Extreme networks

Highlights

Full Stack Management

- Native cloud management for Wi-Fi, Switching, and SD-WAN

Dashboards and Insights

- Machine Learning derived insights drive a comprehensive visual dashboard of location, devices, and users

Network Health

- Real-time and historical view of client and device health with built-in remediation tools

Application Visibility and Control

- Visibility and control of application usage for professional and recreational applications and network services

Comparative Analytics

- Anonymously compare operational and performance-based metrics to those of other organizations of a similar size and vertical

Integrated Essentials Applications

- ExtremeGuest™
- ExtremeAirDefense™
- ExtremeIoT™
- ExtremeLocation™

Auto-Provisioning

- With zero-touch deployment, automatically apply configuration policies

ExtremeCloud™ IQ

Machine Learning and AI-driven Wired and Wireless Network Management Offering Intuitive Configuration Workflows, Real-Time and Historical Monitoring, Comprehensive Troubleshooting and Integrated Network Applications

ExtremeCloud IQ is an industry-leading and visionary approach to cloud-driven networking, built from the ground up to take full advantage of Extreme's end-to-end networking solutions. ExtremeCloud IQ delivers unified, full-stack management of wireless access points, switches, and routers and enables onboarding, configuration, monitoring, troubleshooting, reporting, and more. Using innovative machine learning and artificial intelligence technologies, ExtremeCloud IQ analyzes and interprets millions of network and user data points, from the network edge to the data center, to power actionable business and IT insights, and deliver new levels of network automation and intelligence.

ExtremeCloud IQ™ operates on Extreme's fourth generation Cloud Services architecture, capable of supporting millions of infrastructure devices and hundreds of millions of clients per Regional Data Center. All Extreme Cloud Services components are hosted in secure SOC Type 1 data centers with 24/7 monitoring, scheduled backups, and built-in disaster recovery capabilities. The ExtremeCloud IQ offers rapid feature velocity, increased availability, and advanced flexibility desired for modern access network management.

Extreme Cloud Services also provides a full suite of cloud-optimized open APIs for developers to create 3rd party applications and user experiences including user onboarding mechanisms, proximity-based services, presence and location analytics, and more.

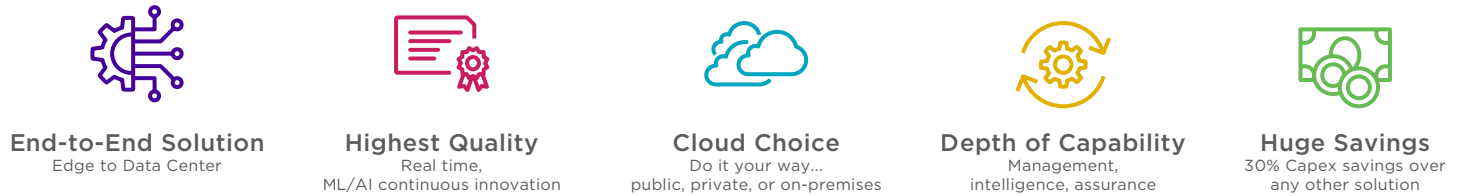Deployment options include Public Cloud, Private Cloud, and a Local Cloud solution.

