



ExtremeCloud™ IQ **Site Engine**

Visibility and Automation Across the Network

May, 2021

Networks are increasingly complex - so too is managing them



Multi-Vendor

Multi-Deployment

Multi-Cloud

Multi-Device

“What is running on my network?”

“How can I get visibility of all devices?”

“How good is the user experience?”

“How can I automate mundane tasks?”

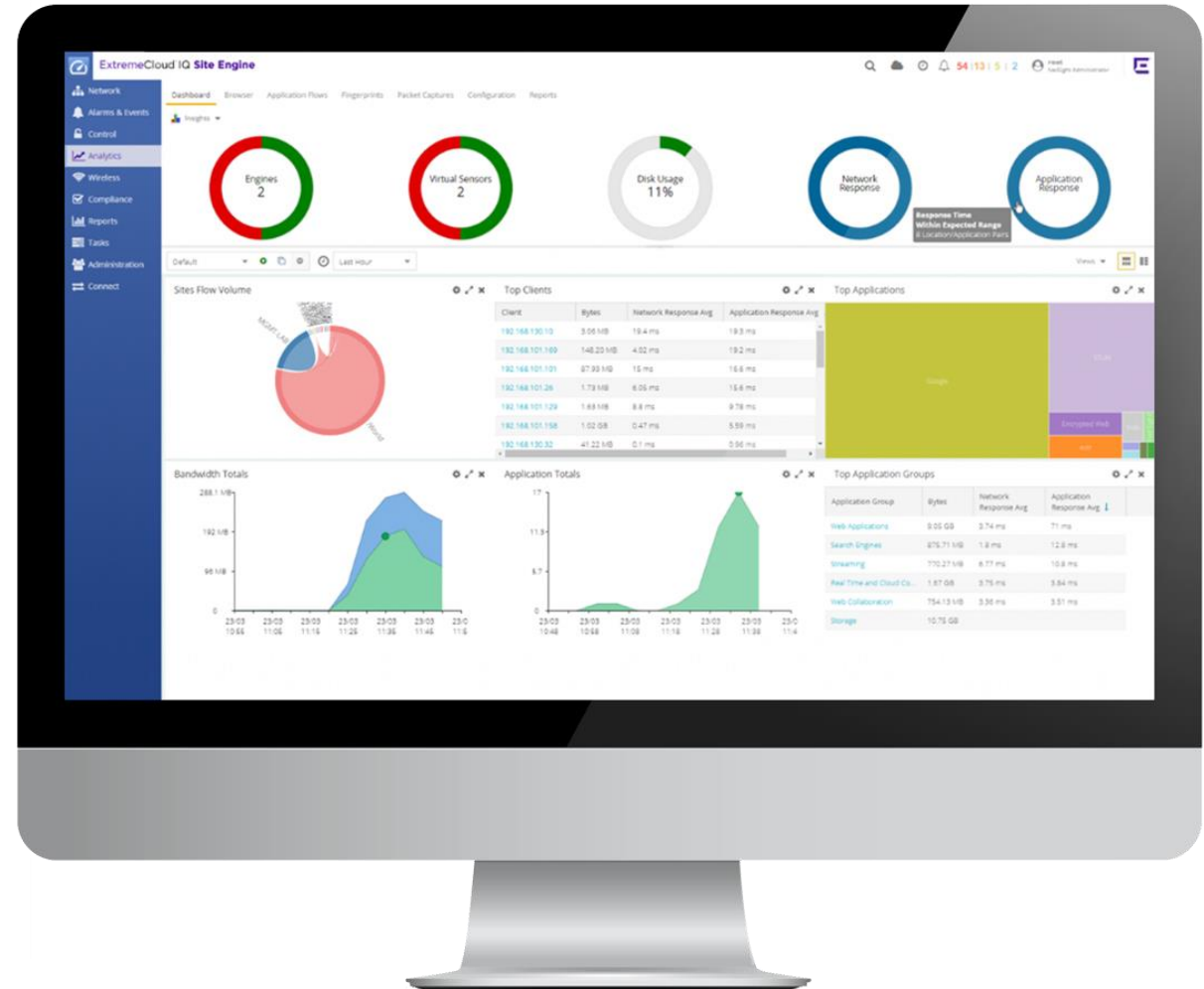
“How can I enhance security?”

“How can I make network management more effortless?”

Introducing ExtremeCloud IQ – Site Engine



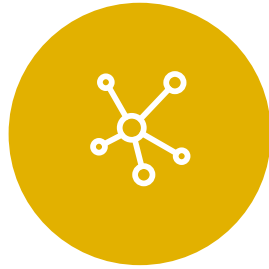
- ✓ Single Pane of Glass Management and Orchestration
- ✓ Visibility of all devices
 - ✓ Cloud Native
 - ✓ Non-Cloud Native
 - ✓ Third Party
- ✓ Deployment flexibility
 - ✓ On-Premise
 - ✓ Cloud



