Nebula Pro Pack

Maximize your network management capabilities with value-add features

Nebula Pro Pack includes all of the advanced functionalities of Nebula Control Center (NCC) and Nebula products, designed to cater to larger and more complex network deployments.

The Pack comprises advanced Access Points functionality and management features, Switches functionality and management features, Security Firewall management features, Mobile Router management features, and NCC general management features, enabling users to unlock the full potential of the Nebula network hardware and management platform.

Feature tags

Target Audience — who is most likely to benefit from the feature

Network Lifecycle Phase — when the feature applies

Professional Access Points Functionality & Management Features

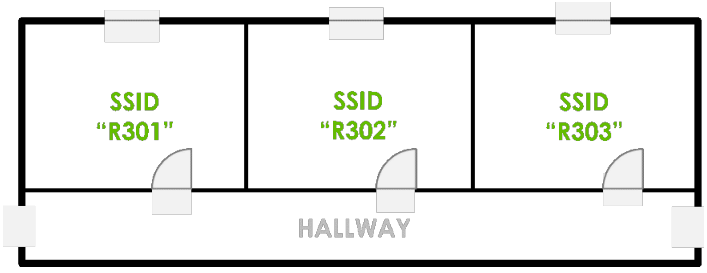
Programmable SSID

Users | Implement

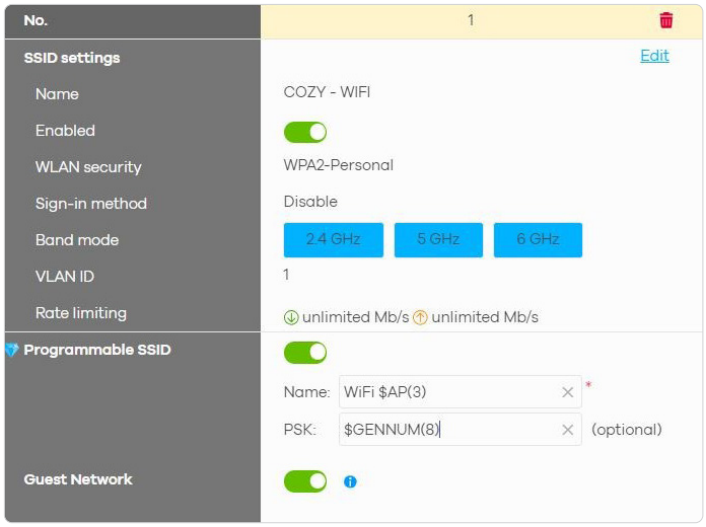
Programmable SSID allows you to create unique SSIDs for each access point (AP), ideal for large-scale deployments like hotels, where each room may need its own dedicated SSID. This feature streamlines setup by enabling all APs to be configured on a single page, eliminating the need for manual configuration of each AP.

Dedicated SSID Name and PSK for Each AP

- All-in-one page for fast and efficient configurations
- Inputs commands to automatically apply sequential SSIDs and PSKs for mass deployments
- Ideal for large-scale deployments, such as hotel rooms or school dormitories



Automatically applies unique SSID names according to Guest Room number



Inputs simple commands to automatically apply sequential SSIDs and PSKs

Dynamic Personal Pre-Shared Key (DPPSK)

Users | Implement

DPPSK is an authentication method that provides secure WiFi access with unique passwords for each device and network user. Unlike shared PSKs, it enhances security with individual passwords during WiFi onboarding, making it ideal for environments like hotels, conference venues, and shared offices.

Guest WiFi Setup and Key Generation

- Simple steps for quick guest WiFi setup
- Supports batch or single key generation
- Prints keys or sends them to designated emails for distribution

Guest Connection Monitoring & Control

- All-in-one view of client connection status and information
- Dynamic VLAN assignment

Integration with Nebula Cloud Authentication Server

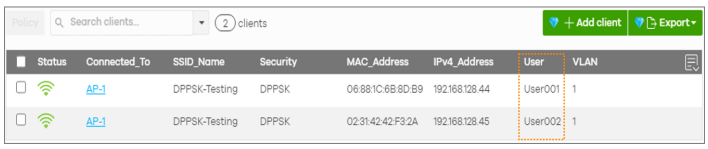
- No additional infrastructure or networking expertise required
- Centralized platform for managing WiFi access

The traffic between the AP and wireless clients is all encrypted using different passwords.

Organization-wide > Configure > Cloud Authentication

Batch or single DPPSK key generation

Access point > Monitor > Client



The network admin can monitor the guest connection via DPPSK.

WiFi Aid

Admins | Operate & Optimize

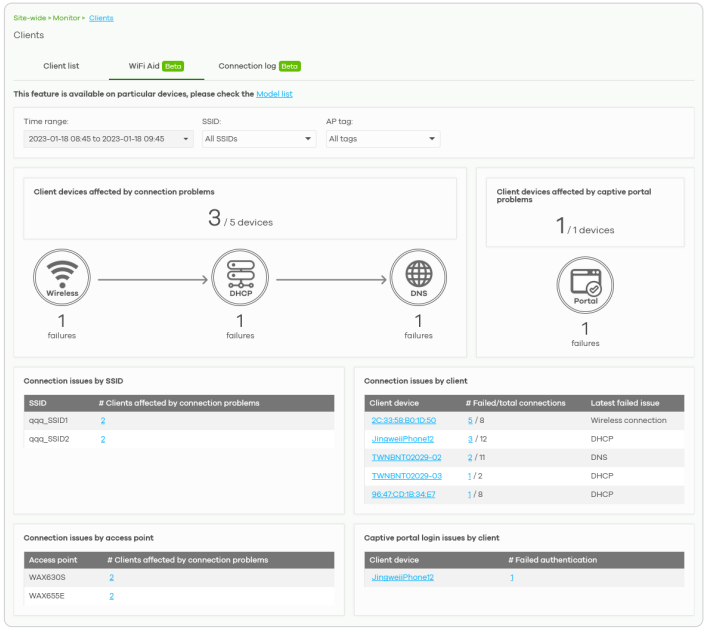
WiFi Aid summarizes connection failures throughout the client onboarding process—from access/authentication to IP assignment (DHCP) and DNS queries. It highlights issues that may impact WiFi user experience and provides insights from various perspectives, such as SSID, access point, and client, to help network admins diagnose and address hidden issues proactively. Additionally, captive portal authentication is supported for hotspot WiFi.

