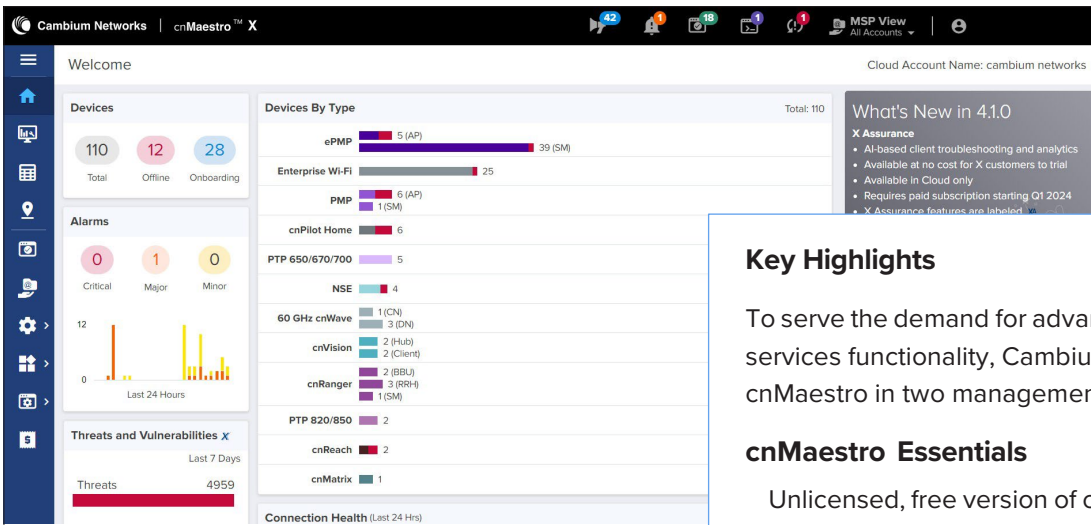
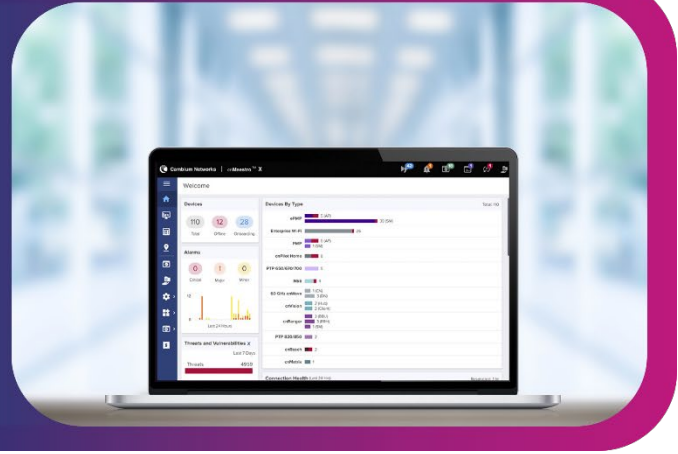


cnMaestro™ Management System

cnMaestro Quick Look

A simple, yet sophisticated cloud-first network management system for Cambium Networks wireless and wired solutions.

- Elastic scalability and a single-pane-of-glass experience
- Secure, end-to-end network management with zero-touch provisioning
- Simplified operations and ongoing maintenance for the network administrator



Key Highlights

To serve the demand for advanced management and services functionality, Cambium Networks offers cnMaestro in two management tiers:

cnMaestro Essentials

Unlicensed, free version of cnMaestro delivers the same experience as previous versions of cnMaestro. This license-free option delivers a disruptive Total Cost of Ownership (TCO) for organizations of all sizes.

cnMaestro X

Paid subscription offer that includes advanced management capabilities, Cambium Care Pro for 24x7 technical support, accelerated access to L2 engineers and regular software updates and upgrades for advanced features.

This data sheet covers the highlights of the cnMaestro platform and cnMaestro Essentials features.