ExtremeCloud IQ – Site Engine Benefits



Centralized
Dashboard



Network
Management



Third Party
Management



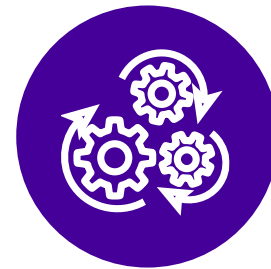
Universal
Licensing



Application
Analytics



Unlimited
Data Horizon

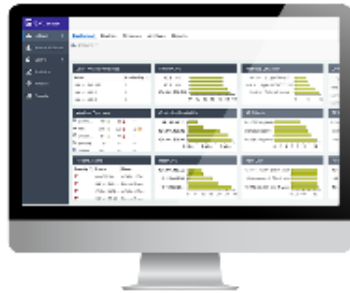


Automation
with Workflows



ML & AI
Ready

The Evolution of Extreme Management Center



ExtremeManagement



ExtremeControl



ExtremeAnalytics



ExtremeCloud IQ - Site Engine



ExtremeControl for
ExtremeCloud IQ - Site Engine



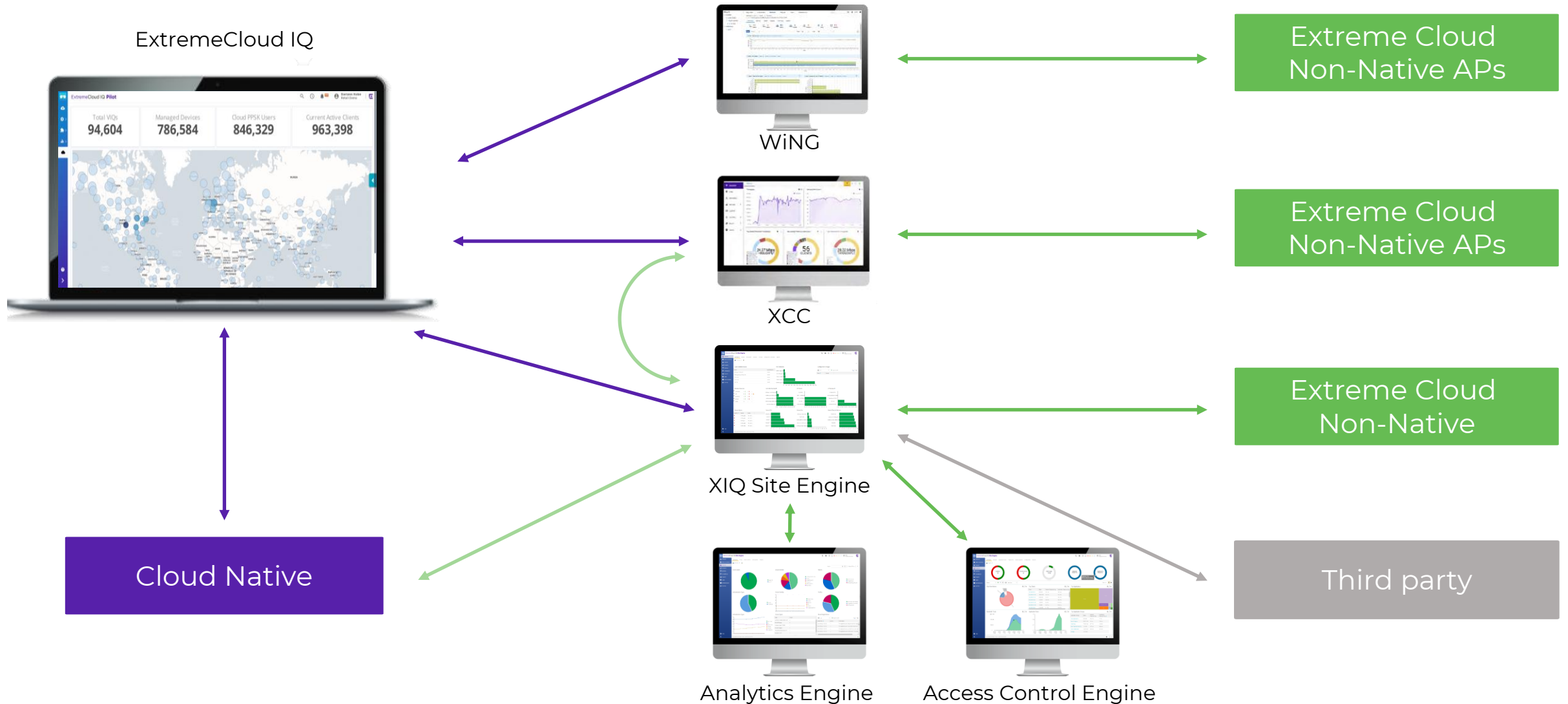
ExtremeAnalytics for
ExtremeCloud IQ - Site Engine

- Feature rich
- On-Premise management
- Non-cloud native & 3rd party devices

EVERYTHING YOU GET WITH XMC plus

- Greater flexibility: On-Premise & Cloud management
- Greater visibility: Support for ALL devices including cloud native
- Greater innovation: As a Service benefits – innovation, speed, etc
- Greater simplicity: intuitive, easy to use , centralized dashboard