Connection Failure Summary

- Connection detection across the entire client onboarding journey
- Reliable indicators to alert network admins for connection issues, reducing reliance on log interpretation

WiFi Connection Issue Diagnosis

- Comprehensive diagnosis from various perspectives
- Hyperlinks to connection log for further issue investigation



WiFi Aid – Connection failure summary and issue diagnosis

Wireless Health

Admins | Operate & Optimize

Wireless Health goes beyond simply assessing wireless network performance. It surpasses competitive solutions by streamlining root cause analysis for connected AP devices and clients, allowing IT teams to easily detect, monitor, and fix connection issues through a single pane of glass.

MAC-Layer & Results-Based Wireless Performance Analysis

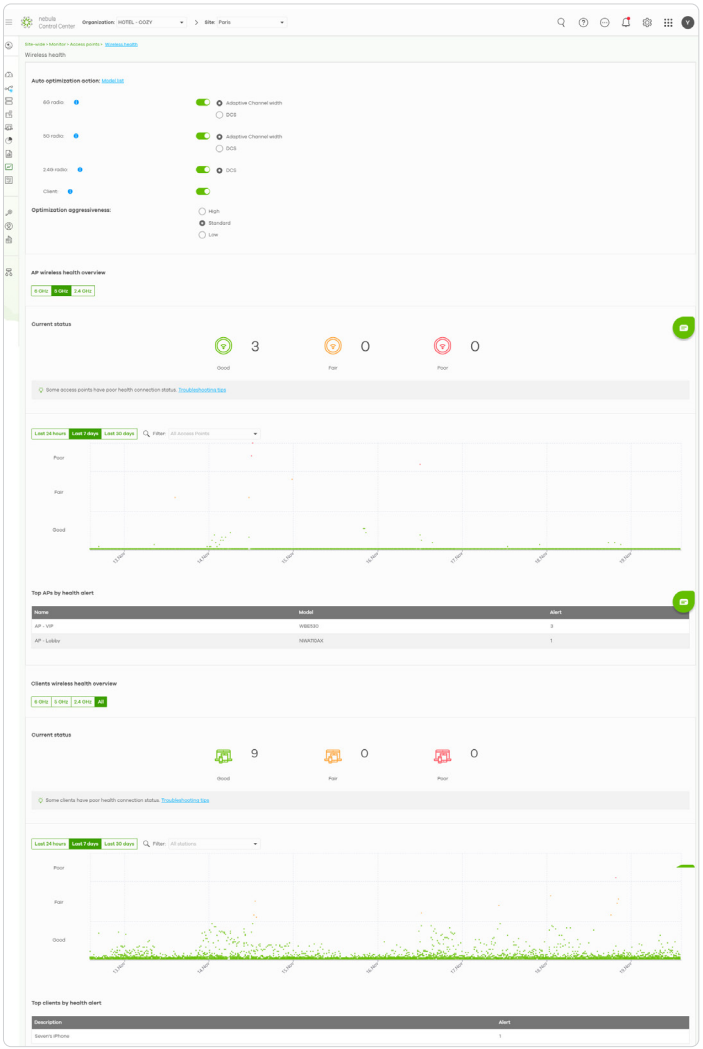
- Comprehensive coverage of all influencing factors
- No additional sensors required
- Delivers accurate performance analysis

Wireless Performance Condition Monitoring and Reporting

- Intuitive, easy-to-read real-time status
- Visualized status history and trends
- Highlighted and prioritized status alerts

Wireless Performance Optimization

- Automatic remediation actions to fix connection issues



Wireless Health monitoring and reporting

Roaming Dashboard

Admins | Operate & Optimize

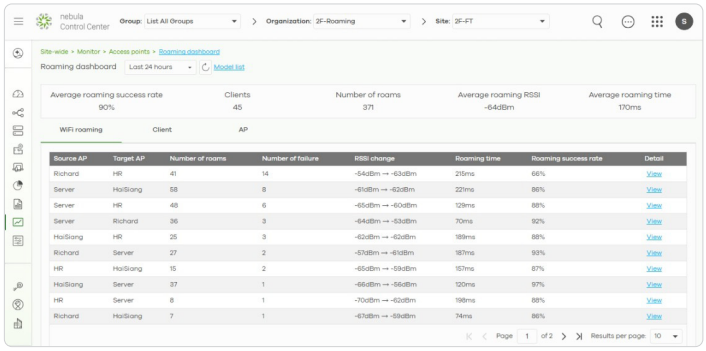
The Roaming Dashboard gives admins a centralized view of site-wide WiFi roaming. By analyzing deep underlying data from WiFi, client, and AP perspectives, it helps IT teams identify roaming inefficiencies and optimize WiFi experiences.

Centralized Roaming Overview

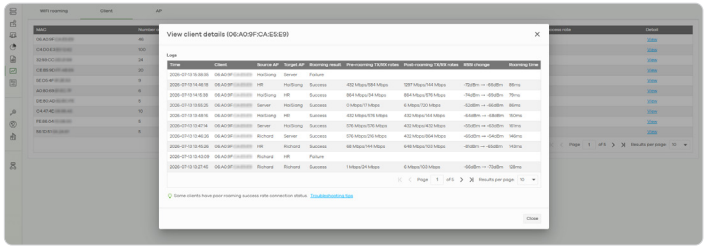
- At-a-glance roaming KPIs: success rate, number of roams, RSSI, and roaming time.
- Adjustable time range for tracking roaming trends.

Roaming Issue Diagnosis

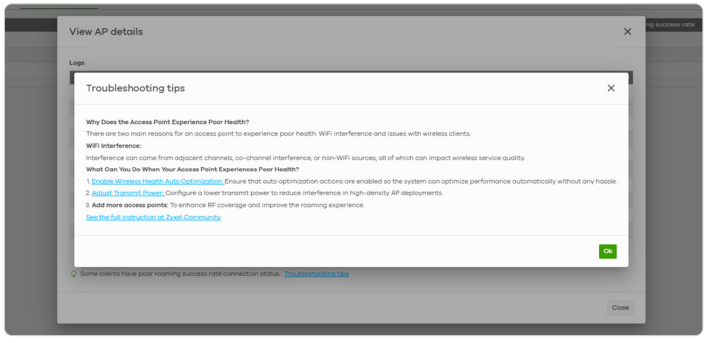
- Per-client metrics covering roaming failures, RSSI change, and roaming time.
- Default sorting surfaces clients with the most roaming failures for quick triage.
- Drill-down roaming routes pinpoint where and why roaming degrades.
- Built-in troubleshooting tips offer actionable recommendations for clients or APs with poor connection health.