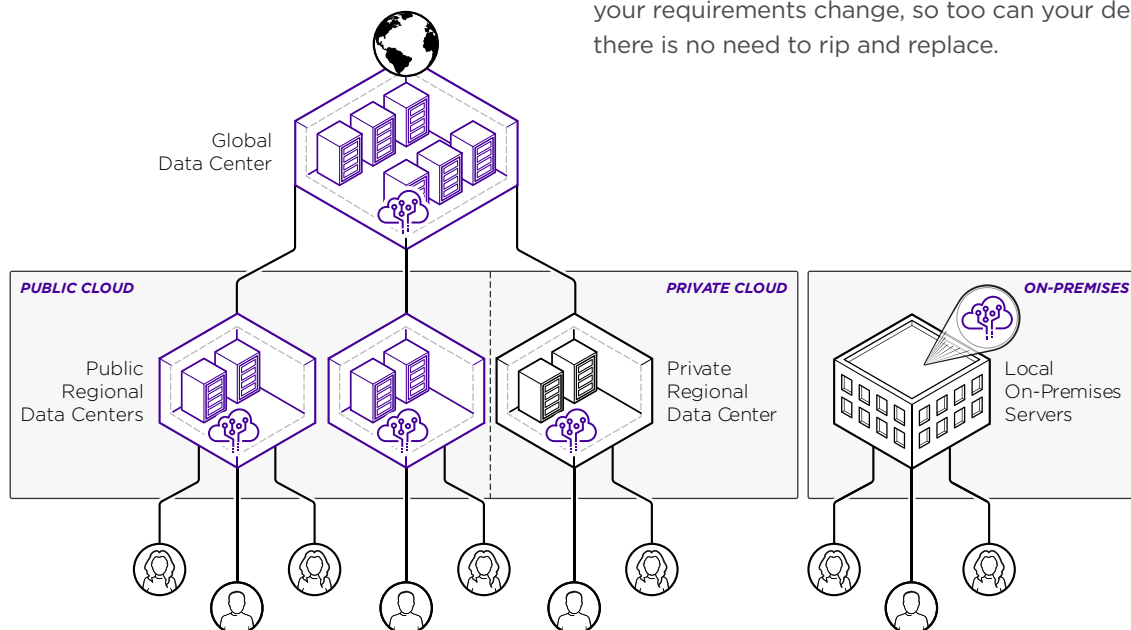| End-to-End Solution	Highest Quality	Cloud Choice	Depth of Capability	Huge Savings
Edge to Data Center	Real time, ML/AI continuous innovation	Do it your way… public, private, or on-premises	Management, intelligence, assurance	30% Capex savings over any other solution

Figure 1: The ExtremeCloud Difference

Deployment Choices

Extreme offers three cloud deployment options – Public, Private or On-Premises – that support one goal: to provide you with maximum flexibility, continuous innovation, and a consistent user experience. More so, our 100% software-centric architecture is Cloud-Hosting agnostic, supporting AWS, Google, MSFT and more.

- **Public Cloud:** Extreme provides access to a hosted service which removes infrastructure management and costs, provides data privacy and protection, unmatched reliability, and continuous delivery of innovations.

- **Private Cloud:** Private Cloud: For businesses who want or need to isolate management services in their own controlled environment, Extreme packages ExtremeCloud IQ into a private cloud offering which enables the same services as the public cloud (e.g. ML, AI, data stores etc.) all hosted within customers' or partners' private cloud instance.

- **On-Premises:** The on-premises option provides Extreme's cloud service in a format which can be hosted on-premises at your site.

Regardless of which option you choose, ExtremeCloud IQ offers the same capabilities and feature sets. More so, as your requirements change, so too can your deployment – there is no need to rip and replace.

Global Data Center

PUBLIC CLOUD

PRIVATE CLOUD

ON-PREMISES

Public Regional Data Centers

Private Regional Data Center

Local On-Premises Servers

Your Network. Your Way. Complete Solution Flexibility with ExtremeCloud IQ™

Through value-based licensing/SaaS tiering, Extreme Networks is making it even easier for you to grow as you go, both in a technical and commercial sense. We offer the most flexible, feature-rich, application tiers tailored to every business, budget, and IT needs, that delivers the management, intelligence and assurance your business requires.

	ExtremeCloud™ IQ Connect	ExtremeCloud™ IQ Navigator	ExtremeCloud™ IQ Pilot*	COMING SOON ExtremeCloud™ IQ Co-Pilot*
Availability	PUBLIC	PUBLIC	PUBLIC PRIVATE LOCAL	PUBLIC PRIVATE
Feature Set	Free device management for access points, switches, and routers	**EVERYTHING IN CONNECT, PLUS:** Additional management functions for third party and non-native cloud devices	**EVERYTHING IN NAVIGATOR, PLUS:** Advanced infrastructure management, reporting, and remediation tools	**EVERYTHING IN PILOT, PLUS:** Explainable machine learning derived insights and intelligence. Algorithmically detected anomalies:
Unique Features	• Device onboarding • Guided Configuration • Centralized Management • Wi-Fi Planner • Basic Monitoring Tools • Essential Security	• Application Visibility • SSH Proxy • Web Proxy to WiNG Controller • Web Proxy to Extreme Campus Controller	• Advanced Topology View • Troubleshooting Heuristics • Contextualized Optimization • Role Based Profiling • Advanced 360º Reporting • Comparative Analytics *only available for cloud native devices	• Device Health • Device Uplink Efficiency • PoE Reliability • Wi-Fi Capacity • Wi-Fi Efficiency • Traffic Patterns *only available for cloud native devices

