

Release Notes for CradlePoint Rev 5.2.3 Firmware

Products supported/tested:

2100
MBR1400 HW v2.0
MBR1400
MBR1200B
IBR600
IBR650
CBA750B

Note1: Before upgrading to new firmware, it is always a good idea to save the configuration file from your current version. This firmware version will remove a configuration for version 3.2 or lower and will not try to keep your settings.

Note2: Revision 5.2.0 was a significant change from previous releases. Updating from prior versions to 5.0.0 through the router UI or ECM will keep all current settings. Factory resetting 5.1.0 and then re-applying a saved configuration from a pre-5.0.0 version may not reset all saved passwords correctly. Downgrading from 5.2.0 or later to an earlier version WILL force a factory reset on the router. Saving a 5.0.0 or later configuration and applying it to an earlier version will change any non-default passwords to an unknown string.

Modems tested:

USB Modems

CradlePoint MC200LE-VZ / *Verizon (USA)* / (GPS) Supported on MBR1400, CBA750B Only

CradlePoint MC200LE2-SP / *Sprint (USA)* / Supported on MBR1400, CBA750B Only

CradlePoint MC200LP / *Bell, Rogers, Telus (Canada)* / Supported on MBR1400, CBA750B Only

CradlePoint MC200LP-AT / *AT&T (USA)* / Supported on MBR1400, CBA750B Only

CradlePoint MC200LP2-EU / *EE (UK), Vodafone (UK, Germany), Tele2 (Sweden), Telia (Sweden)* / Supported on MBR1400, CBA750B Only

CradlePoint MC300LE-VZ / *Verizon (USA)* / Supported on 2100 Only

CradlePoint MC300LP / *Bell Mobility, Rogers, Telus (Canada)* / Supported on 2100 Only

CradlePoint MC300LP-AT / *AT&T (USA)* / Supported on 2100 Only

CradlePoint MC300LP2-EU / *EE (UK), Vodafone (UK, Germany), Tele2 (Sweden), Telia (Sweden)* / Supported on 2100 Only

CradlePoint MC400LE2-SP / *Sprint (USA)*

CradlePoint MC400LPE-AT / *AT&T (USA)*

CradlePoint MC400LPE-GN / *Bell Mobility, Rogers, Telus (Canada)*

CradlePoint MC400LPE-VZ / *Verizon (USA)*

CradlePoint MC400LP3-EU / *EE (UK), Vodafone (UK, Germany), Tele2 (Sweden), Telia (Sweden)*

Franklin S600C / *Sprint (USA)*

Franklin U600 / *Sprint (USA)* (3G Activation, PRL Update, FUMO, GPS)

Franklin U600 ("U600 3G/4G USB Stick") / *Virgin Mobile (USA)*

Franklin U770 ("Sprint Plug-In-Connect Tri-Mode USB Modem") / *Sprint (USA)*

Huawei E1691 ("T-Mobile webConnect Jet USB") (UMG1691) / *T-Mobile (USA)*

Huawei E181 ("T-Mobile webConnect USB") (UMG181) / *T-Mobile (USA)*

Huawei E1815 ("USBConnect 900") / *AT&T (USA)*

Huawei E1831 ("webConnect Rocket USB") (UMG1831) / *T-Mobile (USA)*

Huawei E220 / *AT&T (USA)*

Huawei E3276 / *Telus (Canada)*

Huawei E366 ("T-Mobile webConnect Jet 2.0") (UMG366) / *T-Mobile (USA)*

Huawei E368 ("AT&T USBConnect Force 4G") / *AT&T (USA)*

LG AD600 ("AT&T USBConnect Adrenaline") / *AT&T (USA)*

LG L-02A / *AT&T (USA)*

LG Turbo LUU-2100TI ("USBConnect Turbo") / *AT&T (USA)*

LG VL600 ("4G LTE") / *Verizon (USA)*

Netgear AC340U ("AT&T Beam") / *AT&T (USA)*

Netgear AC341U ("NETGEAR® 341U USB Modem") / *Sprint (USA)*

**supports Netgear firmware 4.07.01.11 and MR2 firmware 45.04.20.00*

Nokia CS-18 ("HSPA+ Rocket Mobile Internet Stick") / *Rogers (Canada)*

Novatel 551L LTE ("Verizon USB551L") / *Verizon (USA)*

Novatel U679 ("4G LTE Novatel Wireless U679 Turbo Stick") / *Bell Mobility (Canada)*