Roaming Dashboard – WiFi roaming overview



Roaming Dashboard – Per-client roaming log



Roaming Dashboard – Troubleshooting tips for AP

Other Professional Access Points Functionality & Management Features

Feature Name	Description/Application	User/Admin Benefits
Captive portal sign-in with NID FS (Nebula Identity Federation Service) Users Implement	Allows user authentication to the wireless network through a sign-in captive portal using NID FS	Enables one SSID to support multiple authentication sources at once and assign differentiated access by identity provider, delivering enterprise-grade, granular network access control without configuring each IdP per service
Captive portal sign-in with Microsoft Entra ID (Azure AD) Users Implement	Allows user authentication to the wireless network through a sign-in captive portal using Microsoft Entra ID (Azure AD)	Offers a centralized platform for managing user identities and access privileges, simplifying administration, enhancing security posture, and ensuring consistent enforcement of security policies.
Captive portal sign-in with NCAS user's Passkeys Users Implement	Allows user authentication to the wireless network through a sign-in captive portal using NCAS user's Passkeys	Delivers a passwordless, more secure and convenient sign-in that simplifies the login process while reducing the risks associated with password management and leakage
Portal redirect URL parameter customization Users Implement	Allows customization of parameters sent for third-party Captive Portal integration	Enables tailored user experience
Captive portal MAC auth. fallback Users Implement	Bypass of the captive portal with RADIUS re-authentication, utilizing MAC authentication instead when clients reconnect to the network	Ensures a seamless user experience while maintaining security
BWM by VLAN interface Users Implement	Provides traffic shaping (rate-limit) to user/user group by assigning to different VLAN(s)	Provides admins a workaround for user/ user group bandwidth management
RADIUS NAS ID customizable Admins Implement	Identifies the Nebula devices of a site, especially those behind NAT using the same public WAN IP address, for the external Captive Portal with RADIUS authentication server	Enables precise control over network authentication management for admins
RADIUS accounting for captive portal Admins Implement	Allows configuring RADIUS accounting server settings for Captive Portal with RADIUS authentication	Enhances authentication management for admins
Smart steering per AP Admins Operate & Optimize	Granularity control of the RSSI threshold settings per AP	Provides admins with a more accurate deployment to enhance the network user experience
AP traffic log Admins Operate & Optimize	Allows exporting the traffic log of the AP in NAT mode to a syslog server	Enables centralized monitoring and security compliance auditing for admins

Professional Switches Functionality & Management Features

Port Advisor

Admins | Operate & Optimize

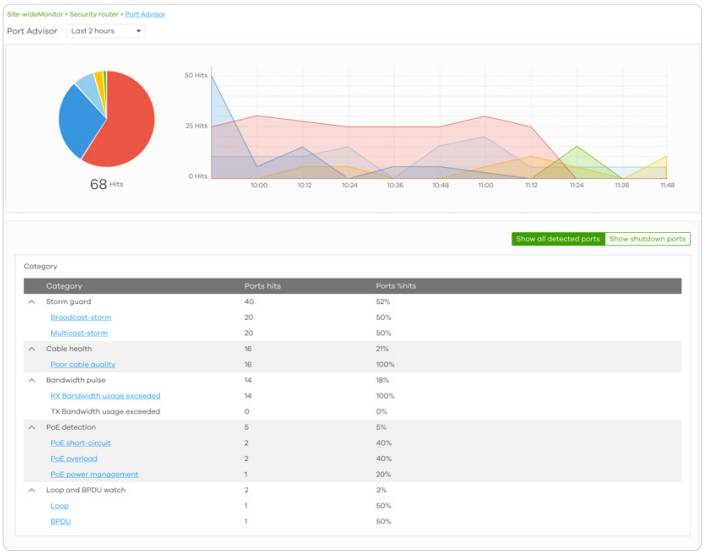
Port Advisor proactively monitors network port health and security, providing event alerts and data analysis to help you easily manage your network through a single pane of glass—minimizing downtime, improving troubleshooting efficiency, and enhancing overall network visibility and security.

Port Abnormal Issue Summary and Analysis

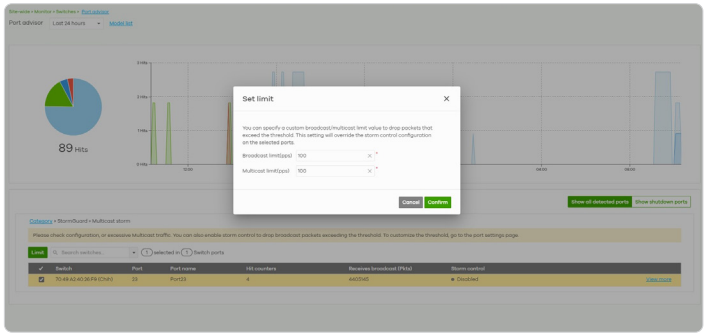
- Provides an easy-to-read visual summary and timeline of port abnormal issues within a specified time period for quick tracking and analysis
- Shows abnormal issues statistics across various categories to help network admins quickly identify wired connection problems, reducing reliance on manual log interpretation
- Hyperlinks to abnormal reason detailed diagnosis for further investigation

Abnormal Issue Detailed Diagnosis for Effective Troubleshooting

- Detects problematic switch ports by each categorized reason, providing in-depth port utilization analysis and recommended measures to troubleshoot network anomalies
- Enables direct follow-up actions, such as adjusting storm control limits or shutting down switch ports to resolve network issues
- Lists all shutdown ports with Restart function available once the issue is resolved



Port abnormal issue summary and analysis



Adjusting storm control limits for follow-up action

Shutdown port list with Restart function

IPTV Report

Admins | Operate & Optimize

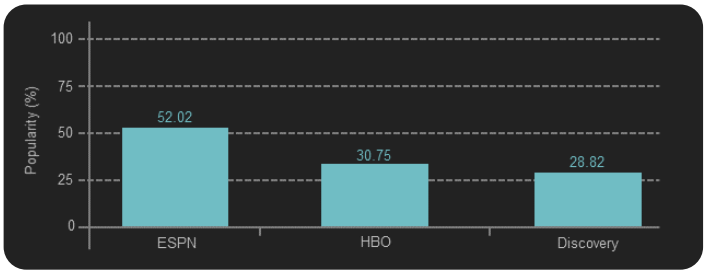
The IPTV Report provides essential channel and user information that simplifies monitoring of IPTV network performance. This report is also valuable for making critical business decisions regarding channel subscription investments, offering a strong value proposition for hotel owners and service providers involved in IPTV projects.