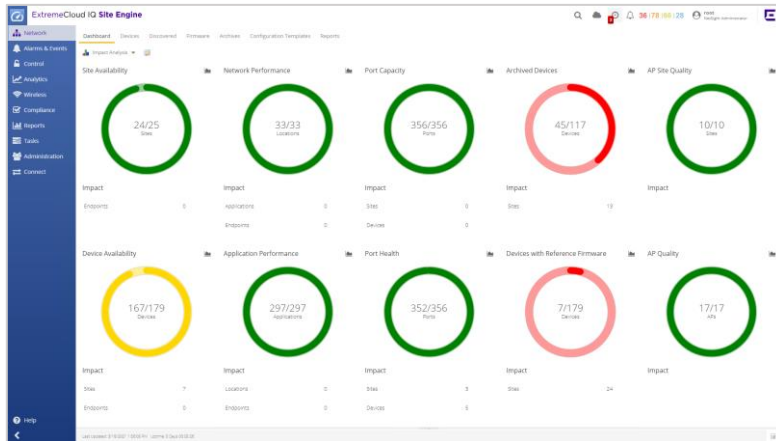
ExtremeCloud IQ Suite



Extreme Cloud IQ - Site Engine - Components

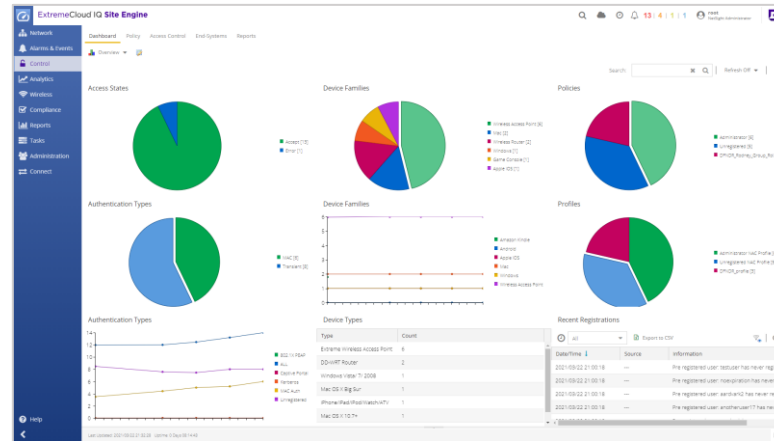


Management



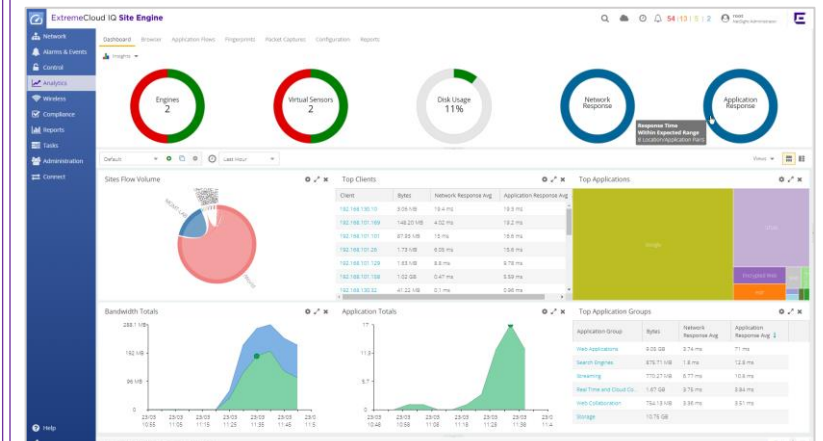
- Alarm and Event management
- Configuration & change management
- Zero touch provisioning
- Capacity planning
- Discovery & topology
- Compliance enforcement

Control



- Role-based granular network access control and priority
- Flexible assessment
- Guest & remediation portals
- User & end-system tracking
- Automated incident response

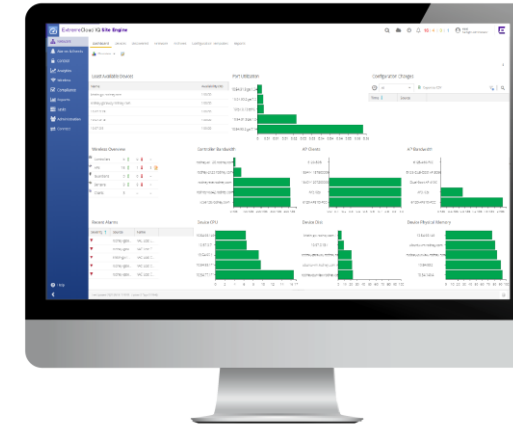
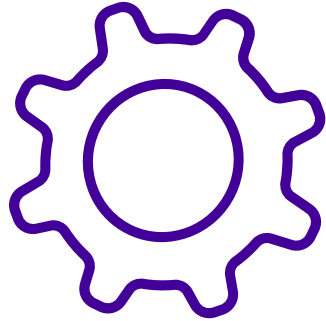
Analytics



- Layer 7 app. visibility and control
- 1,000s of fingerprints for port-independent app. detection
- Dashboards, diagnostics and troubleshooting
- Status, performance and threat reporting

Management & Automation

Much More Than Traditional Network Management



ExtremeCloud IQ – Site Engine

Traditional Network
Monitoring
(Management)



- Edge to Datacenter
- Easier Troubleshooting
- Hyper Segmentation
- Network Workflow Automation
- Device Configuration Compliance
- Partner Eco System

