ExtremeCloud IQ CoPilot

## Highlights

Improving the End User Experience

- Anomaly detection enables administrators to proactively identify problems and provides recommendations to correct them before they impact end users.
- Connectivity experience summarizes the client's experience into a single quality index score to easily track and identify issues.

Enhancing Operational Efficiency

- Explainable ML makes the derivation of insights transparent, so administrators can trust the recommendations.
- Dynamic baselining improves the context and accuracy of anomaly detection.
- Analysis provides a common understanding of information to foster collaboration and reduce resolution time.

Reducing Business Risk

- Proactive alarms and alerts reduce the risk of minor issues becoming major outages.
- Unique Networking Digital Twin capability facilitates testing of configurations and devices before they're deployed.
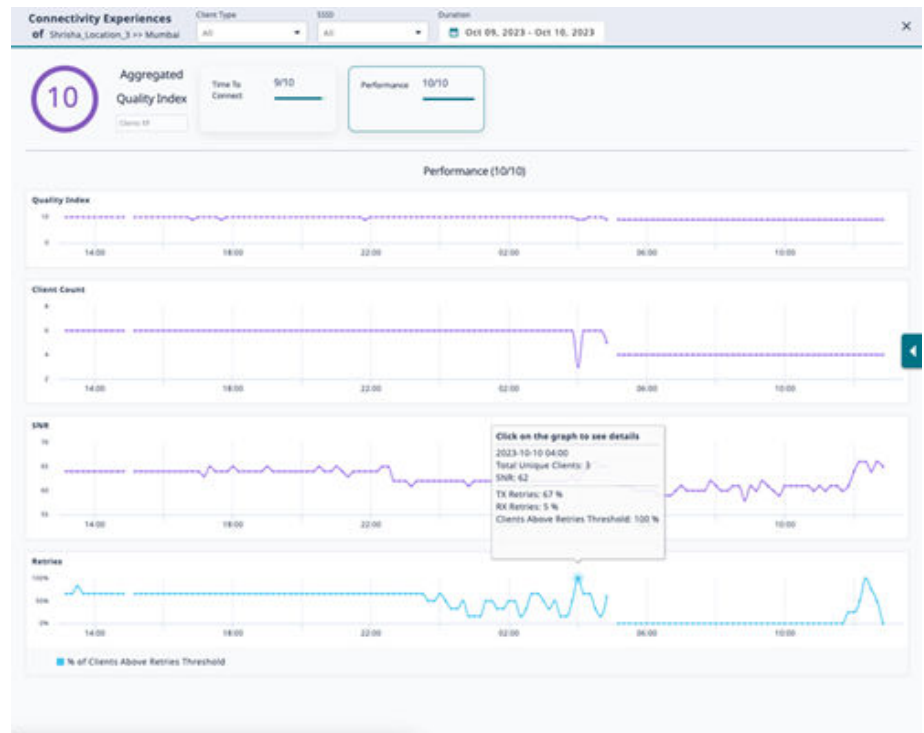
The increasing challenges of supporting hybrid workforces, new business services at the edge, and digital transformation are straining IT staff. Teams are actively looking for ways to make life easier for network admins to reduce trouble tickets and provide more efficient ways to resolve problems while ensuring SLAs and enhancing user experiences.

Most IT organizations are adopting artificial intelligence for operations (AIOps) as a way of addressing this complexity. The ExtremeCloud™ IQ CoPilot license tier builds on the extensive cloud-based network management capabilities of ExtremeCloud IQ offered with the Pilot license tier. It provides enhanced AIOps to help teams to be more data-driven and proactive. Time-consuming IT tasks are replaced with machine learning (ML) algorithms and derived insights. Anomaly detection capabilities help proactively identify problems before they impact end users and business services. CoPilot reduces the noise so users can focus on relevant insights and recommends corrective actions.