IPTV Network Monitoring and Reporting

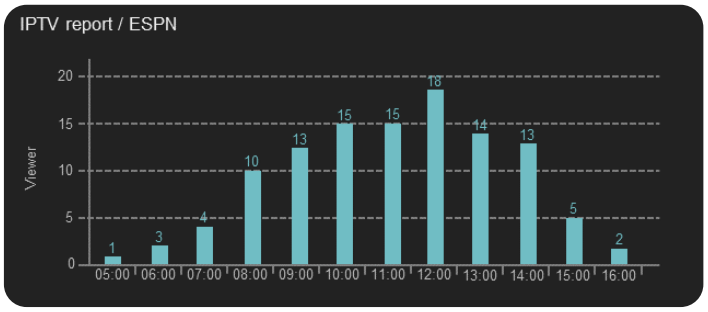
- Provides statistics on channel usage
- Helps understand guest preferences to determine channel subscriptions

Network Analytic Alerts and Optimization

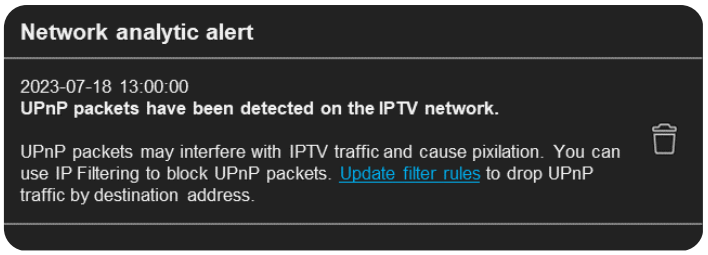
- Analyzes network traffic to detect unusual events that may impact performance
- Offers optimization advice for the IPTV network through machine learning



Identifies your most popular channels



Identifies peak viewership rate for each channel



Alerts network admins to common network issues that affects IPTV service

Other Professional Switches Functionality & Management Features

Feature Name	Description/Application	User/Admin Benefits
DHCP Server Users Implement	Provides native DHCP Server functionality for user clients on supported Nebula switches.	Simplifies IP address assignment and network deployment without requiring an external DHCP server.
Vendor ID-based VLAN* (Also available in Nebula Plus Pack)) Admins Implement	Allocates network devices from different vendors into different VLANs	Simplifies traffic management and prioritization for admins
Advanced IGMP Admins Implement	Sets IGMP snooping advanced settings such as role, mode, timers, unknown multi-cast drop per VLAN and IPTV topology setup	Provides admins an effective bandwidth utilization design in an IPTV environment
IP Source Guard Admins Implement	Protects network access from illegal client IP addressing configured by DHCP and/or static setting	Ensures network security by allowing only fully authorized client traffic on the network
Switch Stacking Admins Implement	Manages multiple switches as a single entity	Provides a high-performance, scalable network while simplifying maintenance for admins
IP interface & static route Admins Implement	Supports Layer 3 function to create IP interface and IPv4 static route	Provides greater flexibility, scalability and security for larger and more complex network environments
Auto PD Recovery* Admins Operate & Optimize	Monitors continuously and detects PD failures, such as IP cameras, with automatic recovery by cycling the power of PoE port to restart malfunctioning PDs	Reduces PD downtime and improves reliability, while lowering maintenance costs and enhancing the user experience
Switch Surveillance Monitoring with ONVIF Admins Operate & Optimize	Performs ONVIF IPCAM auto-discovery and monitors the real-time powered devices status and data	Simplifies surveillance network management for admins

* Also available in Nebula Plus Pack

Professional Security Firewall Management Features

VPN Orchestrator

Admins | Implement | Operate & Optimize

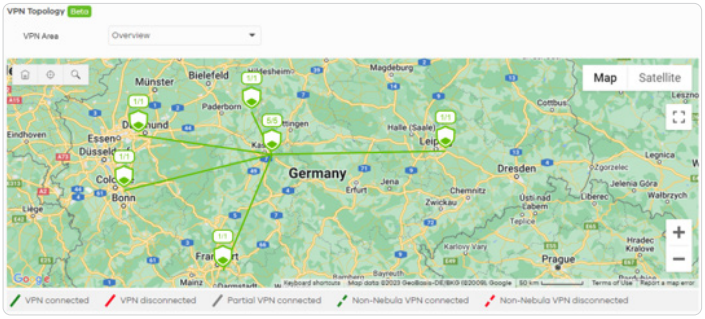
VPN Orchestrator provides a software-defined solution to easily manage and monitor a scalable VPN topology through a single pane of glass. In just a few clicks, you can complete a multi-site VPN setup within a Nebula organization, drastically reducing the management overhead compared to traditional VPNs. With advanced VPN Area and Branch to Branch VPN options, it realizes the communication among multiple VPN topologies, each constructed with its own hierarchy and sites.

Effortless VPN setup with VPN Member

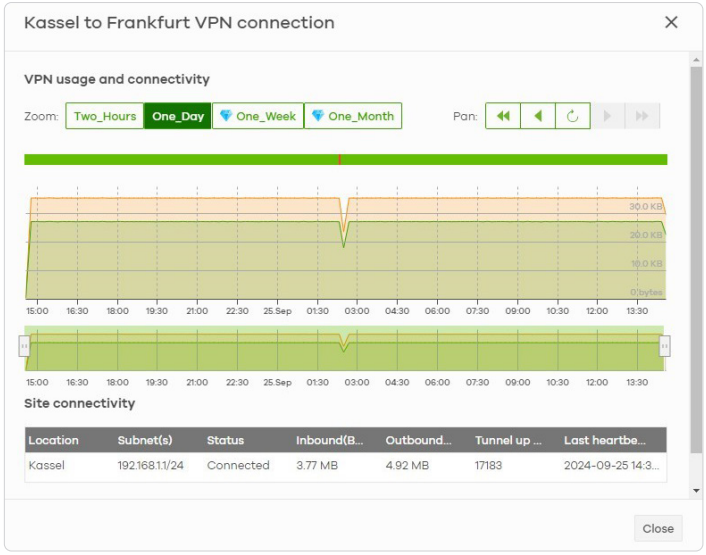
- Single pane of glass & multi-site VPN setup supporting both Nebula-managed and non-Nebula-managed VPN gateways, thus minimizing setup labor hours regardless of scale of the network.
- Easily configures communication among branch to branch VPNs.

