PRODUCT OVERVIEW

- Unified Management Platform to manage entire networking stack of Wifi, Switching, SD-WAN Gateways, and VPN.
- Quantum® RUDDER provides ease of administration to manage and monitor multi-site heterogeneous networks.
- Micro services-driven architecture to provide resilient and scalable architecture.

BENEFITS

Scalable architecture

Quantum® RUDDER is Ultra-scalable. Depending on the device type, it can manage multiple APs, Switches and Gateway. On premise RUDDER with HA (Active-Passive).

Graphical dashboards

It provides comprehensive, APIs that enable applications configuration and real-time monitoring of Quantum Networks devices. Build separate dashboards for individual administrators. The dashboard provides a summary of events occurring on Quantum Networks devices. It gives summarize detail of total sites, devices information, connected clients and critical alarm, and warning if any.

Multi-tier tenancy

The multi-tier hierarchy provides flexibility to service providers to allow administrators and operators to manage, create and reuse

Quantum® RUDDER is a wireless network management user interface for Deploying, Monitoring, Managing and Troubleshooting Access Points, Switches and Gateway devices.
**Partner domain (MSP)**

The Partner domain enables operators to separate tenants with their own unique set of configurations, profiles, and system objects which are not shared with other tenants. It creates a wall between tenants to ensure privacy and alleviate operational headaches associated with tenant management. Also, service providers can personalize the administrative dashboard for their tenants with unique logos and text.

**External integrations**

RUDDER supports external integrations using industry standard protocols like TR-069, SNMP v2/v3 and API.

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**Scalability, Reliability**

Quantum® RUDDER is SSL certified to provide secure, encrypted communications between Access Point / Switches / Gateway and Cloud controller. Quantum® RUDDER, designed from the ground up as a cloud application, ensures the highest possible availability and uninterrupted service.

Web-scale database design for responsive performance even when working with a huge amount of data.

**Role-based administration**

Role-based access control with pre-grouped administration permissions makes common roles easier to set up. Users can define read-only or modify permissions that apply across zones, add new administrator profiles and set permissions.

It allows the administrator to access Quantum® RUDDER and site management such as QIM. Its MSP module allows the partner domain to create its clouds that may contain the site data.
**NETWORK HEALTH MONITORING AND TROUBLESHOOTING**

**AP, Switch and Gateway health**
Keep an at-a-glance summary of the entire network health through an intuitive dashboard, designed to allow drill down for more information on the go.

**Client health**
Client connection diagnostics for wireless client’s speeds and simplifies troubleshooting and client problem resolution. The administrator can focus on a specific client device and its connection status with this troubleshooting tool. An intuitive interface tracks and monitors the progress of the user’s connection through 802.11 stages, EAP authentication, RADIUS, captive portal redirects, encryption key setup, DHCP, and roaming.

**Configuration and login audits**
Administrator can keep the logs of activities and login records with time duration.

**Monitoring**
Track individual Wi-Fi client records such as Hostname, IP Address, uptime, wireless details, bandwidth, noise level, signal strength, speed, association history, and device name.

**Reporting**
Enhance reporting structure to provide the data on daily, weekly and monthly schedule which can be export or send to the administrator.
Quantum® SECURE
Quantum® SECURE jumbles WPA/WPA2 key, pre-configured MAC address and user password to allot an automated randomized passkey and provide access for the device. This device access cannot be used on another device, even by the same user. It ensures client security even in case of a lost device or password compromise.

Quantum® SECURE+
Quantum® SECURE+ allows users to get authenticated before getting access to the Internet through the Internet Browser. Every user will get web-authenticated by using individual user credentials. Once the user discovers the WLAN (SSID) on their wireless device or laptop or desktop or any other device, they will get a popup to enter the required login information.

Quantum® guest pass
Provides guest passes for the guest users to allow temporary access. The guest users will get authenticated to access by the administrator.

Quantum® COLLAB
Quantum® COLLAB is Quantum Networks platform for delivering custom-made solutions that are industry-specific. It is a platform that can integrate with non Quantum software or a services. It uses the integration to onboard Wi-Fi clients and makes the task easier for the administrator.

HIGHLIGHTS

Cloud Controller

Social Media

PMS Integration

OTP

Email

Voucher

www.qntmnet.com
Wi-Fi mesh management

Mesh Wi-Fi is a Wi-Fi system built to eliminate dead zones and to provide uninterrupted Wi-Fi throughout the entire area. Mesh features enable devices in the network to have faster speeds, greater coverage, and a more reliable connection. Mesh Wi-Fi is faster and more efficient at delivering Wi-Fi signals.

Theft protection

Software-based theft protection functionality protects assets from misuse. Access Point will be locked for deployment in any other network until decommissioned from the existing network.

Flexible deployment

Quantum Networks offers flexible deployment options using Quantum® cloud, On-premises, and Virtual platforms without compromising security, data privacy, or administrative control.
VPN CONNECTIVITY

UnGrid

UnGrid offers an ultra-scalable solution to onboard Trusted Users, Devices, and Applications on the same network. It’s highly scalable and comes with a secure infrastructure to provide reliable performance. It is elastic to scale from a small workforce to thousands of users on the go. UnGrid ensures seamless connectivity of the entire team from anywhere, anytime. Since no hardware infrastructure is required to invest in and manage, it reduces the total cost of ownership.