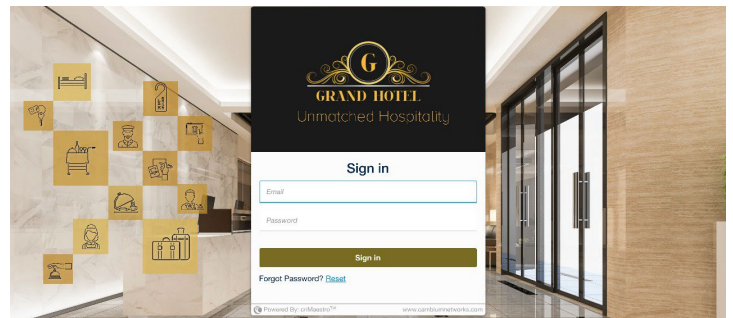
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Product Overview

cnMaestro Essentials

- Comprehensive cloud and on-premises management for Cambium's wired and wireless portfolio is included with the hardware purchase with no subscription or recurring fees.
- Zero-touch provisioning: Create, provision, monitor and manage the entire network of wireless and wired devices from a single dashboard login with key performance metrics, alarms, and alerts. The cloud-first UI design is easy to learn and apply across the portfolio and helps network administrators simplify operations and deliver an optimal client experience.
- With centralized visibility and control for Cambium Networks' wireless and wired products, network administrators can quickly and easily deploy networks with minimal training. Whether you work on small sites or large distributed networks with thousands of sites, cnMaestro makes deployment and operations easy. Administrators have access to information needed to enforce policies and optimize performance. Remote support capability is integrated into the architecture, along with powerful help desk tools to debug remote issues without going onsite. Troubleshooting tools such as ping, traceroute, throughput, and live packet captures are included, dramatically reducing resolution times and enabling remote troubleshooting.
- Deployment flexibility and TCO: Choice of public cloud, private cloud, or on-premises deployment with best TCO. cnMaestro helps reduce operating costs and accelerate return on investment. cnMaestro does not require Wi-Fi controllers, thereby reducing the complexity and cost of deploying Wi-Fi networks.
- Built for scale and security at all levels: Devices connect to cnMaestro cloud using SSL-enabling deployments without changes to the firewall configuration. Cambium Intelligent edge architecture enables fault-tolerant networks where the network continues to operate even when the cloud is unreachable due to a WAN outage. With cnMaestro Essentials, you can manage networks with up to thousands of sites, and up to 10,000 devices.
- Tailored views for Enterprise, Access and Backhaul, and IIoT: The Access and Backhaul view provide visualization and control of devices from tower to edge. This includes PTP and PMP devices.
- Supports network hierarchy, which enables easy configuration, monitoring and debugging at network nodes and reducing operational costs. This is especially critical for large networks or small distributed networks with small on-site IT staff.

- Provides a bird's-eye view of network health with insights on performance, connectivity, and client experience. Administrators can quickly identify potential trouble spots and drill down from network to client-level details.



Advanced Functionality in cnMaestro X

cnMaestro X is a super set of cnMaestro Essentials and includes advanced features with Cambium Care Pro for 24x7 technical support. *Paid subscription required.*

- Long-term historical data: 2-year data retention for FWB and 1-year data retention for Enterprise and IIoT devices
- Advanced captive portal capabilities: Payment gateway, 500 portals, 30,000 max vouchers, 1-year client login history
- Application visibility and control for 2400+ apps at the Wi-Fi and WAN edge
- Customizable MSP dashboard with ability to create different brands with multi-tier customizations including guest portals
- Consolidated MSP tenant statistics with ability to drill down to manage a specific tenant without impacting data from others. Support for up to 200 managed tenants. Restful APIs and Webhooks for integration with existing OSS/BSS systems and event monitoring
- Assists security audit to identify potential vulnerabilities in network infrastructure and troubleshoot issues
- RADIUS, TACACS+, LDAP, and AD Login for user administration
- Advanced cnMatrix switch features including QinQ, Auto Device Recovery (ADR) and cable diagnostics.

