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Cambium Networks™
2000 Center Drive, Suite East A401
Hoffman Estates, IL 60192 USA

FIELD SERVICE BULLETIN
Some devices fail to onboard to cnMaestro Cloud due to failure in server certificate check.

FIELD SERVICE BULLETIN

BULLETIN TYPE		SEVERITY RECOMMENDATION	
	Warranty Service	X	**High – Perform immediately**
X	**Informational**		**Medium – Perform at next scheduled maintenance**
	Customer Specific		**Low – Perform when system exhibits symptoms**

SUBJECT: Due to lack of accurate time reference, devices fail to validate cnMaestro Cloud's server certificate, which causes them to refuse a secure connection with the Cloud and fails to onboard. Devices managed by cnMaestro On-Premises are not impacted.

PRODUCTS / SYSTEMS AFFECTED:
- PMP
- Enterprise Wi-Fi
  - cnPilot E Series
  - XV and XE Series
- cnWave 60 GHz
- cnWave 5G Fixed (BTS only. CPE does not connect to cnMaestro directly)
- cnRanger
- cnMatrix TX/EX Series
- ePMP
- cnVision
- PON (Cambium Fiber)

PRODUCTS / SYSTEMS NOT AFFECTED:
- PTP
- NSE
- Enterprise Wi-Fi 7 (X7 series)
- Residential Wi-Fi (RV22, R-Series)
- Xirrus Wi-Fi AOS/AOSLite

If assistance is needed to check if your product is impacted, please open a ticket with Cambium Technical Support at: https://www.cambiumnetworks.com/support/contact-support. Reference this FSB and submit your products model, MSN and firmware version. Cambium Support will be able to inform you which products are impacted, if any. It is recommended to check for impacted models if you have a large upcoming deployment or lack of local help, so that you can plan properly.

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REASON FOR BULLETIN:

This bulletin addresses a device onboarding failure that happens due to a strong security check followed by many Cambium devices. When devices have a stale time reference – because they were in warehouse for too long, or they don't have access to NTP – they fail to validate cnMaestro Cloud's server certificate. Specifically, the validity field contains a "notBefore" value, which may be in the future for a device which has a very old date reference. This causes the device to reject the secure TLS connection with cnMaestro, resulting in the device failing to onboard.

Symptom	Impacted devices, when initially powered up and connected to the network, will attempt to connect to cnMaestro Cloud, but will fail to onboard. Device logs will typically indicate a certificate check failure.
Current Status of Investigation	Impacted products are identified, root cause is confirmed across all impacted products, workarounds are documented for each product and long-term mitigation is planned where applicable.
Resolution	Resolution varies with devices and is captured in the table below. In most cases it involves providing either access to an NTP server or upgrading firmware to a newer version. The recommended NTP server is "time.google.com". Ensure that the device has connectivity to the NTP server.

Some devices may refuse to connect to cnMaestro if they have been offline for long duration, as they may come up with a very old time reference. To avoid this, It is recommended to always configure a NTP server from cnMaestro Cloud for all managed devices.

Factory reset may also cause devices to refuse to connect to cnMaestro Cloud. In this case, follow the resolution described below for each product family.

If assistance is needed, Cambium Technical Support can be contacted at: https://www.cambiumnetworks.com/support/contact-support |

RESOLUTION FOR VARIOUS PRODUCTS:

Product Family	PMP
Symptom	Radios fail to onboard to cnMaestro cloud.
How to Confirm	Radios' Device Agent log will indicate an SSL certificate validation error.
Resolution(s) *(use any one option)*	1. Upgrade to Release 24.2 or later 2. Manually configure an NTP server(s) via UI or SNMP OID 3. Use GPS Synchronization for time - Connect a GPS sync source or, in the case of 450v, 450 Legacy AP/BHM, 450b BHM, or MicroPoP, use onboard GPS to obtain time. 4. Manually set the date/time - Set the date/time manually through Configuration > Time in the AP/BHM GUI Note: 24.2 load release notes has more details.