Real-time monitoring with VPN Topology

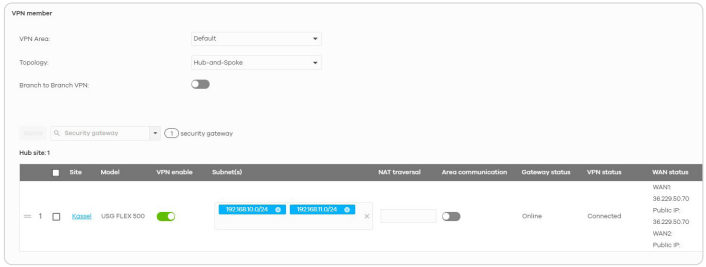
- Provides overview of both Nebula and non-Nebula VPN connections status in real-time
- Illustrates VPN connections with detailed information in a geographical view



At-a-glance real-time VPN monitoring



VPN usage and connectivity histogram

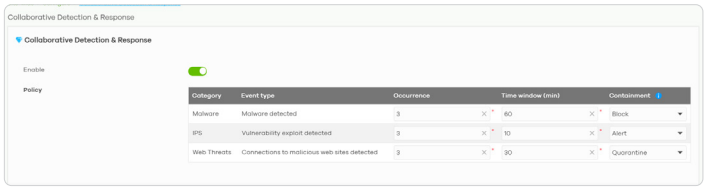


Effortless VPN setup with VPN Member

Collaborative Detection & Response (CDR)

Admins | Operate & Optimize

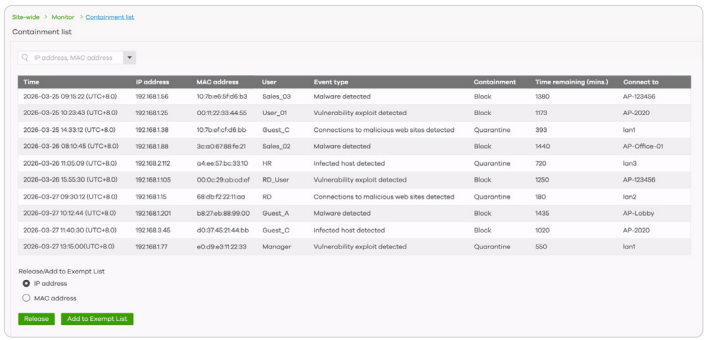
Collaborative Detection & Response (CDR) connects Nebula-managed firewalls and access points to automatically contain compromised clients and prevent threats from spreading across the network. By coordinating threat detection and containment through Nebula, CDR helps network admins respond faster while reducing manual intervention.



Configurable threat thresholds and containment actions

Automated Threat Detection and Containment

- Detects compromised clients based on firewall security events.
- Applies containment automatically according to configurable thresholds.
- Helps prevent lateral threat propagation across the network



Containment list for centralized monitoring and client release

Flexible Response Actions

- Alert - Notifies administrators when suspicious client activity is detected
- Block - Restricts client traffic and redirects affected users to a block page
- Quarantine - Isolates wireless clients through a dedicated quarantine VLAN at the access layer

Centralized Management

- Provides a site-wide view of contained clients
- One-click release of remediated devices
- Supports exemptions for trusted or mission-critical clients

Other Professional Security Firewall Management Features

Feature Name	Description/Application	User/Admin Benefits
Captive portal & SSL VPN sign-in with NID FS (Nebula Identity Federation Service) Users | Implement	Allows user authentication to the captive portal and SSL VPN through NID FS	Enables captive portal and SSL VPN services to support multiple authentication sources at once and assign differentiated access by identity provider, delivering enterprise-grade, granular network access control without configuring each IdP per service
Captive portal & SSL VPN sign-in with NCAS user's passkeys Users | Implement	Allows user authentication to the captive portal and SSL VPN with NCAS user's Passkeys	Delivers a passwordless, more secure and convenient sign-in that simplifies the login process while reducing the risks associated with password management and leakage
Send email of L2TP VPN provision script Users | Implement	Sends a provisioning script file by email for L2TP VPN client's setting	Simplifies deployment for admins and improves user experience with easy & minimum useentio
Traffic log archiving Admins | Operate & Optimize	Collects and archives traffic log from Nebula security appliance via SecuReporter.	Enhances network security posture and maintains compliance with regulation for organizations & admins

Other Professional Broadband Router Management Features

Feature Name	Description/Application	User/Admin Benefits
Client device heartbeat (LAN device alive monitoring) Admins Operate & Optimize	Monitors the connectivity status of mission-critical LAN devices continuously, 24 hours a day	Monitors effortlessly even in private mobile operator network environments
Backup & restore Admins Operate & Optimize	Creates manual or scheduled configuration backups stored in NCC, with the option to download backup files for local storage, and restore configurations either through NCC or offline via device Web GUI or CLI.	Enables administrators to quickly recover device configurations after a failure, reducing recovery effort and minimizing service downtime.

Professional NCC General Management Features

Nebula Identity Federation Service (NID FS)

Users Implement

Nebula Identity Federation Service (NID FS) brings network access into the same cloud identities a business already relies on. It federates external identity providers (IdPs)—such as Microsoft Entra ID, Google Workspace, and Okta—and presents them to Nebula network services through one unified connection. Staff, contractors, vendors, and guests sign in with credentials that stay owned and secured by their own IdP, with no separate accounts to provision or maintain.

Third-Party IdP Integration

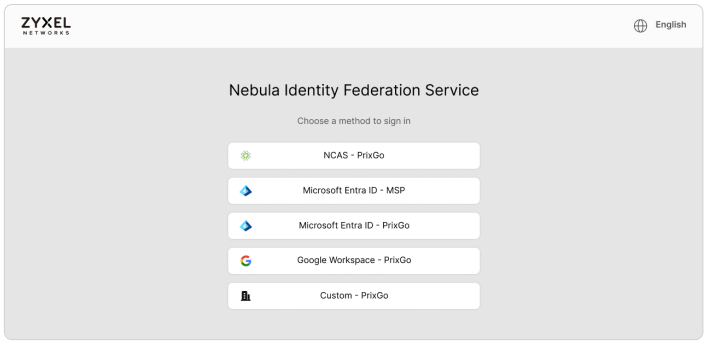
- Establishes trust with external IdPs
- Grants access to staff, contractors, vendors, and guests without creating separate accounts in NCC
- Keeps credentials and security controls with the originating IdP

Federated Identity

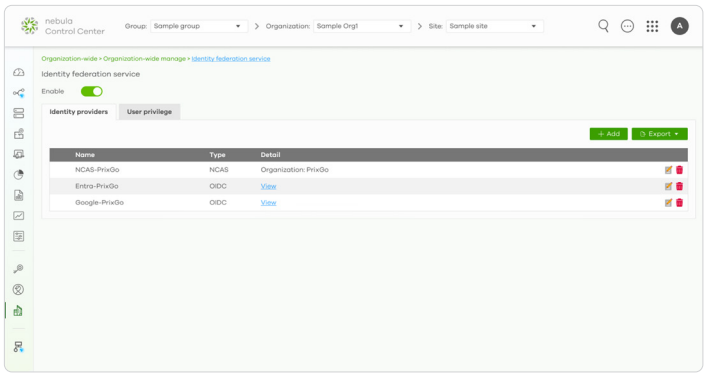
- Integrates leading cloud IdPs—Microsoft Entra ID, Google Workspace, Okta, and more—alongside Nebula Cloud Authentication Server (NCAS)
- Lets a single service accept sign-ins from multiple IdPs simultaneously
- Configures each IdP once at the organization level and reuses it across sites, removing repetitive per-site setup