- **ExtremeCloud IQ Pilot** is the primary deployment mode for ExtremeCloud IQ, and is targeted at organizations that require enhanced policy enforcement, visibility, reporting, and advanced configurations. It is a simple and seamless upgrade from Connect to Pilot. Pilot delivers configuration and management of infrastructure devices at scale including advanced policy, advanced segmentation, advance troubleshooting, advanced guest, advanced SSH, etc.

- **ExtremeCloud IQ Navigator** is targeted at organizations that have deployed the WiNG Wi-Fi controller based solution. It provides enhanced policy enforcement, visibility, reporting, and advanced configurations. It is a simple and seamless upgrade from Connect to Navigator. Navigator delivers configuration and management of WinG infrastructure systems at scale including advanced policy, advanced segmentation, advanced SSH, etc.

- **ExtremeCloud IQ Connect** is our base level tier. It provides subscription-free cloud management for supported devices, enabling organizations to deploy enterprise-grade connectivity with basic network management.

- **ExtremeCloud IQ Co-Pilo**t unlocks additional explainable machine learning (ML) and artificial intelligence (AI) tools. Co-Pilot constantly scans, compares, and computes network data to alert IT Administrators and recommend actions to mitigate issues or anomalies before they result in a disruption of service. Co-Pilot's cloud-agnostic ML/AI capabilities automatically score and rank the potential impact of anomalies, thus, simplifying & facilitating troubleshooting and customer resolution. Spend less time fixing your network, and more time on business-critical productivity and essential activities.

ExtremeCloud IQ Essentials

ExtremeCloud IQ Essentials provides four key applications. WIPS, Location services, IoT, and Guest management, enable organizations to take advantage of an all-in-one platform for wired and wireless management, business insights, location tracking, wireless security, seamless IoT onboarding and guest access, and guest access through a single user interface simplifying network management while infusing network and business insights.

ExtremeGuest™

ExtremeGuest is a robust and comprehensive guest engagement solution that enables managers and network operators to use analytical insights for a deeper dive into how their guest networks are utilized. For example, knowing how many customers use the guest network, how often they visit, and how much time they spend on the network are all metrics that can be measured through ExtremeGuest. Analytics of social networking behavior of customers can be used to increase patronage and expand brand exposure.

ExtremeAirDefense™

ExtremeAirDefense simplifies the protection, monitoring and compliance of your Wireless LAN networks. ExtremeAirDefense continuously safeguards the network from external threats 24x7x365 and notifies IT staff when attacks occur, enabling an immediate response. Using existing infrastructure with AirDefense, you can protect your air waves from unwanted behavior. It is deployed as a set of access points serving as sensors to monitor the airwaves together with this application. Sensors can be access points configured in radio share or dedicated sensing modes and can also be used as overlay security network in any environment. Sensors can be deployed as either dedicated sensors or in radio-share mode.

ExtremeIoT™

ExtremeIoT is a simple IoT security solution that is designed to protect high risk, wired IoT devices. Through the application of security profiles, it controls IoT device attachment and access to the network. It locks down IoT communications to only what's authorized, blocking everything else. ExtremeIoT provides an easy to use interface for onboarding IoT devices securely. It reduces the effort of IT departments by using security profiles and a separate onboarding portal that non-it personnel can use to bring IoT devices onto the network securely, protecting the network from vulnerable smart devices.