Improving the End User Experience

CoPilot leverages innovative ML technologies to analyze and interpret millions of network and end user data points, from the edge to the data center. The anomaly detection capability is implemented at multiple levels starting at the local device, installed location, associated devices, and across multiple sites where applicable. It constantly scans, compares, and computes network data from all relevant sources to define dynamic baselines, identify outliers, and provide the necessary context. Detection models are continuously calibrated against randomly injected negative test cases to reduce false positives.

Ensuring the end user experience requires refining vast amounts of data and status into easy-to-understand metrics. The Connectivity Experience feature summarizes the client's experience into a single quality index score to easily track, identify, and troubleshoot connectivity issues.

Enhancing Operational Efficiency

Saving time on daily operations requires identifying issues proactively. The anomaly detection capabilities in CoPilot look for patterns ahead of time to identify the anomalies that matter, and it recommends actions to address them early. The algorithms and data inputs are derived at multiple levels: local device, location, associated devices, and across sites. The ML even compares the performance of a customer's network with the averaged performance of other deployments using anonymized data. This provides greater context that facilitates true outlier analysis and expedites root cause analysis.

Actionable insights and recommendations are generated that help network administrators to be more proactive. Users can trust these recommendations because the ML models are designed to provide transparency, enabling an understanding of what happens in the model from input to output. The use of Explainable ML helps users to see, verify, and trust the recommendations, building confidence in the operation automation. This helps significantly lower networking operational costs by saving time.

Reducing Business Risk

Proactive alerting reduces the risk of minor issues becoming major outages. The recommendations generated by CoPilot isolate issues and identify likely root causes, so users can quickly drill down into details. This facilitates rapid analysis and problem resolution that would normally require high levels of technical expertise. The Digital Twin capability facilitates network assurance by allowing users to create a virtual copy of network infrastructure in a digital sandbox environment in the cloud. They can then assess if a new configuration or device would cause problems prior to deploying the infrastructure. This is a new level of network assurance that helps minimize potential risks.

Solution Components

The ExtremeCloud IQ CoPilot license tier is an add-on to the Pilot license tier. It leverages the centralized management capabilities of the ExtremeCloud Pilot license tier. CoPilot is a trusted digital advisor for your Extreme cloud-managed wireless and wired networks. With CoPilot, IT organizations can proactively reduce business risks and ensure the end user experience, so resources can be used more efficiently.

CoPilot includes the following advanced capabilities:

Anomaly Detection reduces the noise so users can focus on relevant data and make more informed decisions. This capability is implemented at multiple levels starting at the local device, installed location, associated devices, and across multiple sites where applicable to enable dynamic baselining. Detection models are continuously calibrated against randomly injected negative test cases to reduce false positives.

Proactive Alarms and Events reduce the risk of minor issues becoming major outages. CoPilot reduces the number of trouble tickets and escalations by looking for patterns ahead of time to identify the anomalies that matter and recommends actions to address them early.

Explainable ML algorithms are built with transparency to explain how the insights were derived, so users can trust the recommendations and automate operations with confidence. CoPilot generates understandable descriptions that enable users to see, verify, and trust the data behind every recommendation, and it provides the best options for resolution.

Connectivity Experience summarizes the client's experience into a single quality index score to easily track, identify, and troubleshoot connectivity issues. For each wired and wireless client, CoPilot processes information from all relevant metrics to define dynamic baselines, identify outliers, and provide the necessary context to remediate issues.

Mobile App (ExtremeCloud IQ Companion) allows users to monitor and access details about the network from anywhere in near real time. The app includes a comprehensive troubleshooting toolbox, helps simplify the onboarding of devices, and creates a full installation report.

Digital Twin facilitates network assurance by allowing devices to be virtually staged before deploying them, helping to reduce risk. Users can create a digital copy of network infrastructure in a digital sandbox environment in the cloud, to assess if the new configuration or device would cause problems prior to deployment. Users can test and operationalize a new network or expand network infrastructure rapidly, then push the tested changes into production.

Automated GTAC Support makes it easier to address issues quickly and efficiently. It helps users create an Extreme Global Technical Assistance Center (GTAC) case from within ExtremeCloud IQ.