Simplified Provisioning, Tracking, Multi-Locations, Edge to DC



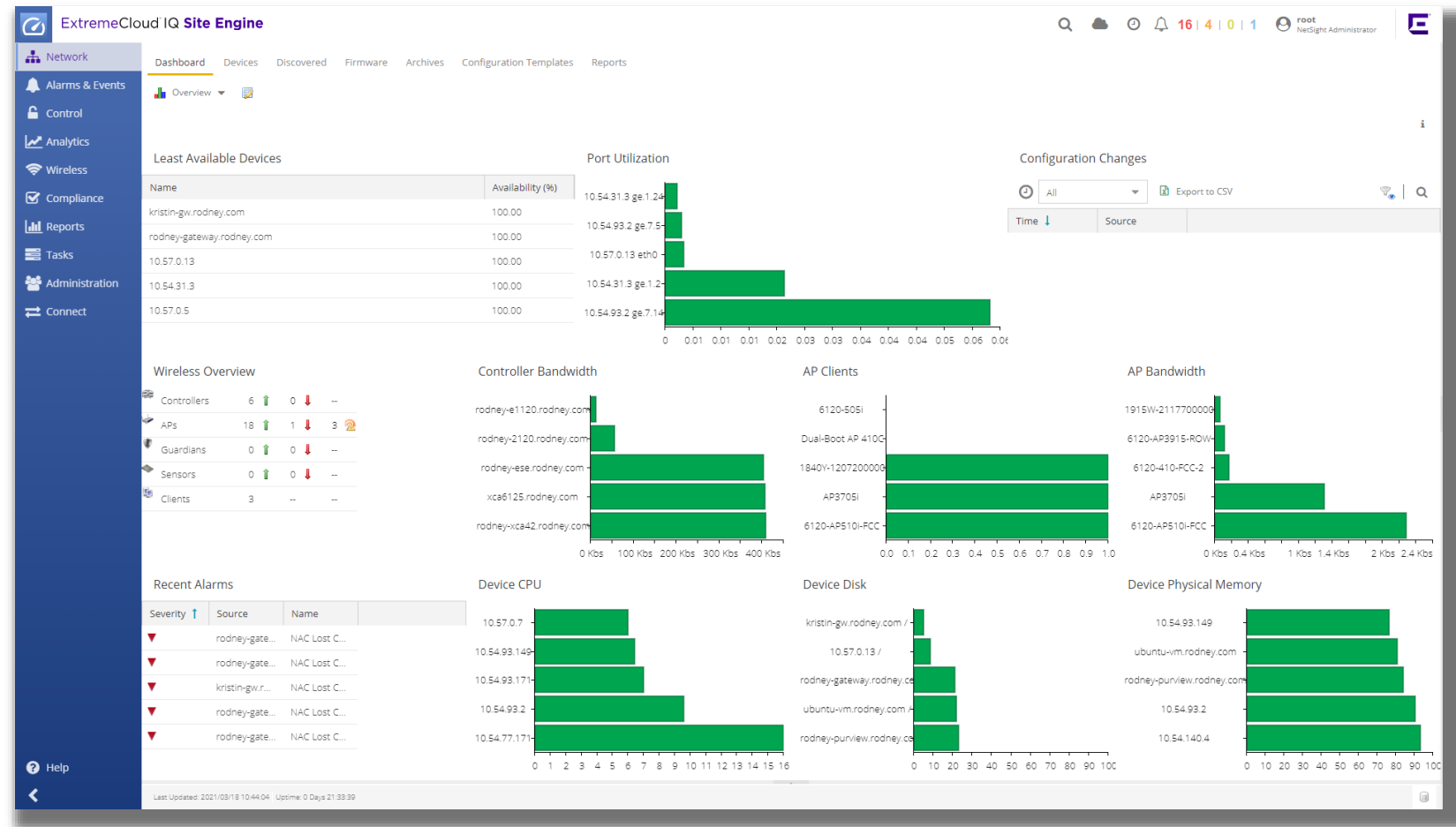
Easier to Manage

Built for managing multi-location, multi-site networks in air-gap scenarios

Organize & track your devices

Site level deployment, configuration & reporting

Site level alarm propagation - Identify sites with issues



Troubleshoot and Visualize Wireless Clients with Event Analyzer



Easier to Troubleshoot

- Use Wireless Client Events view to see very detailed events in table form
- Use Wireless Event Analyzer to visualize and understand the relations

ExtremeCloud IQ Site Engine

Dashboard Network Controllers Access Points Clients Threats Reports

Clients Client Events Event Analyzer

Start: 03/18/2021 12:00 AM Time: 15 minutes

6120-410-FCC

AP3912 Wall Plate

Date/Time ↓	Type	S...	State Description	Extended State	IP Address	MAC Address	MAC OUI Vendor	Device Family	Device Type	Source	Details	User Name	Policy	Authorizati...	Profile	Reason
2021/03/18 0:14:...	State Change		Authenticat...		10.54.93.142	28:CF:E9:64:34...		Mac OS X 1...		Wireless Ma...			DFNDR_Rod...			
2021/03/18 0:14:...	Registration		Not Authen...		10.54.93.142	28:CF:E9:64:34...		Mac OS X 1...		Wireless Ma...			DFNDR_Rod...			
2021/03/18 0:12:...	Area Change		Authenticat...		10.54.93.142	28:CF:E9:64:34...		Mac OS X 1...		Wireless Ma...			DFNDR_Rod...			
2021/03/18 0:12:...	State Change		Authenticat...		10.54.93.142	28:CF:E9:64:34...		Mac OS X 1...		Wireless Ma...			DFNDR_Rod...			

Fields: Status, Clients, Use

Page 1 of 1

Disable Event Collection

Reset

Displaying 1 - 34 of 34

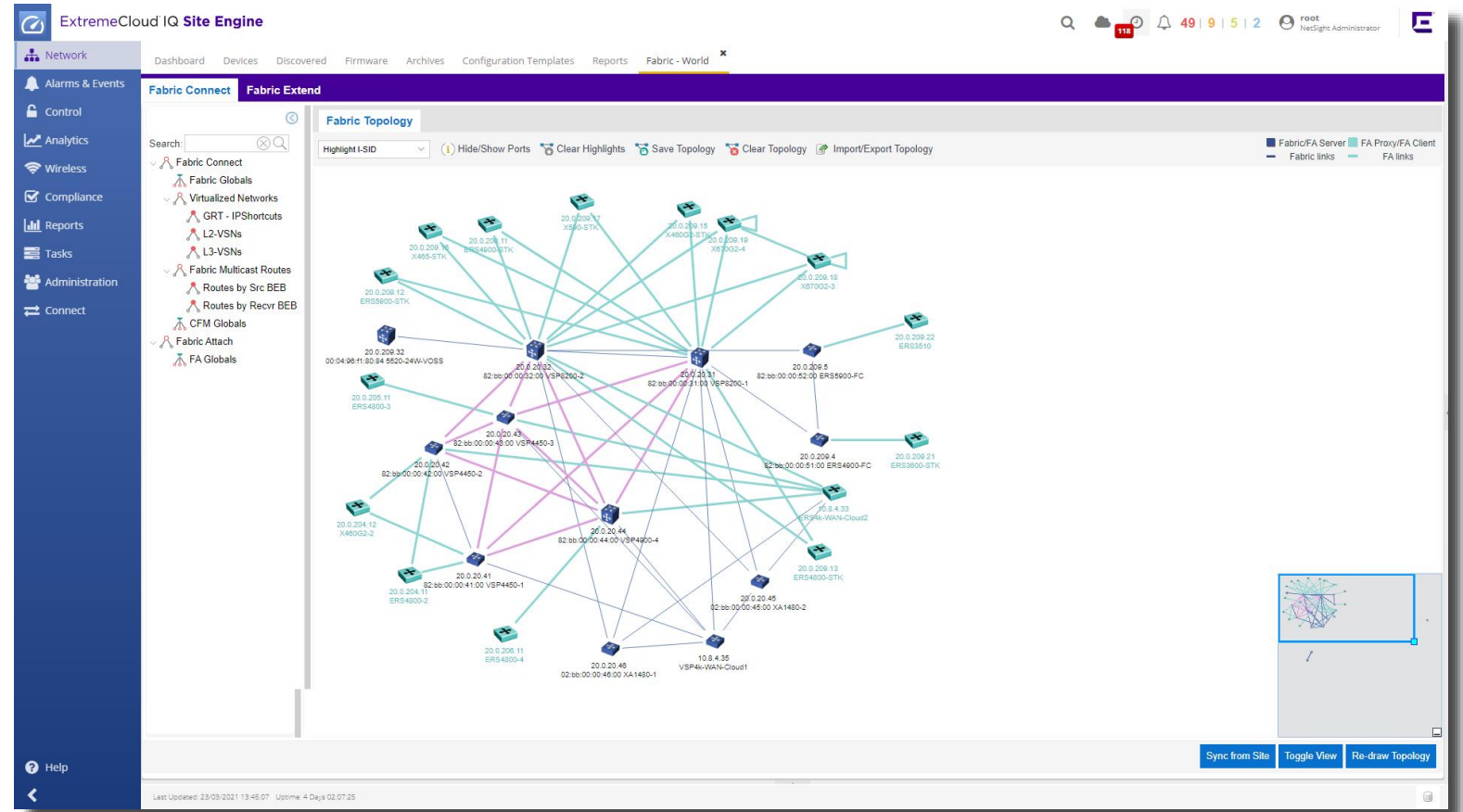
Last Updated: 2021/03/18 10:47:13 Uptime: 0 Days 21:35:39