URL filtering

URL filtering for wireless and gateway clients allows businesses to create and enforce access policies that protect users from inappropriate and harmful websites while maintaining access to allowed URLs. Policies are granularly applied at a wireless LAN or user group level with override whitelist/blacklist options.

Quantum® Identity Management

With Quantum® Identity Management, users can be granted multiple services access with a single user name and password.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Quantum Rudder</th>
</tr>
</thead>
</table>
| Manage high-performance APs       | - Manage wide range of indoor, outdoor, room APs  
  - Easy-to-configure  
  - Provides detailed client statistics  
  - Reliable Wi-Fi mesh management  
  - Supports load balancing between APs and radio  
  - Supports industry standard protocols and APIs such as TR-069, SOAP, HTTP/S etc |
| Switch management                 | - Manage through Quantum® RUDDER management console  
  - Direct access to configuration via remote CLI, console or SSH  
  - Port settings and PoE control  
  - DHCP snooping, Supports IPv4/IPv6,  
  - Layer 2/Layer 3 with RIPv2 & OSPF features  
  - Create and manage stacks |
| Gateway management                | - Manage multiple site gateway devices from a single console  
  - Secure access from anywhere using Quantum® RUDDER  
  - Multi-tier administration  
  - Ease of access profiles deployments on multiple gateways |
| Mobile application - Quantum® ACE | - Manage multiple Access Points  
  - Monitor status of sites, APs, client devices, WLAN  
  - Create and configure new SSID  
  - Manage Quantum® guest authentication  
  - Supports zero-touch provisioning for AP, Switch  
  - Supported platform iOS and Android |
| Zero-touch provisioning           | - Zero-touch AP, Switch provisioning for mass deployment across the site |
| Security                          | - Block traffic by application  
  - Block malware, phishing and spam domain |
| Secure user authentication        | - Quantum® SECURE, Quantum® SECURE+  
  - Quantum® guest pass  
  - Quantum® COLLAB |
| Add-on services                   | - UnGrid  
  - Quantum® COLLAB  
  - Quantum® Identity Management |
| Management Tunnels                 | - L2TP / GRE / IPsec / Wireguard |
| Reporting                         | - Traffic per AP, per switch, per site, per location, per SSID, per radio etc  
  - CPU, Memory utilization  
  - Access Point status (up/down)  
  - Client analytic in detail  
  - Switch details- like MAC address, IP address, uptime, current firmware |
| Technical support                 | - All APs, Switches, Gateway have different warranty terms  
  (refer the respective datasheet of the device)  
  - Support via ticketing system / over phone |
## PRODUCT INFORMATION

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Cloud RUDDER©</th>
<th>QN-RV-1000</th>
<th>QN-RR-200</th>
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</thead>
<tbody>
<tr>
<td><strong>Appliance type</strong></td>
<td>Managed cloud</td>
<td>Virtual instance</td>
<td>Hardware</td>
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<tr>
<td><strong>Managed AP</strong></td>
<td>Ultra-scalable</td>
<td>Check hardware matrix</td>
<td>Up to 500 per controller</td>
</tr>
<tr>
<td><strong>Switch</strong></td>
<td>Yes</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>SD-WAN</strong></td>
<td>Yes</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td><strong>WLAN</strong></td>
<td>Ultra-scalable</td>
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<td>Up to 2,048 per controller</td>
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<tr>
<td><strong>UnGrid</strong></td>
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<td>NA</td>
</tr>
<tr>
<td><strong>QIM</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Quantum® COLLAB</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Products
- Switches: QN-SW225-8, QN-SW225-24
- Gateway: QN-S-100, QN-I-220(S)

### Services
- Quantum® SECURE, COLLAB, UnGrid

### Management Licenses
- Switch management license for QN-SW225-8, QN-SW225-24
- Gateway management license for QN-S-100, QN-I-220(S)
- Management license for service UnGrid
- Management license for service QIM
- Management license for service Quantum® COLLAB
HARDWARE REQUIREMENTS

Supported virtualization platforms

- VMware
- MS Hyper-V
- Oracle VM
- KVM

For virtual instance

<table>
<thead>
<tr>
<th>Number of Devices</th>
<th>Number of vCPUs</th>
<th>RAM Size (GB)</th>
<th>Hard Disk (GB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 AP</td>
<td>4 vCPU</td>
<td>8 GB vRAM</td>
<td>64 GB vHDD</td>
</tr>
<tr>
<td>500 AP</td>
<td>8 vCPU</td>
<td>16 GB vRAM</td>
<td>128 GB vHDD</td>
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<tr>
<td>1000 AP</td>
<td>8 vCPU</td>
<td>18 GB vRAM</td>
<td>256 GB vHDD</td>
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<td>10,000 AP</td>
<td>16 vCPU</td>
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<td>512 GB vHDD</td>
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<td>20,000 AP</td>
<td>32 vCPU</td>
<td>64 GB vRAM</td>
<td>1 TB vHDD</td>
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<tr>
<td>40,000 AP</td>
<td>64 vCPU</td>
<td>128 GB vRAM</td>
<td>2 TB vHDD</td>
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