Option iCON 322 ("AT&T USBConnect Quicksilver") / *AT&T (USA)* * (see Known Issues)

Option iCON 461 ("AT&T USBConnect Velocity") / *AT&T (USA)*

Pantech UML290VW ("4G LTE") / *Verizon (USA)*

Pantech UML295VW ("Verizon 4G LTE USB Modem UML2954G LTE") / *Verizon (USA)*

**requires Pantech firmware version L0295VWD821F.B4 or later*

Portsmouth PSA1U1M ("Portsmouth USB Client to Analog Modem Adapter") / *POTS phone providers*

Sierra Wireless 250U / *Sprint (USA)* (3G Activation, PRL Update, FUMO, HFA)

Sierra Wireless 250U / *Clear (USA)*

Sierra Wireless 308 USB ("AT&T USBConnect Shockwave") / *AT&T (USA)*

Sierra Wireless 313U ("AT&T USBConnect Momentum 4G") / *AT&T (USA)*

Sierra Wireless 320U ("Telstra USB 4G (Sierra AirCard 320U)") / *Telstra (Australia)*

Sierra Wireless 330U ("4G LTE Sierra Wireless U330 - Turbo Stick") / *Bell Mobility (Canada)*

Sierra Wireless 330U ("LTE Rocket Stick – Sierra Wireless AirCard 330U") / *Rogers (Canada)*

Sierra Wireless 598U / *Sprint (USA)* (3G Activation, PRL Update, FUMO) (GPS)

Ubee U1901SP / *Sprint (USA)*

ZTE MF636 ("Rogers HSPA Rocket Stick") / *Rogers (Canada)*

ZTE MF683 ("T-Mobile Rocket 3.0 4G Laptop Stick") / *T-Mobile (USA)*

ZTE MF691 ("T-Mobile webConnect Rocket 2.0") / *T-Mobile (USA)*

ExpressCard Modems (MBR1400s, MBR1200B, CBA750B, CBR400, CBR450 only)

Novatel CC208 ("Merlin CC208 3G/4G 2-in-1 Card") / *Sprint (USA)* (3G Activation, PRL Update, FUMO)

Novatel X950D / *AT&T (USA)*

Portsmith PS6EX1M ("Portsmith ExCard to Analog Modem Adapter") / *POTS phone providers*

New features added in this release (Not all features are in all products – see their respective Data Sheets):

- Route Manager. Multiple changes were made to networking support to better support default routes with networking protocols.
- Improved DHCP relay support across a VPN tunnel.
- Added the ability to support Multicast for GRE tunnels.

Additional UI/Usability changes:

- Routing

Defects fixed:

- Updated OpenSSL to version 1.0.1i. There was no known exposure from the previous version.
- Adjusted LP and LPE products for maintained T-Mobile LTE access and use

Known issues:

- IPSec. Certificates do not work if Router Services used (new feature in 5.2.0)
- If any of the router's WAN connections (Ethernet, Wi-Fi as WAN, modem) connects to a device that has the same IP subnet as the router, the router will disable the interface and provide a Bounce Page warning that the WAN interface has a conflict. Simply change the LAN IP Address on the Network Settings -> WiFi / Local Network Settings page in the UI.
- (IBR600/IBR650/CBA750B) Modem update. If you update the internal modem or modem cap using the UI to upload the modem file, you may run out of resources. Please use the Over-the-Air or ECM update to update your modem. This limitation will be removed in a future release.