Orchestration & Automation – Hyper-Segmentation



Easier to Secure

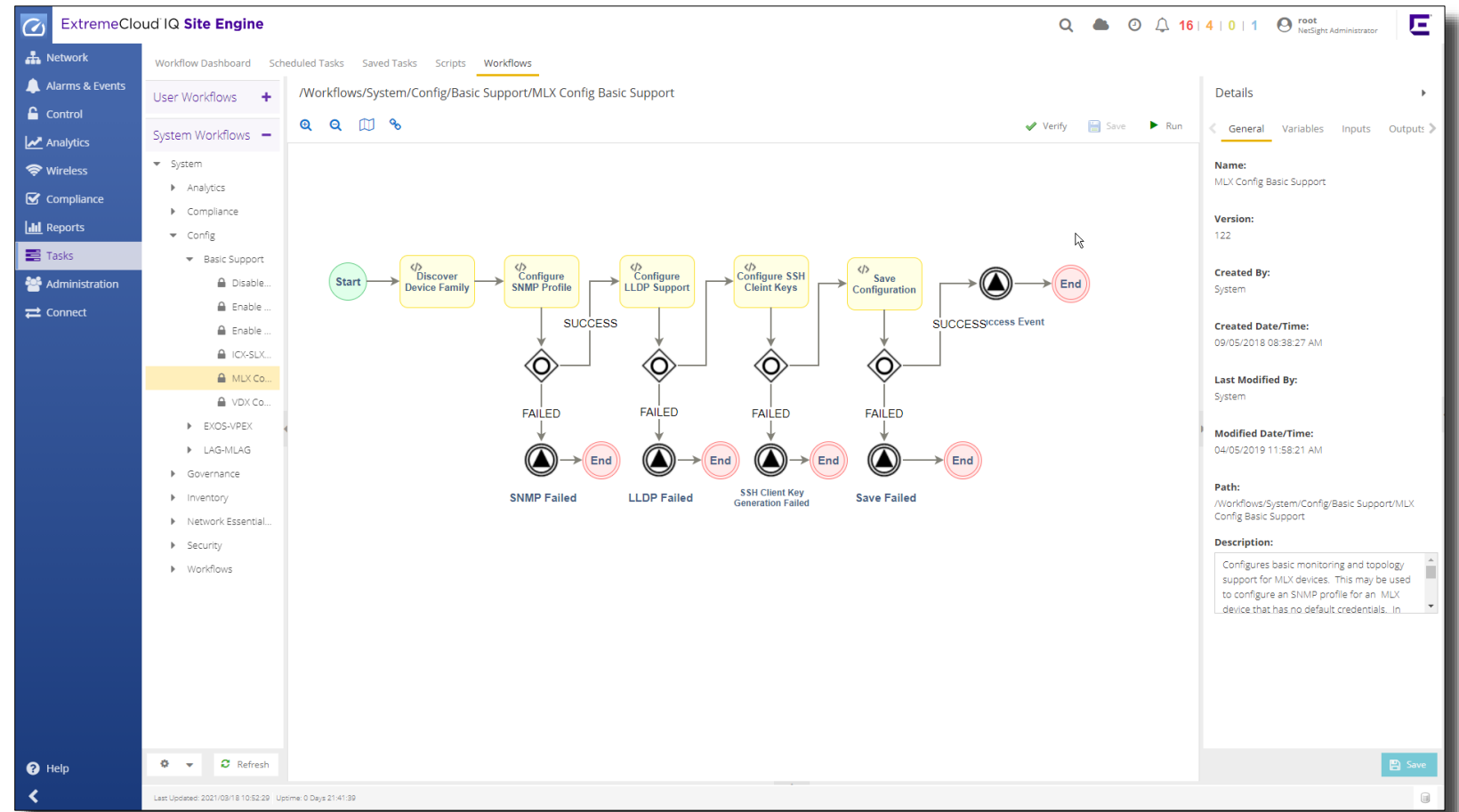
- Create stealth segments for traffic, applications, users, and workloads
- Use these hyper-segments to contain security breaches
- Automatically extend and retract hyper-segments to adjust to network changes





Automate routine tasks

- Automatically provision your entire network with secure zero touch (including SLX platform)
- Save operations time
- Eliminate human error and adjust to changes automatically