cnMaestro™ Management System

Product Summary

Features marked **X** require cnMaestro X subscription

Onboarding and Provisioning

- Zero-Touch Onboarding
- Template Configuration
- Object Configuration (Enterprise)
- Claim PMP SMs Associated with AP
- cnArcher installation summary upload (PMP and ePMP) **X**
- Mass provisioning for ePMP /PMP/cnWave 60 GHz (Using LinkPlanner) **X**
- Webhooks support **X**

Network Services

- Social Login and SMS Authentication
- Access Vouchers
- Branded Tenant Login Page **X**
- Payment Gateway **X**
 - › PayPal
 - › IPPay
 - › QuickPay
 - › Orange Money
 - › mPesa
- Support for Software Defined Radios (SDR) on XV3-8, XE3-4 and XE5-8 Wi-Fi 6 Access Points
- Unlimited Radius based ePSK **X**
- Unique PSKs supported: 300 per WLAN and per account
- Unique PSKs supported: 2,000 Per WLAN and 50,000 Per Account **X**
- Radius-based ePSK **X**
- Personal Wi-Fi **X**
- Number of Guest Portals: 4
- Number of Guest Portals: 500 **X**
- Paid Ambassador and Azure guest portal **X**
- Max number of login events: 2,000 events records for 7 days
- Max number of login events: 2,000 event records for 1 year **X**
- Max number of managed devices cnMaestro: 10,000 (Requires Cambium Care Pro for more than 10,000 devices)
- Application Visibility and Control of over 2400 different applications across the Wi-Fi access network **X**

Wi-Fi

- Simplified Wireless LAN View
- Stateful Firewall Support
- Dynamic channel listing based on Country, Release and SKU
- AP Group and WLAN Configuration
- cnMaestro X supports a maximum of 10,000 guest client sessions at a time. **X**
- Site Support for Collocated APs
- WIDS Support **X**

Troubleshooting and Forensics

- Tower-to-Edge View
- Technical Support Dump export
- Rogue AP Detection
- Wi-Fi Packet Capture
- ePMP/PMP Link Test
- Cambium Care Pro – 24/7 technical support, accelerated access to L2 engineers and software updates/upgrades **X**

Security

- Communication over SSL
- No Inbound Internet Access
- Not-in-traffic path
- Disaster recovery

Deployment

- Cloud-Hosted delivered as a service
- Customer-Hosted VMware OVA
- Amazon Marketplace AMI

Visualization

- Full Visibility Across Network
- Supports ePMP™, cnMatrix™, Enterprise and Residential Wi-Fi, PMP, PTP, cnReach™, cnRanger™
- Multiple Product Views
 - › Access and Backhaul View
 - › Enterprise Wireless View
 - › Industrial Internet View
- Hierarchical Device Tree
- PMP/ePMP Sector Display

Configuration & Monitoring

- Redundant cloud services
- Scheduled system backup
- Automatic bulk software update
- Dedicated Device Dashboards
- Statistics and Trending
- Email Alerts
- Supporting concurrent device jobs **X**
- Configuration lock **X**
- Managed Service Provider Accounts **X**
- Support for up to 200 accounts
- High Availability (1+1) for On-Premises (Requires Cambium Care Pro)
- Monitor Wi-Fi performance from client or AP to cnMaestro (On-Premises NMS; Cloud NMS – N/A) **X**
- Assists for cnMatrix, Wi-Fi, cnPilot-R, PMP, ePMP, & cnWave 5G Fixed **X**

Data and Reporting

- Statistics Reports Exported in CSV
- Export UI Tables in CSV or PDF **X**
- RESTful Monitoring/Provisioning API **X**
- Graphical Reports **X**
- Long-term data retention **X**
 - › 2-year for FWB
 - › 1-year for Enterprise and IloT