ExtremeCloud IQ also provides a full suite of cloud-optimized Open APIs for developers to create third-party applications and user experiences. This includes user onboarding mechanisms, proximity-based services, presence and location analytics, and more.

Licensing

Every usage-based license comes with both a Pilot and CoPilot license and includes the following features:

	ExtremeCloud IQ Pilot	ExtremeCloud IQ CoPilot*
Deployment Options	Public, private, and ExtremeCloud Edge	Public, private, and ExtremeCloud Edge
Feature Set	Advanced infrastructure management reporting and remediation tools Additional management functions for third-party and non-cloud native devices	Premium license on top of Pilot Explainable ML derived insights and intelligence; algorithmically detected anomalies
Unique Features	• Onboarding and configuration • Comprehensive monitoring • Application visibility • Advanced topology views • Troubleshooting heuristics • Contextualized optimization • Additional automation and security with Site Engine • Role-based profiling • Advanced 360 reporting • Comparative analytics • Companion mobile app • Support for OpenAPI • SSH proxy • Web proxy to WING Controller • Web proxy to Extreme Campus Controller	• Wired/wireless AIOps • Anomaly detection • Connectivity experience • Explainable ML • Remediation recommendations • Digital Twin • Automated GTAC support

* Only available for cloud-native devices

Product Specifications

Management
• Self-service trial sign-up
• Zero configuration set-up
• Automatic license assignment
• Flexible license reassignment
• CoPilot license filters
• Proactive license expiration notifications

Dashboard
• Streamlined user experience for reduced MTTR
• Global filters for quick data retrieval
• Summary widgets for account level review of CoPilot status
• Table view for rapid data perusal
• Anomaly trends for historical data analysis

ML Capabilities
• Automatic anomaly detection
• ML enabled data correlation
• Root cause analysis

• Intelligent recommendations with Explainable AI
• Dynamic baselining
• Quality index computation
• Digital Twin

Wireless Anomalies
• Wi-Fi capacity
• Wi-Fi efficiency
• DFS recurrence
• Port efficiency
• PoE stability
• Adverse traffic patterns

Wired Anomalies
• Port efficiency
• PoE stability
• Adverse traffic patterns

Connectivity Experience
• Wireless connectivity experience
• Wired connectivity experience

Security and Privacy

- ExtremeCloud IQ cloud platform conforms to ISO/ IEC 27017 and is certified by DQS to ISO/IEC 27001 and ISO/IEC 27701 by the International Standards Organization (ISO)
- CSA STAR certified
- Role-based access control (RBAC)
- No customer data traverses ExtremeCloud network
- Restricts traffic to enterprise data
- SSO for ExtremeCloud™ IQ via SAML
- 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

Reliability

- Data centers with SOC Type 1 compliance (formally SAS 70 and/or SSAE 16), Types 2 and 3 compliance
- High availability with disaster recovery and redundancy
- Scheduled backups
- 24x7 monitoring warranty

Security and Operation

- Accounts are password protected and accessed via secure SSL
- Management traffic is encrypted and restricted using HTTPS and industry-proven CAPWAP protocol protected by DTLS
- Out-of-band operation ensures no customer data traverses Extreme's Cloud Services
- Single sign-on (SSO) to ExtremeCloud IQ
- 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 CoPilot Subscriptions

Category	Model Number	Model Description
ExtremeCloud IQ CoPilot subscription	XIQ-COPILOT-S- C-EW	ExtremeCloud IQ CoPilot SaaS subscription and EW SaaS support per device, per year (requires active XIQ Pilot SaaS subscription)
ExtremeCloud IQ CoPilot subscription	XIQ-COPILOT-S- C-PWP	ExtremeCloud IQ CoPilot SaaS subscription and PWP SaaS support per device, per year (requires active XIQ Pilot SaaS subscription)

Warranty

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

Software warranties last for 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 include professional services to design, deploy and optimize customer networks, customized technical training, and service and support tailored to individual customer needs. Contact your Extreme Networks account executive for more information about Extreme Networks service and support.

Additional Information

For additional technical information about ExtremeCloud IQ, go to the ExtremeCloud IQ webpage.