Wi-Fi as WAN

- The router will not connect to a host router that is in WPA-Enterprise mode.
- You cannot connect to another router using WPS. The WPS setting in the router works for a client attached to it, not for it to attach to a host router.

Wi-Fi

- If WEP or TKIP encryption is used, the router will not broadcast above 54Mbps. This is a WiFi Alliance logo certification requirement for new devices. WEP and TKIP have both been deprecated by the WiFi Alliance and WPA2/AES is the default router encryption.

Carrier

- AT&T. These modems appear to block some incoming ports. That affects the ability to use

features such as Remote Management.

LTE

- Unless you have a specific service from your carrier, LTE modems will not generally provide an externally-available IP address. Services, such as Remote Management, will not work.

Modem

- Franklin U301. The modem works well in the router as the primary WAN interface. But if it is used in failover mode with an Ethernet connection, the modem may not be able to connect when the Ethernet connection is removed.
 - Franklin S600C. This modem's firmware version or signal strength information may not be correct.
 - Franklin U770. The Modem's Ethernet address conflicts with the default address of the Guest LAN. A warning message is placed in the log and the Guest LAN is disabled. If you change the address of the Guest LAN to a non-conflicting address, this restriction will not occur.
 - Sierra Wireless 313U, 330U, 340U, 598U. When these modems connect on 2G or 3G bands, specifically on GSM 850, they will sometimes cause interference on the USB bus, resulting in the modem not plugging properly. If this occurs, attaching the modem to a USB extension cable will generally fix the problem.
 - The following USB modems contain an embedded web server through which many modem settings are configured. To access the modem's web pages, you must be logged in as the router administrator. Once logged in, you can then access the modem web pages at these given IP addresses:
 - Franklin U770 / *Sprint (USA)* -> 192.168.10.1
 - Netgear AC341U * / *Sprint (USA)* -> 192.168.1.1 (address is configurable)
 - Pantech UML295VW * *Verizon (USA)* -> 192.168.32.2
- * The modem web pages are available only when the modem is operating in NAT mode.

WiMAX

- Please be sure that the realm configured in the router matches your WiMAX provider's recommendations.

Release Notes for CradlePoint Rev 5.2.2 Firmware

New features added in this release (Not all features are in all products – see their respective Data Sheets):

- CradlePoint Secure Connect (CPSC) Port Forwarding. A CPSC tunnel can now be added to a zone for Port Forwarding traffic from the tunnel. The Zone NAT rules can be created for any source zone to specify destination Port Forwarding similar to the existing WAN Port Forwarding Rules. However unlike existing WAN Port Forwarding Rules, Zone NAT rules apply to all traffic from the source zone to any destination IP not just to traffic for the WAN IP destination.
- (IBR6x0P only) Smart Operator Selection. When this feature is enabled and when used with a globally-provisioned SIM, the router scans for available mobile broadband networks then selects the best network based on user-configurable values.

Additional UI/Usability changes:

- Network Settings, Content Filter. The Rule Priority column can now be used for sorting.
- System Settings -> Administration -> Local Management -> System Identifier. The filter on this was too strict and wouldn't allow certain ASCII characters. It has been changed to allow for all ASCII characters.
- Internet -> VPN Tunnels Pre-Shared Key. A filter was added to restrict the PSK to a too-strict subset of ASCII characters. This filter was changed to allow printable ASCII characters.
- Network Settings -> Wi-Fi -> Local Networks. Changing Channel Selection method and refreshing the screen would cause Wi-Fi settings to show as blank.
- Internet-> Connection Manager-> Edit-> General Settings. Added configurable retry settings to IPv4 Failure Check. Default values are those recommended by CradlePoint for best Internet connectivity.