Administration

- Management users: 10
- Management users: 200 **X**
- Role-Based Access
- Auto provisioning **X**
- RADIUS, TACACS+, LDAP, and AD Login **X**
- Advanced troubleshooting **X**
 - › Audit logs
 - › Audit syslog & Event syslog (On-Premises NMS; Cloud NMS – N/A)
- Advanced monitoring **X**
 - o Session management
 - o User authentication (On-Premises NMS; Cloud NMS – N/A)
- cnWave 60GHz MAP features **X**
 - › Extensive Network Map RF Link visualization
 - › Auto Manage Route
- Open ID/SAML Authentication **X**

cnMatrix

- Zero-touch Remote Provisioning
- Policy Based Automation (PBA) on EX2000/EX3000
- Cambium Sync on TX series
- DHCP client/server
- Automated voice VLAN
- Assists **X**
- QinQ **X**
- Auto Device Recovery **X**
- Cable Diagnostics **X**
- PBA on EX1000 **X**
- MAC lists and location services for PBA **X**

Network Services Edge

- Site-to-Site VPN
- WAN Flow Preferences
- DHCP/RADIUS/DNS services
- Load Balancing
- WAN QoS

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Product Summary *Features marked X require cnMaestro X subscription*

Network Services Edge (Continued)

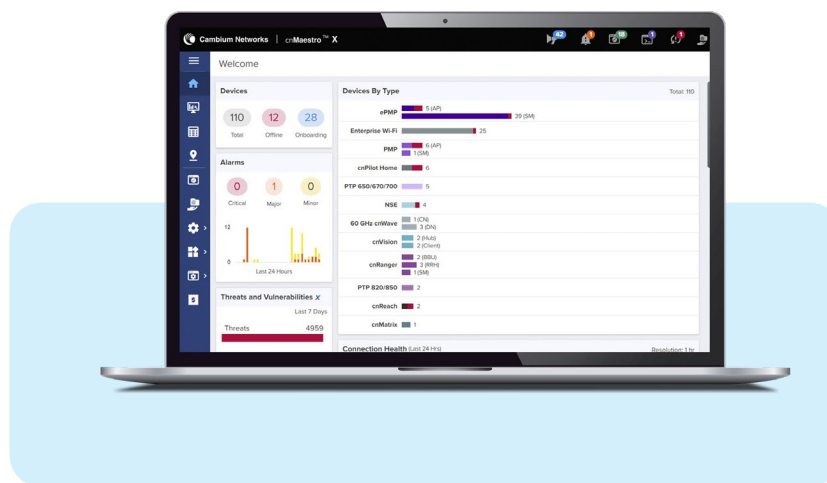
- Firewall
- LAN vulnerability assessment
- Granular content filtering
- WAN failover policy and IP groups

X Assurance

- Client connection lifecycle monitoring and analysis
- Root cause analysis of connection and service failures
- Network-wide client health monitoring and scoring

Note: X Assurance is available in cnMaestro X Cloud, but not in cnMaestro X On-Premises.

| | Resources | Enterprise | FWBB | Wi-Fi and FWBB |
|---|---|---|---|---|
| cnMaestro On-Premises Server Requirements | 8vCPUs, 16 GB RAM, 250 GB Hard Disk | 10,000 Enterprise devices (Wi-Fi, cnMatrix) | 20,000 Fixed Wireless devices (PMP, ePMP, PTP, cnReach, cnRanger) | 10,000 total devices – Fixed Wireless and Enterprise (PMP, ePMP, PTP, cnReach, cnRanger, Wi-Fi, cnMatrix) |
| | 16vCPUs, 32 GB RAM, 500 GB Hard Disk | 25,000 Enterprise devices (Wi-Fi, cnMatrix) | 40,000 Fixed Wireless devices (PMP, ePMP, PTP, cnReach, cnRanger) | |



GET STARTED at

cloud.cambiumnetworks.com

Free 90-day trial of cnMaestro X:

cambiumnetworks.com/cnmaestro-x

ABOUT CAMBIUM NETWORKS

Cambium Networks enables service providers, enterprises, industrial organizations, and governments to deliver exceptional digital experiences and device connectivity with compelling economics. Our ONE Network platform simplifies management of Cambium Networks' wired and wireless broadband and network edge technologies. Our customers can focus more resources on managing their business rather than the network. We deliver connectivity that just works.

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