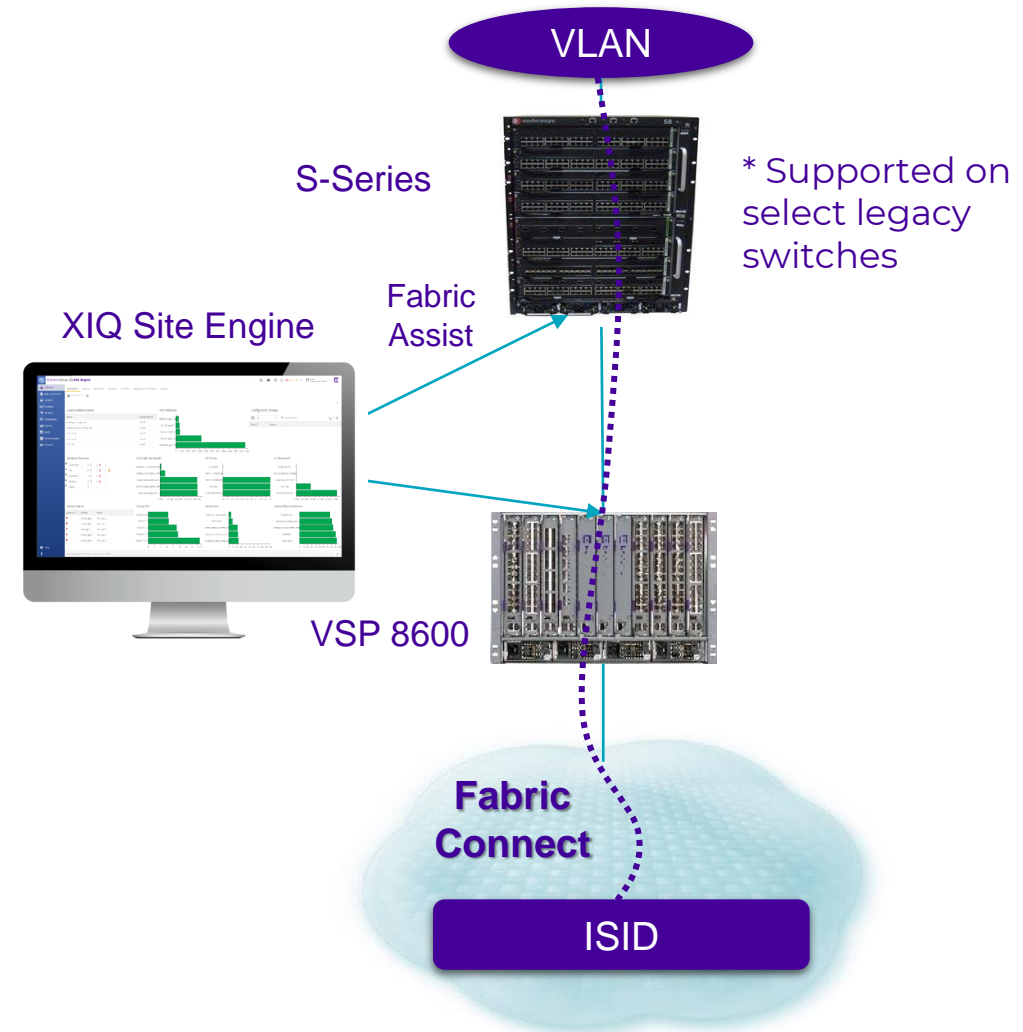


Simplified Migrations with Fabric Assist



Extend security

- Extends Fabric Connect to certified Extreme devices (that don't support Fabric Attach)
- Enables the mapping of edge devices and end-users to the virtualized fabric service
- Leverages Extreme's dynamic role-based policy to identify and securely map users/devices to Fabric Connect services