Identity-Based Access Control

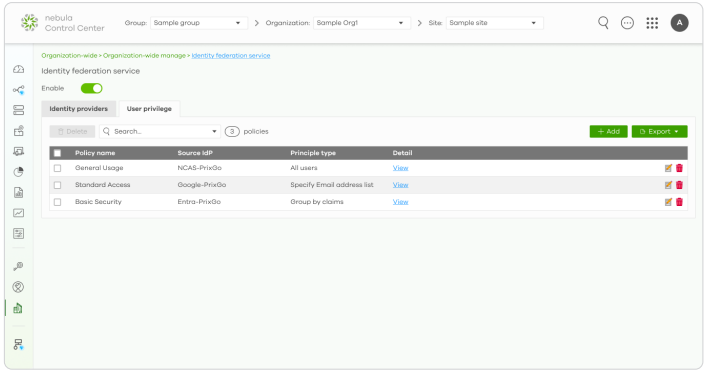
- Authenticates users through their own IdP, then allows or denies each identity by policy
- Directs authenticated users to the right service based on who they are



Select IdPs on NID FS login page



Identity Provider Management



User Privilege Policy Management

Nebula Cloud Authentication Server and Voucher Service

Users | Implement

Nebula Cloud Authentication Server (NCAS) is a free service, up to 50 entries, offered in Nebula, simplifying the setup of network user access for both wired and wireless networks without the time and cost associated with deploying an on-premises server. With Nebula Pro Pack, it further enhances authentication by allowing unlimited entries, ensuring a seamless onboarding process.

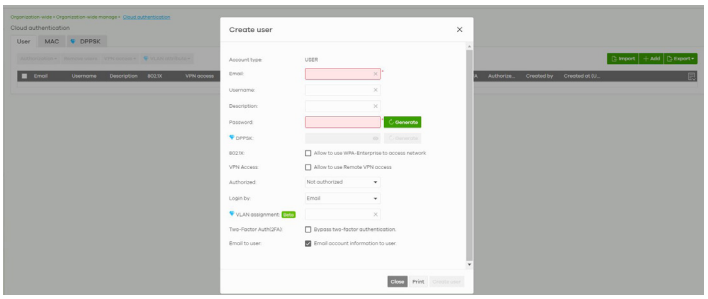
The Voucher service is another kind of cloud based authentication service available in Nebula Plus and Pro Pack, allowing WiFi clients to sign in to the network using a predefined profile and a unique code in Captive Portal. This feature is ideal for WiFi hotspot management in locations such as cafes, hotels, or airports, where service providers charge for WiFi access.

Nebula Cloud Authentication Server

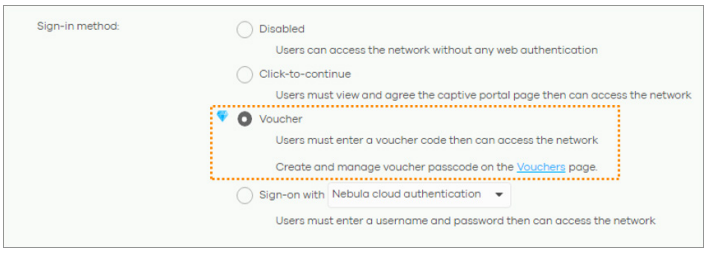
- Creates and manages network user accounts, and sets authentication policies
- Offers flexibility to choose from several authentication methods, including Username/Password-based 802.1x, Captive Portal, VPN, MAC-based, and DPPSK-based
- Provides flexibility to apply settings to specified sites, set expiration periods, assign specified VLANs (for 802.1x and DPPSK only), and enforce 2FA
- Enables passkey sign-in for passwordless, more secure and convenient authentication

Voucher Service

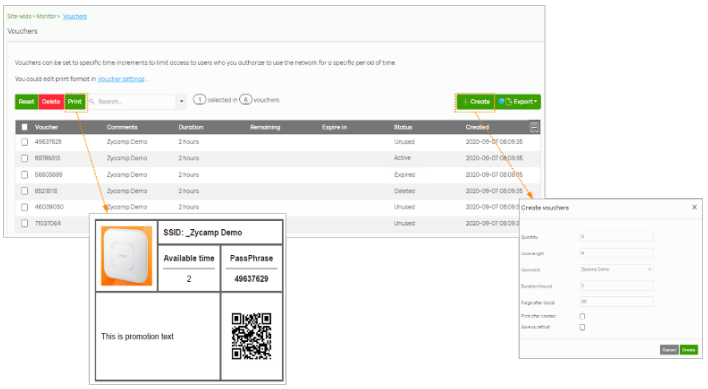
- Enables clients to access WiFi for a specified period using a unique code
- Supports voucher printouts for distribution
- Provides flexibility to specify an image and promotional text on the Voucher, as well as a promotion URL after voucher authentication



Creates network user via Nebula Cloud Authentication



WiFi Voucher Sign-in

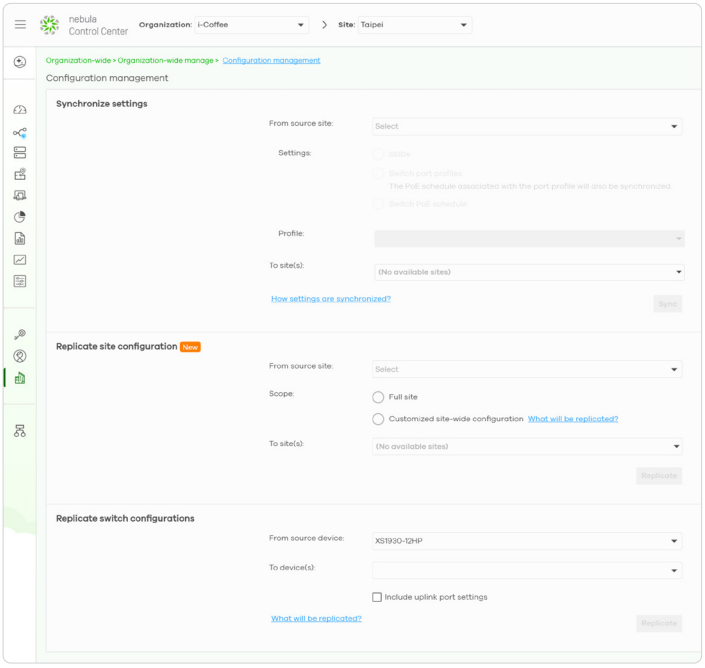


Voucher creation and print-out

Org-wide (Multi-site) Configuration Management

Admins | Implement

Org-wide (Multi-site) Configuration Management is crucial for managing multiple sites and networks. With Synchronize and Replicate, admins can ensure fast deployment and consistent configurations across locations, making updates more efficient and reducing errors. This enhances efficiency, reduces workload, and saves time and costs for network admins overseeing multiple sites and networks.