ExtremeLocation™

Location services are crucial in helping enterprises personalize customer engagement and enhance operational efficiencies. ExtremeLocation is a resilient and scalable cloud-driven solution, that provides enterprises powerful multi-tier location services across all sites. Supporting Wi-Fi and/or BLE technologies, enterprises can monitor workflows and assets, in real-time or historically, to improve their overall operations and efficiency. ExtremeLocation provides granular location accuracy resolution to support diverse industry-specific use cases. For example, retailers can track new and repeat visitors, engagement times and associates or asset locations, to provide a contextual-based personalized experience to their customers. Healthcare providers may view real-time dashboards and monitor trends of users and assets, to deliver enhanced patient care.

Product Specifications

Simplified Deployment
- Customer self-service sign-up
- Guided workflow for network policy deployment
- On-screen step-by-step guided configuration
- RF planner with map import and export
- Design with simulated APs on RF Planner map, then seamlessly swap these for real APs when deployed
- Devices automatically connect to ExtremeCloud IQ for provisioning
- Devices auto-provision with network policy and firmware udpates

Centralized Configuration
- Guest Access functionality
- Device templates for switches, routers and APs
- Act as RADIUS server or RADIUS proxy, and as DHCP server
- Centralized view of all configuration objects
- Ability to bulk edit device properties
- Ability to schedule firmware upgrade
- Command Line Interface (CLI) access to Extreme devices
- Active directory/LDAP
- IPv6 support
- Syslog and SNMP server configuration
- Auto-provisioning
- Configuration audit, backup, restore, import and export
- Support for Extreme VPN gateway (VG-VA)
- Multi-tenant capability: supports multiple virtual organizations

Centralized Policy Management

- Device classification by location and timezone
- Customer application definition
- Client classificaion by location, OS type, MAC address
- Multiple user profiles for each SSID
- Time-based firewall and QoS policy
- Application, network and MAC layer firewall policy rules
- WIPS policy for rogue AP detection and mitigation

Security and Privacy

- ISO/IEC 27001 certified for Information Security Management Systems (ISMS)
  Note: ISO-27017 and 27701 to be added in future release
- Role-based access control
- Customer and network data is private and secure
- No customer data traverses ExtremeCloud network
- SSO for ExtremeCloud™ IQ administrators via SAML
  Note: Only supported in Public Cloud, not supported on IQVA
- Optional multi-factor authentication with Google Authenticator for administrators
- EU General Data Protection Regulation (GDPR) features including:
  - Search for, download and delete personal data for specific users
  - Creation of reports to document the above actions

Dashboard

- Graphical widgets and status cards with drill-down capabilites
- Time-range slider on dashboard for historical view
- 360˚ views of Extreme network policies, AP, client devices, users and apps
- Global search function by network policy, MAC address, serial number, user, hostname or application name
- Unlimited retention of historical data for monitoring and reporting usage
- Interactive Network Summary Report with easy sharing
- Savable contextual filters by location, SSID, policy, user, profile and client OS type
- Comparitive Analytics to anonmously compare operational and performance metrics against other cloud customers of a similar size and industry

Guest Access

- Onboarding and management of visitor and employee personal devices (BYOD)
- Provides multiple onboarding workflows via Captive Web Portal, Kiosk app and Guest Check-In applications
- Private PSK (PPSK), 802.1X (RADIUS) and PSK authentication
- Supports 3rd party and customized CWPs including HTML upload for added deployment flexibility

Troubleshooting

- Client 360˚ behavioral analysis; real-time and historical network performance monitoring and optimization
- Help-desk optimized interface with problem summary and suggested remedy
- Dedicated Helpdesk user role
- Real-time troubleshooting with probe messages and stage filters
- Historical troubleshooting with automatic issue detection
- Mark issue resolved or escalate issue with email notification
- Built-in Command Line Interface (CLI) and remote SSH
- RADIUS test
- AP technical data download
- VLAN probe tool for simplified troubleshooting of the wired network
- Optional packet capture analysis with partner solution (CloudShark)