Product Family	Enterprise Wi-Fi 5: cnPilot E-Series
Symptom	New APs with firmware version older than 4.2.3.1-r7 fail to onboard to cnMaestro cloud. Deployed APs fail to connect to cnMaestro after reboot if last configuration push from cnMaestro was before Aug 23, 2022.
How to Confirm	SSH to the AP and login as admin. Run "show clock". If time is before Aug 23, 2022, AP will not connect to cnMaestro.
Resolution(s) *(use any one option)*	1. Login to the AP WebUI and upgrade firmware to 4.2.3.1-r9 or newer. 2. SSH to the AP and configure an NTP server.

Product Family	Enterprise Wi-Fi 6/6E: XV and XE Series
Symptom	New APs with firmware version older than 6.5-r15 fail to onboard to cnMaestro cloud. Deployed APs fail to connect to cnMaestro after reboot if last configuration push from cnMaestro was before Aug 23, 2022.
How to Confirm	SSH to the AP and login as admin. Run "show clock". If time is before Aug 23, 2022, AP will not connect to cnMaestro.
Resolution(s) *(use any one option)*	1. Login to the AP WebUI and upgrade firmware to 6.5-r15 or newer. 2. SSH to the AP and configure an NTP server. If you have a large network, Cambium support can provide a script to make these changes in bulk across all the APs. Note: Release 7.1.1 targeted for Jun 2025 will handle the certificate check gracefully preventing onboarding failures.

Product Family	60 GHz cnWave
Symptom	Onboard E2E controller fails to onboard to cnMaestro.
How to Confirm	Check the time on the dashboard is before Aug 23, 2022.
Resolution(s)	Configure an NTP server. Note: Release 1.6 targeted for Jun 2025 will handle the certificate check gracefully preventing onboarding failures.

Product Family	cnWave 5G Fixed (BTS only)
Symptom	BTS fails to onboard to cnMaestro if NTP server cannot be reached from the BTS or it has been disabled
How to Confirm	Check that NTP synchronization has not yet been achieved.
Resolution(s)	Configure an NTP server. Note: Release 4.2 targeted for Jun 2025 will handle the certificate check gracefully preventing onboarding failures.

Product Family	cnRanger 800 BBU
Symptom	BBUs fail to onboard to cnMaestro cloud
How to Confirm	Login to the GUI and check the "System Time" value on the dashboard. If time be before Aug 23, 2022, BBU will not connect to cnMaestro.
Resolution(s) *(use any one option)*	1. Login to the BBU GUI and upgrade firmware to 2.1.20-r9 2. Login to the BBU GUI and configure an NTP server.

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Product Family	cnMatrix EX/TX
Symptom	Factory defaulted switches with firmware version older than 4.1.2-r1 can fail to onboard to cnMaestro Cloud if NTP server is missing on the switch.
How to Confirm	SSH to the switch and login as admin/admin. Run "show cnmaestro" to confirm the "Last Action" field is "Server auth failed: certificate is not yet valid"
Resolution(s) *(use any one option)*	1. Configure DHCP option for NTP server (this is preferred if there are several switches impacted). 2. Configure an NTP server using CLI via SSH 3. Set the date to the current date via Web GUI or CLI 4. Login to the switch WebUI and upgrade firmware to 4.1.2-r1 or newer.

Product Family(s)	ePMP, cnVision
Symptom	APs with firmware version older than 5.3+ or 4.7+ can fail to onboard to cnMaestro Cloud if NTP server is not configured via DHCP options.
How to Confirm	Device Agent syslog will indicate cause of failure.
Resolution(s) *(use any one option)*	1. Configure DHCP option for NTP server 2. Upgrade firmware to 5.3 / 4.7 or newer

Product Family	Cambium Fiber
Symptom	OLTs with firmware version older than 1.1+ can fail to onboard to cnMaestro Cloud if NTP server is not configured via DHCP options.
How to Confirm	Device Agent syslog will indicate cause of failure.
Resolution(s) *(use any one option)*	1. Configure DHCP option for NTP server 2. Upgrade firmware to 1.1 or newer