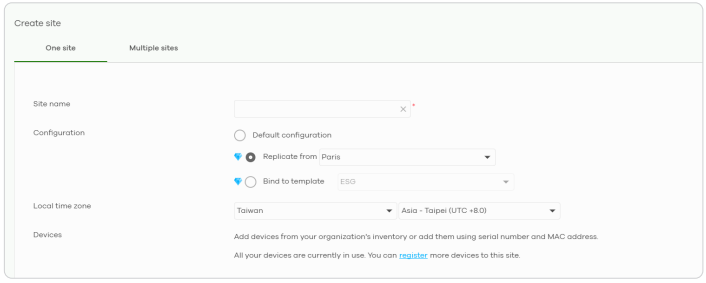
Configuration management: Synchronize and Replicate

Synchronize

- Easily propagates selected AP SSID, Switch Port Profile or Switch PoE Schedule related configurations from one site to others within an organization

Replicate

- While creating new site(s), replicates the configuration of an existing site instead of using the default settings
- Replicates full site configuration, or specify the site-wide configuration of AP, Switch, Security Appliance and/or Site-settings from one site to others within an organization
- Replicates switch device-based & port settings from one device to others of the same model within an organization



Replicate existing site configuration while creating new site(s)

Org-wide (Multi-site) Configuration Templates

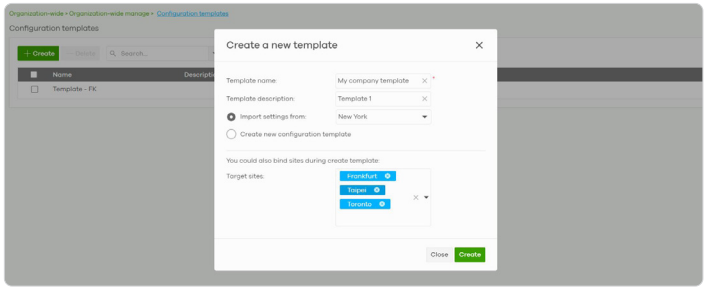
Admins | Implement

Org-wide (Multi-site) Configuration Templates help automatically sync multiple sites by applying setting changes to a master template. Once your networks are deployed, you can create a template using one site's configuration as a base and bind all the sites you need to maintain to that template. This ensures all networks remain fully updated under one unified interface.

Configuration Template*

- Replicates successful site(s) network settings across similar network types, such as clients or chain stores
- Automatically applies changes made to a template site to all bound real sites
- Provides a Local Override option, offering flexibility for the bound real sites to configure specific settings directly

* Currently, Security Firewall and Mobile Router configurations are not yet supported.



Configuration Template

Backup & Restore

Admins | Implement

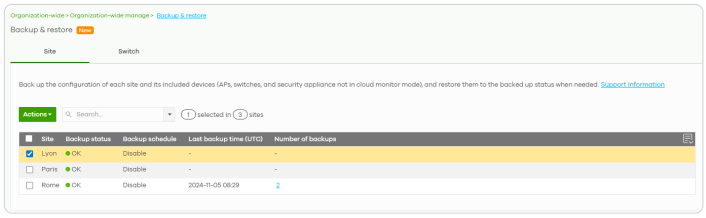
Backup & Restore safeguards your networks by backing up and restoring settings of entire sites and all devices within them, or individual switches when needed. With backup status visibility and flexible scheduling, it minimizes downtime, prevents data loss, and ensures business continuity.

Backup

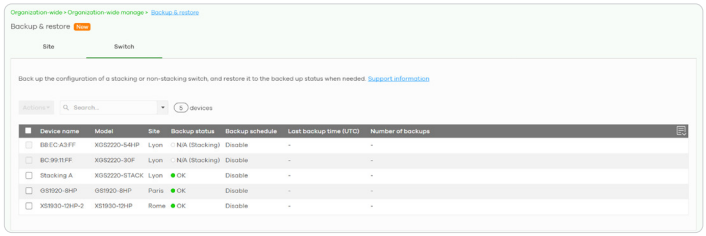
- Creates backups of entire sites and all devices within them, or individual switches when needed.
- Easily monitor the success, failure, or in-progress state of each backup with Backup Status to ensure your settings remain protected.
- Easily set automated backups on a daily, weekly, or monthly basis with Scheduled Backup to keep your settings consistently protected.

Restore

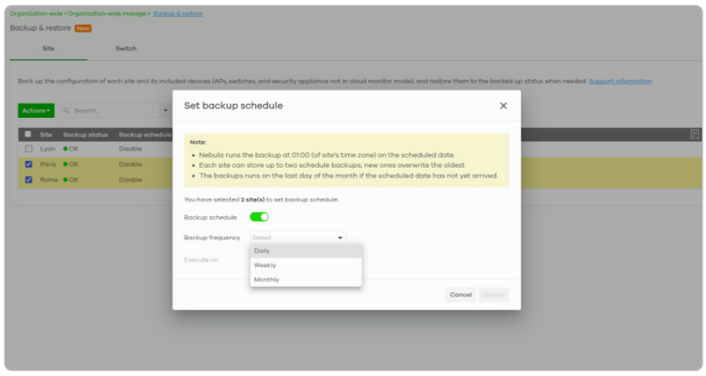
- Quickly recover settings of entire sites or individual switches to minimize downtime and ensure business continuity, with the option to restore a specific backup version.