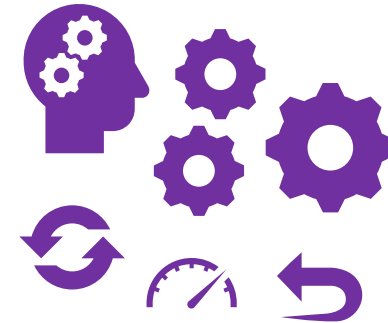


Granular Policy & Secure Access

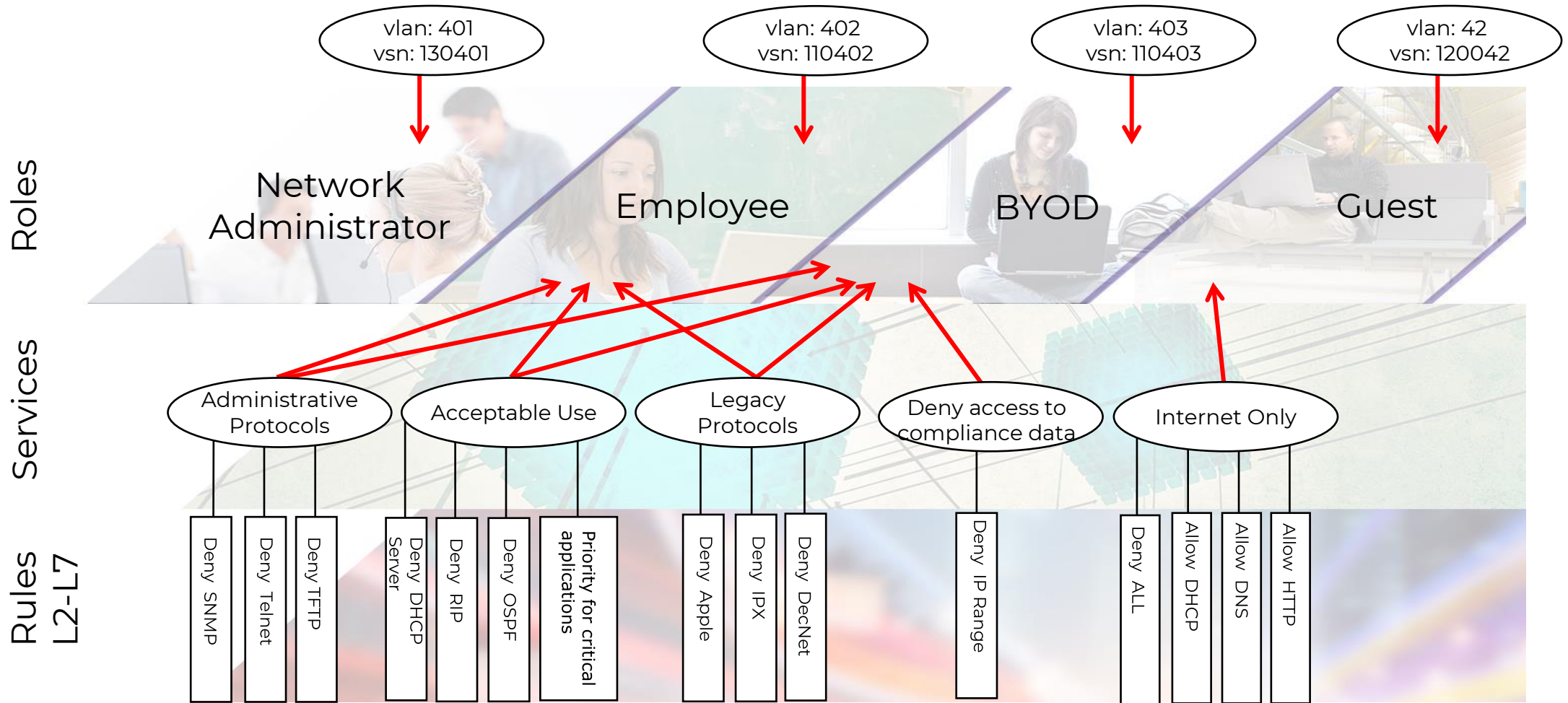
Network Security



Edge Service Automation



Role Based Policy



Granular Policy Edge Automation and Security

Granular Visibility and Control



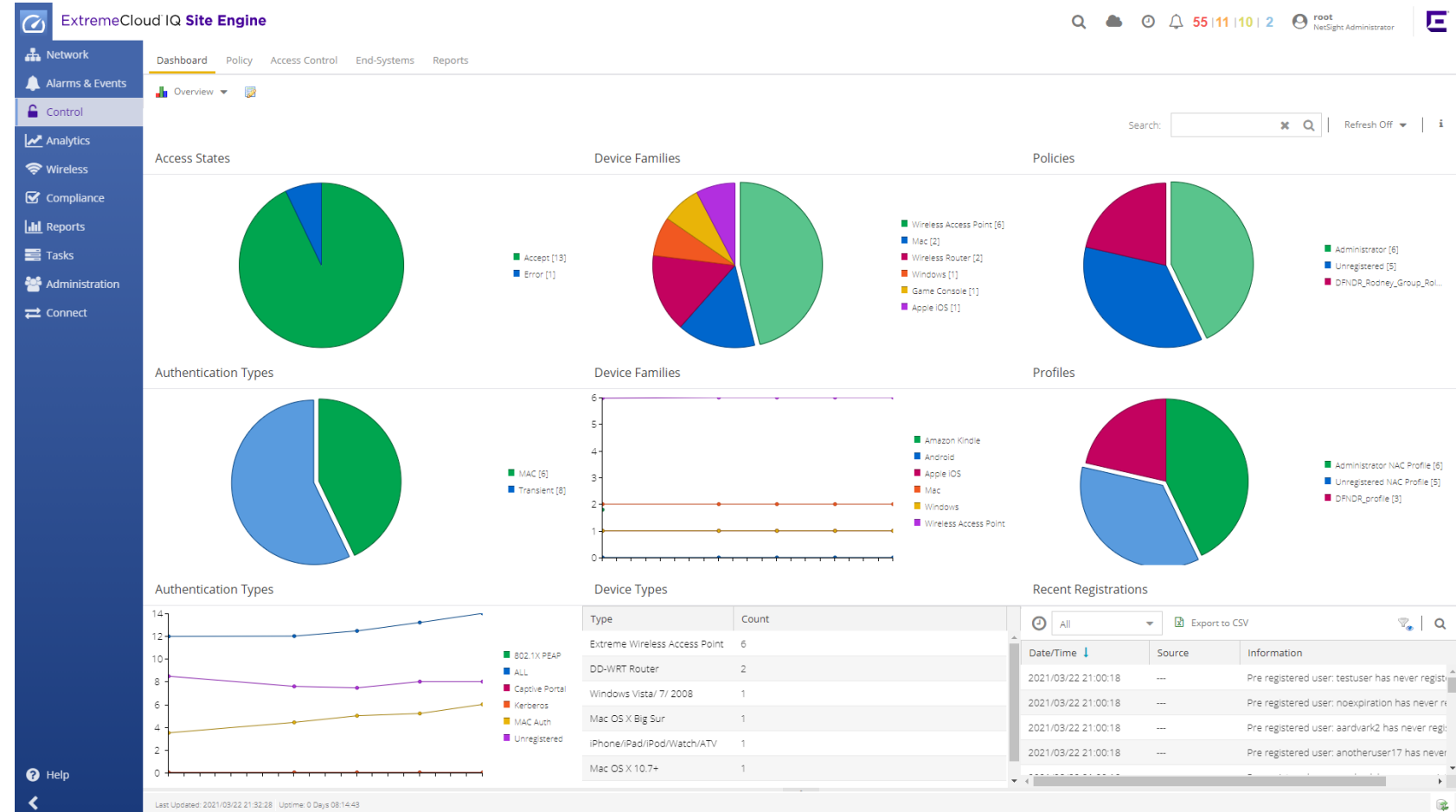
Easy to Manage

Built for managing multi-location, multi-site networks in air-gap scenarios

Organize & track your devices

Site level deployment, configuration & reporting

Site level alarm propagation - Identify sites with issues



ExtremeControl for ExtremeCloud IQ – Site Engine

Granular Visibility

Detailed information on every IP device in the network

- Physical
- Virtual
- Wired
- Wireless
- VPN

The screenshot displays the 'NAC End-System Details' interface, which provides a comprehensive overview of a device's characteristics and status. The interface is organized into several sections, each represented by an icon and connected to a central fingerprint icon that symbolizes the device's unique identity.