Defects fixed:

- Zone Firewall GRE filtering was fixed
- IPS Add/Removal of Signatures to the whitelist might fail was fixed
- (IBR600/IBR650) GPIO Output not switching value with Modem Connected was fixed
- Wired WAN (Ethernet), Active DNS doesn't failover was fixed
- (MC400xxx only) When the modem encounters a link down connection, the modem now correctly reports it is not connected.

Known issues:

- IPSec. Certificates do not work if Router Services used (new feature in 5.2.0)

- If any of the router's WAN connections (Ethernet, Wi-Fi as WAN, modem) connects to a device that has the same IP subnet as the router, the router will disable the interface and provide a Bounce Page warning that the WAN interface has a conflict. Simply change the LAN IP Address on the Network Settings -> WiFi / Local Network Settings page in the UI.
- (IBR600/IBR650/CBA750B) Modem update. If you update the internal modem or modem cap using the UI to upload the modem file, you may run out of resources. Please use the Over-the-Air or ECM update to update your modem. This limitation will be removed in a future release.

Release Notes for CradlePoint Rev 5.2.0 Firmware:

New features added in this release (2100, MBR1400, IBR6x0, MBR1200B, CBA750B only. Not all features are in all products – see their respective Data Sheets):

- (2100) Threat Management. Network Settings -> Threat Management is a licensable feature and provides Intrusion Prevention/Intrusion Detection.
- Zone Firewall. Network Settings -> Firewall Configuration has been significantly changed from previous firmware versions. The most important change is the Zone Firewall implementation.
- Router services and VPN. NTP, DNS, and Enterprise Cloud Manager will all now be pushed through a VPN tunnel if 'Router Services' is enabled and a remote network of 0.0.0.0/0 is configured in the VPN Tunnels -> Add Tunnel -> Remote Networks page.
- (IBR6x0) Increase the maximum number of GRE tunnels from 5 to 10.
- Modem Settings: APN management enhancement, added Default Override (allows for APN entry on the modem's default profile slot). Removed Manual option. Affects all GSM and all LTE modems, including CradlePoint and carrier-released USB modems.
- Modem Settings: Auto APN (attempt connection on assumed home carrier's APN if default modem APN fails to connect). Added to CradlePoint GSM modem-based devices only: IBR6x0P, ARC/COR LP, ARC/COR LP2, ARC/COR LP3, ARC/COR LPE-AT, ARC/COR LPE-GN products

Additional UI/Usability changes:

- Modem Settings: Home Only (lock to home carrier). Added to CradlePoint GSM modem-based devices only: IBR6x0P, ARC/COR LP, ARC/COR LP2, ARC/COR LP3 products

Defects fixed:

- Many OpenVPN defects have been fixed
- Updated OpenSSL to version 1.0.1h

Known issues:

- IPSec. Certificates do not work if Router Services used (new feature in 5.2.0)

Release Notes for CradlePoint Rev 5.1.2 Firmware:

New features added in this release (2100, MBR1400, IBR6x0, MBR1200B, CBA750B only. Not all features are in all products – see their respective Data Sheets):

- Config difference CLI command: 'diff' from the command line will show any configuration items that are different than the default.
- ARP CLI command: 'arpdump' from the command line will dump the ARP table.
- (IBR6x0) Prepend System ID to GPS Sentences. System Settings -> Administration -> GPS -> Include System ID.
- (IBR6x0) Increase the maximum number of GRE tunnels from 5 to 10.
- Network Mobility (NEMO) changes to support failover. NEMO can be configured to operate with a specific WAN and will activate when a disconnection is detected from a primary WAN connection, or BGP or VRRP detect a peer failure.

Additional UI/Usability changes:

- Added a Red/Green indicator to the banner showing if the router is connected to ECM.
- For CradlePoint-based modems with supporting GPS, added ability to select between AUX and GPS ports to obtain coordinates.