Monitor

- WIPS history report
- Drill-down capability from client list to client 360° view
- Device list with rich utilities for advanced configuration and investigation
- Real-time client list with SNR, RSSI, data usage and connection status
- Savable and reusable filters shared across dashboard and monitor
- Alarm and event lists with historical and real-time data
- PCI DSS 3.2 compliant reporting
- Rogue AP and rogue client monitoring
- Real-time data for connection clients and users
- Google Maps integration and navigation with floorplan upload capability

Supported Languages

- English, German, Spanish, French, Italian, Japanese, Korean, Portugese, Chinese

Reliability

- Data centers with SOC Type 1 compliance (formally SAS 70 and/or SSAE 16), Type 2 and 3 compliance
- High availability with disaster recovery and redundancy
- 99.99999% Uptime SLA (excluding maintainance windows)
- Scheduled backups
- 24x7 monitoring Warranty

Security and Operation

- Accounts are password protected and accessed via secure SSL

- Management traffic is encrypted and restricted using industry-proven CAPWAP protocol over HTTPS

- Out-of-band operation ensures no customer data traverses Extreme's Cloud Services

- Single-Sign-On (SSO) to ExtremeCloud IQ for administrator accounts

- Multi-Factor authentication with Google Authenticator for administrator accounts

- Multi-tenant architecture with secure account separation

- Centralized monitoring and management

- Integrated RBAC to delegate select ExtremeCloud IQ roles and permissions to different administrators

- VAR and partner management capabilities including account provisioning and maintenance

- ExtremeCloud IQ connectivity does not impact network operations servicing end-users

Ordering Information

ExtremeCloud™ IQ Subscriptions

Category	Model Number	Model Description
ExtremeCloud IQ Pilot Subscription	XIQ-PIL-S-C-EW	ExtremeCloud IQ Pilot SaaS Subscription and EW SaaS Support for one (1) device (1 year).
ExtremeCloud IQ Pilot Subscription	XIQ-PIL-S-C-PWP	ExtremeCloud IQ Pilot SaaS Subscription and PWP SaaS Support for one (1) device (1 year).
ExtremeCloud IQ Pilot Subscription	XIQ-PIL-S-OP-EW	ExtremeCloud IQ Pilot On-Prem Subscription (RTU License), EW SW Support for one (1) device (1 year).
ExtremeCloud IQ Pilot Subscription	XIQ-PIL-S-OP-PWP	ExtremeCloud IQ Pilot On-Prem Subscription (RTU License), PWP SW Support for one (1) device (1 year).
ExtremeCloud IQ Pilot On-Prem Software	XIQ-PIL-VA-DL	ExtremeCloud IQ Pilot SW, delivered via download. Can be used with XIQ On-Premises Subscription SKU or XIQ Perpetual SKUs. One time buy.
ExtremeCloud IQ Pilot On-Prem Perpetual License	XIQ-PIL-P-OP	ExtremeCloud IQ Pilot On-Prem Perpetual License On-Premises for one (1) device. Cannot be used with SaaS.
ExtremeCloud IQ Navigator Subscription	XIQ-NAV-S-C-EW	ExtremeCloud IQ Navigator SaaS Subscription EW SaaS Support for one (1) device (1 year).
ExtremeCloud IQ Navigator Subscription	XIQ-NAV-S-C-PWP	ExtremeCloud IQ Navigator SaaS Subscription PWP SaaS Support for one (1) device (1 year).

Warranty

As a customer-centric company, Extreme Networks is committed to providing quality products and solutions. In the event that one of our products fails due to a defect, we have developed a comprehensive warranty that protects you and provides a simple way to get your product repaired or media replaced as soon as possible.

Software warranties are ninety (90) days and cover defects in media only. For full warranty terms and conditions please go to extremenetworks.com/support/policies.

Service and Support

Extreme Networks provides comprehensive service offerings that range from Professional Services to design, deploy and optimize customer networks, customized technical training, to service and support tailored to individual customer needs. Please contact your Extreme Networks account executive for more information about Extreme Networks Service and Support.

Additional Information

For additional technical information on ExtremeCloud IQ, please go to extremenetworks.com/extremecloud-IQ.