500# factory-reset
v1.2 -> v1.3+higher	Re-configure the followings if redundancy/clustering feature is used. - Backup APC List : index, apc-name, ip-address - Clustering Information : keep-alive interval, retry-count - Clustering Members : index, apc-name, ip-address, db-refresh-interval
v1.4.8 -> higher	Radius fields should be reconfigured in Remote AP Group.
v2.2 -> v2.3+higher	If repeater service is being used via WEA4xx, Repeater AP should be upgraded before root AP.
lower -> v2.4+higher	Because Remote AP Groups are removed, they should be re-configured.