Backup & Restore – Site configurations



Backup & Restore – Switch configurations

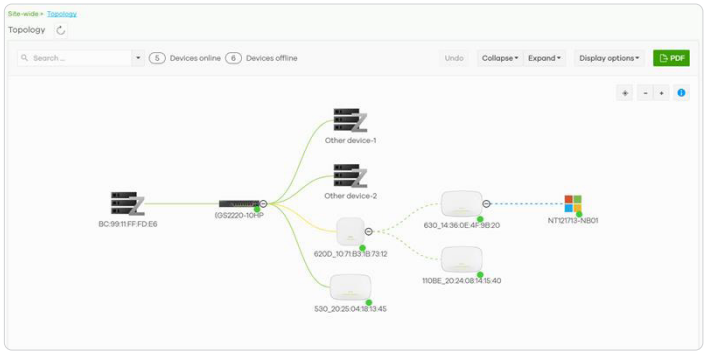


Easily schedule daily, weekly, or monthly backups

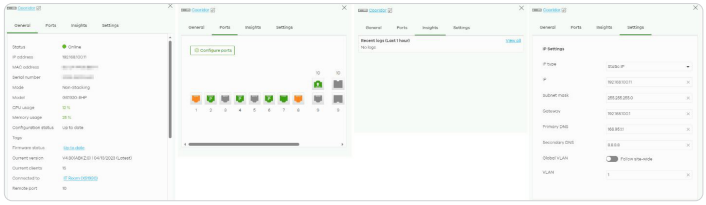
Site-wide Topology

Admins | Operate & Optimize

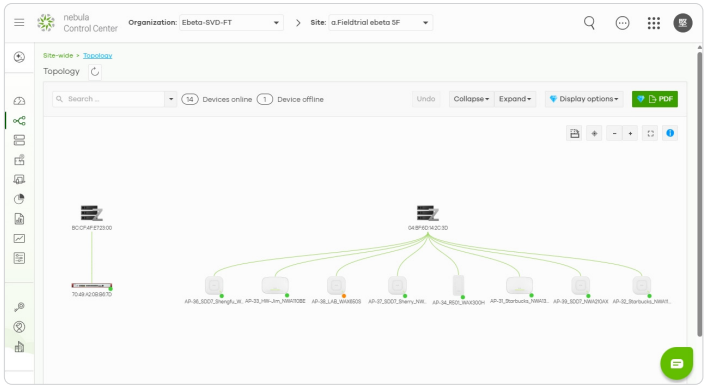
Site-wide Topology provides network admins with an automatic, hierarchical graphic overview of the logical network topology and device statuses, enhancing network monitoring and management efficiency. It visualizes an interconnected network, including both Nebula and non-Nebula devices, as well as online and offline end clients, with detailed device information and actionable buttons for close monitoring and easy troubleshooting. The topology view is on hand for monitoring connection status at every site, while Pro Pack unlocks the full range of interactive controls and advanced management actions.



Site-wide topology with wired and wireless clients



Integrated device detail window allows for expanding issue tracking and advanced controls



Switches between horizontal and vertical layouts, with full-screen view and high-quality export

Filters the topology by VLAN

Site-wide Topology for Network Visibility

- No additional hardware or software required
- Holistic, hierarchical visualization of the entire network
- Automatically generates a topology with wired and wireless clients, showing connection status and connected device details
- Renders link aggregation connections in a distinct line style for instant identification

Site-wide Network Monitoring and Troubleshooting

- Graphical, easy-to-navigate view helps trace connections and pinpoint issues
- Filters the topology by VLAN to inspect and manage specific network segments
- Integrated device detail window for expanding issue tracking and advanced controls
- Advanced controls include rebooting the device, renaming it, setting the IP, and more
- Switches between horizontal and vertical layouts, collapses and expands, zooms in and out, and expands to full screen for a clear, unobstructed view
- Exports the topology as a high-quality image for easy sharing and documentation

Other Professional NCC General Management Features

Feature Name	Description/Application	User/Admin Benefits
Unlimited admin accounts Admins Operate & Optimize	No limits on the number of admins (5 only on Base Pack; 8 only on Plus Pack)	Reduces reliance to ensure continuity of service for organizational management
365 days data/statistics on summary report, device & client monitoring and device event log Admins Operate & Optimize	Views statistics, usage chart, traffic, event log up to 365 days	Provides abundant data for trend analysis and security audit compliance for organizations & admins
Export data to CSV/XML file Admins Operate & Optimize	Downloads the data currently displayed in the table (e.g., Inventory, Cloud Authentication, etc.) in either CSV or XML file format.	Gives admins greater flexibility, control, and security over their information with downloadable data
Organization Login IP address ranges Admins Operate & Optimize	Lists the IP address or IP address range from which administrators are allowed to log into an organization in the NCC	Enhances access security for organization management
Organization change logs Admins Operate & Optimize	Records every change in your organization, enabling you to track which settings were made, by whom, and when	Enhances transparency, improves communication, and facilitates collaboration for admins
Organization device replacement in one-click Admins Operate & Optimize	Replaces an existing device through a streamlined process, automatically transferring the original device's configuration, device ID, and transferable license to the new device and removing the old one from the organization	Simplifies device swaps to reduce downtime and eliminate manual per-device reconfiguration for admins
Org-wide firmware management Admins Operate & Optimize	Upgrades device firmware across multiple sites simultaneously. It allows organization admins to manage firmware on a per-site, per-product type, or per-device basis.	Reduces administrative overhead and improves operation efficiency for admins
Site-wide firmware schedule upgrade on a per-device basis Admins Operate & Optimize	Assigns specific firmware upgrade time on particular (can be filtered and selected by tag, model, current version etc.) device(s)	Provides greater granular flexibility for admins
Site summary report email & schedule Admins Operate & Optimize	Sends site-wide or specific product type statistics, with logo options, via email immediately or on a scheduled basis	Streamlines admin's operations, enhances decision-making, and improves overall efficiency
Up to 5 photos on device detail page Admins Operate & Optimize	Uploads up to 5 photos for each device on device detail page in NCC from photo Gallery (1 photo only on Base and Plus Pack).	Makes it quicker for admins to find the location where a device is installed
Personal AI Agent Integration via Nebula CLI Admins Operate & Optimize	Enables integration with personal AI agents through CLI for interacting with and managing Nebula.	Improves productivity, efficiency, quality, and cost savings for network administrators.
Nebula OpenAPI & DPPSK API access Admins Operate & Optimize	For 3rd party ecosystem partner application integration	Unlocks new opportunities, drives growth, and improves overall performance for organizations and admins
Direct support request Admins Operate & Optimize	Sends support tickets directly from NCC and the Nebula mobile app, providing direct assistance and case updates from the Nebula technical support team	Increases admin productivity and enhances customer satisfaction
Direct Web chat support Admins Operate & Optimize	Chats directly with the Nebula technical support team via web chat from NCC	Increases efficiency and enhances customer satisfaction for admins

License Ordering Guide

SKU	Description
LIC-NPRO-ZZ1M00F	Nebula Professional Pack License, 1MO
LIC-NPRO-ZZ1Y00F	Nebula Professional Pack License, 1YR
LIC-NPRO-ZZ2Y00F	Nebula Professional Pack License, 2YR
LIC-NPRO-ZZ4Y00F	Nebula Professional Pack License, 4YR
LIC-NPRO-ZZ7Y00F	Nebula Professional Pack License, 7YR

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