Defects fixed:

- NHRP with dual WAN connections does not come back up after a WAN failover
- SSH 'cat' command occasionally skips config portions
- Special Characters in System Identifier field can cause UDHCP to fail
- IBR600P/IBR650P only. Enabled SMS access for these devices
- Added data throttling to resolve a USB overrun situation that resulted in the router rebooting itself

Release Notes for CradlePoint Rev 5.1.1 Firmware:

New features added in this release (2100, MBR1400, IBR6x0, MBR1200B, CBA750B only. Not all features are in all products – see their respective Data Sheets):

- No new features, defect fixes only.

Additional UI/Usability changes:

- No new features, defect fixes only

Defects fixed:

- Update to OpenSSL version 1.0.1g to mitigate CVE-2014-0160, aka the “Heartbleed” Bug

Release Notes for CradlePoint Rev 5.1.0 Firmware:

New features added in this release (2100, MBR1400, IBR6x0, MBR1200B, CBA750B only. Not all features are in all products – see their respective Data Sheets):

- System Settings -> Certificate Management. Certificate Management is a centralized system utility to import, export, create, and remove digital certificates. Local services can access stored certificates for authentication, verification, or for other security functions. Certificates can either be imported or exported via the PEM format, or bundled with a CA certificate for import or export via the PKCS12 format. Current services utilizing Certificate Management are CP Secure Connect, IPsec VPN, and WPA Enterprise Wifi as WAN.
 - Certificates from Release 5.0 or earlier will not migrate automatically to the new Certificate Manager, and Certificates created and managed in Release 5.1 or beyond will not work if the router is downgraded to an earlier Release. A factory reset is required if Certificates are used in 5.1 or later and the router is downgraded to 5.0 or before.
- Add ability for negation on source and destination addresses in WAN Affinity was added.
- Internet / CP Secure Connect. CradlePoint’s cloud VPN solution has been renamed to ‘CP Secure Connect’ and has been removed from Beta status. CP Secure Connect also supports full tunnel VPN. Full tunnel support can be created by selecting the local LAN (Ex. 192.168.0.0/24) with a remote network configured as 0.0.0.0/0.
 - CP Secure Connect will only create a single tunnel unlike IPsec that can create multiple tunnels.
 - CP Secure Connect has been removed from the Extended Enterprise License (EEL). It now has its own license.
- Added additional Modem diagnostics to SNMP. These include CINR, SINR, RSRP, RSRQ,

and a number of other values. The latest WIPIPE MIB version is 1.8 to reflect these changes.

- Added client site visit reporting to the log that reports which clients accessed an external IP address. Network Settings -> Firewall Configuration -> Firewall Options -> Log Web Access.
- Active and passive DNS Failure Check added to Ethernet WAN sources to make their Failure Check options match what is provided for modems.
- (2100 only) Band-steering has been added. If a client is attached to the 2.4GHz radio on the 2100 and it is capable of using the 5.0GHz radio, it will be steered to the generally more open and higher-performing band. Band-steering is enabled whenever the SSID of the 2.4GHz and 5GHz radios are the same. Note that band steering may negatively impact connectivity in some situations, especially at long range. If you see performance or connectivity issues it is recommended that you disable band-steering by setting the 2.4GHz SSID and 5 GHz SSID to different values.
- RADIUS timeout and retry settings have been added for Hotspot support.
- Added the ability to prioritize VOIP packets from the LAN to the WAN when using a VPN tunnel. Any QoS DSCP codes will be copied from the inner packet to the VPN packet after VPN encryption.

Additional UI/Usability changes:

- **NOTE: Local SSH has been enabled by default. This means that local clients can SSH to the router using the admin username and password or other usernames if Advanced Security Mode is enabled. WAN/Remote SSH has not been changed.**
- Modem diagnostics. Extended, categorized and sorted modem diagnostic information on the page.
- Modem Settings, On Demand Start Connection checkbox. When checked, the modem will connect to begin On Demand mode after plug or reset. When unchecked, the modem will not connect to begin On Demand mode after plug or reset, but will wait for LAN to WAN traffic before initiating a connection.
- SMS interface extension. Added Help command.
- The wireless band has been added to the Wi-Fi clients list.
- An Asset Tag field has been added to the router under the Local Administration tab.
- Added ability for negation on source and destination addresses in WAN affinity.

Defects fixed:

- IE9 and IE10 UI issues when setting up VPN tunnel
- CP Secure Connect tunnel did not re-establish after reboot
- GRE failover was not working correctly in some conditions
- Clients dropped off of the Clients List and returned
- OpenDNS might have issues reconnecting after reboot, depending on the speed of the WAN reconnection
- SSH to Serial port was scrambling data

Release Notes for CradlePoint Rev 5.0.1 Firmware:

New features added in this release (MBR1400, IBR6x0, MBR1200B, CBA750B only. Not all features are in all products – see their respective Data Sheets):

- Added login alert
- Added reboot counter in CLI under /config/system/admin/reboot_count.

Additional UI/Usability changes:

- Updated the Dashboard to show when the router is being managed by ECM.
- OpenDNS / Zscaler help – Open hotlink in a new tab

Defects fixed:

- Status/Client List: Client pulls v4/v6 address semi-randomly
- CP Connect: Bad CA File Name Exception
- CP Connect: Client doesn't seem to hold on to its X.509 certificate
- Help System needs updated content for new modem failure check ping
- Data Usage Rules not working when using two of the same modems
- RIP Feature wasn't grandfathered properly from 4.4.x
- Added L2TP support to IBR600/650

Release Notes for CradlePoint Rev 5.0.0 Firmware:

New features added in this release (MBR1400, IBR6x0, MBR1200B, CBA750B only. Not all features are in all products – see their respective Data Sheets):

- Added support for new modems (see Modem list above).
- VPN Improvements – Internet / OpenVPN. OpenVPN has been added to provide SSL VPN support.
- L2TP support for a WAN interface is provided under Internet / L2TP Tunnels.
- GRE: Failover/Failback and WAN Binding support has been added.
- VPN Failback. This feature allows two or more VPN tunnels to be created that will failover if one connection goes down and will fail back if the higher priority connection is available. It is configured in the VPN Tunnels wizard / Dead Peer Detection page.
- Filter packets going through the modem that do not match the network. This feature is enabled by default and can be disabled using Internet / Connection Manager / Common Defaults / Modem Settings.
- Internet / CP Connect (Beta feature in 5.0). CP Connect tunnels can be used to create a connection to a private network.
- Internet / WiFi as WAN. (MBR1400v2 only). WPA2 Enterprise Authentication added to Wi-Fi as WAN option.
- Zscaler cloud-based filtering/security added under Network Settings / Content Filter / Cloud

Based Filtering/Security.

- SMS access. Now enabled for all products on this platform.

Extended Enterprise License (MBR1400v2, IBR6x0 only):

- System Settings / Feature Licenses. An Extended Enterprise License will enable a number of features on those routers. For more information visit the Feature and Application License page on the CradlePoint web site.
- Routers upgrading from earlier firmware versions will automatically be granted a license to the existing features that will fall under the EEL (STP, VRRP, etc.).

Additional UI/Usability changes:

- First Time Setup Wizard / Configuring Failure Check. Enabling Failure Check here will default Ethernet and WiFi as WAN checks to use a ping, and modems to Passive DNS.
- Added IP WAN Subnet Filter checkbox to Modem Settings.
- Added Enable AUX Antenna checkbox to Modem Settings. When disabled, the embedded modem's AUX antenna is turned off.

Defects fixed:

- PMTU issue with IPSEC/VPN
- System Stats SINR graph moved backwards
- GPS change. GPS was being reported in degrees and decimal degrees. Now it is reported as degrees, minutes, and seconds.
- USB Serial hardware flow control issue
- AT&T Beam (Netgear AC340U) now works with i2gold SIMs