Access Profile (Lock icon):
User Name: CORP\estinson
AuthType: 802.1X
State: ACCEPT
Policy: Extreme-Corp
Profile: Extreme-Corp

Access Type (AP icon):
AP: 14121556085A0000
Port Alias: Extreme-Corp.
AP Port: nhsl3825iap10 (20-B3-99-D8-22-F0)

Custom Data (Document icon):
Custom 1: Phone: +1 603-952-5829

Physical Device Identity (Laptop icon):
3C:A9:F4:6F:84:88
134.141.68.217
estinson-ws6.corp.extremenetworks.com

Top Applications (Bar chart icon):
Outlook Office365 165.67 kB
LogMeIn 33.01 kB
Microsoft Sharepoint 24.94 kB
NTLMSSP 22.59 kB
134.141.68.217 20.51 kB

Device Family (Windows logo icon):
Windows
Windows Vista/ 7/ 2008

Location (Globe icon):
Zone:
134.141.104.29/nhsl3825iap10 Extreme
-Corp , 9 Northeastern Blvd Salem, NH 03079
Production
NAC Gateway: 134.141.104.82

Health (Shield icon):
Risk: NO_RISK
Total Score: 0
Last Scan: 8/18/2014 1:50:02 PM

Activity (Clock icon):
Last seen 08/18/2014 02:16:01 PM
First seen 12/16/2013 11:54:00 AM

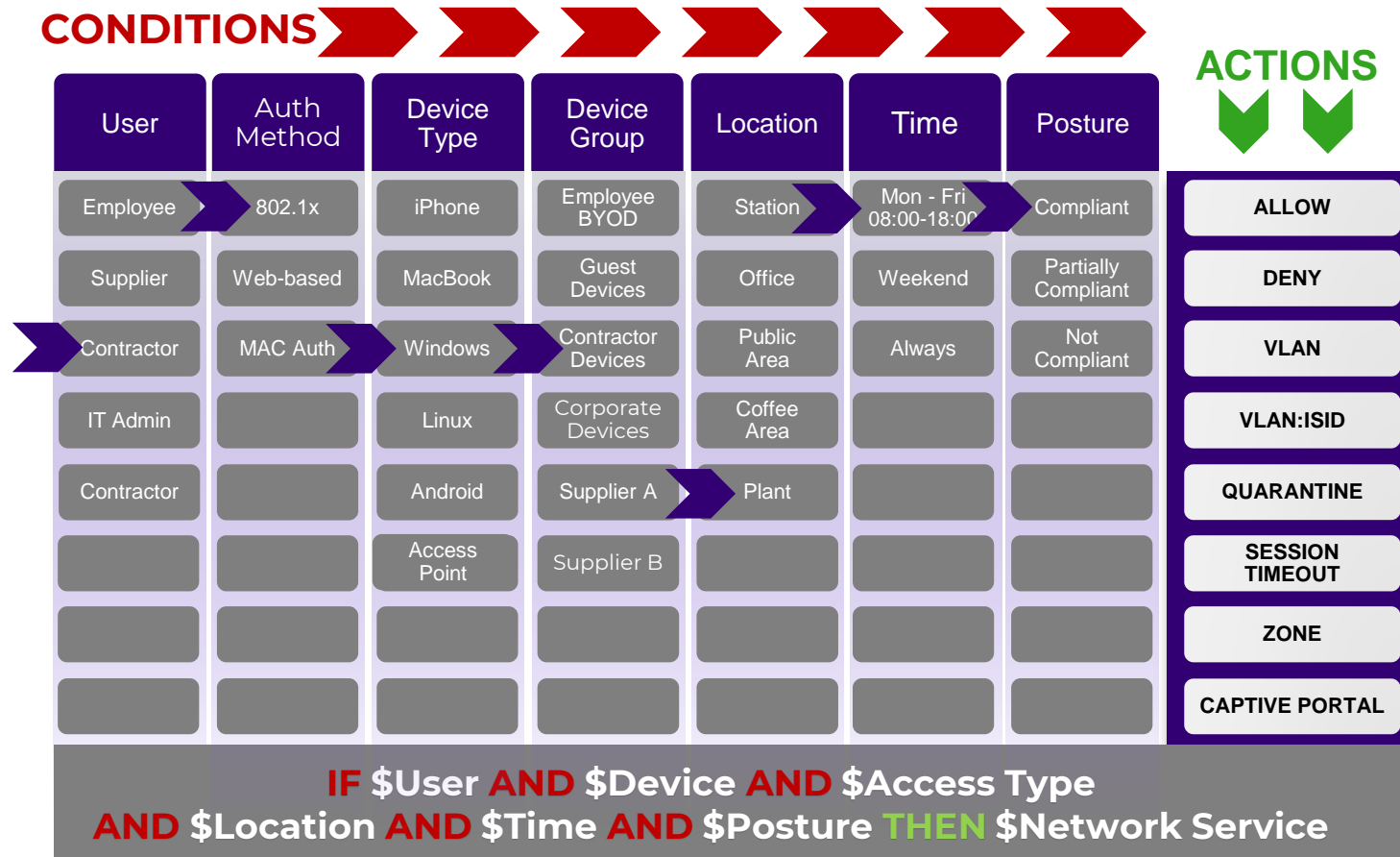
Registration (Keys icon):
State: Not Registered

Access Policy Evaluation - The Rules Engine



Principle of ExtremeControl Access Policy Rules Engine

- Same principal evaluation flow as with Firewall Rule Engine



Authorization Rules can be sophisticated

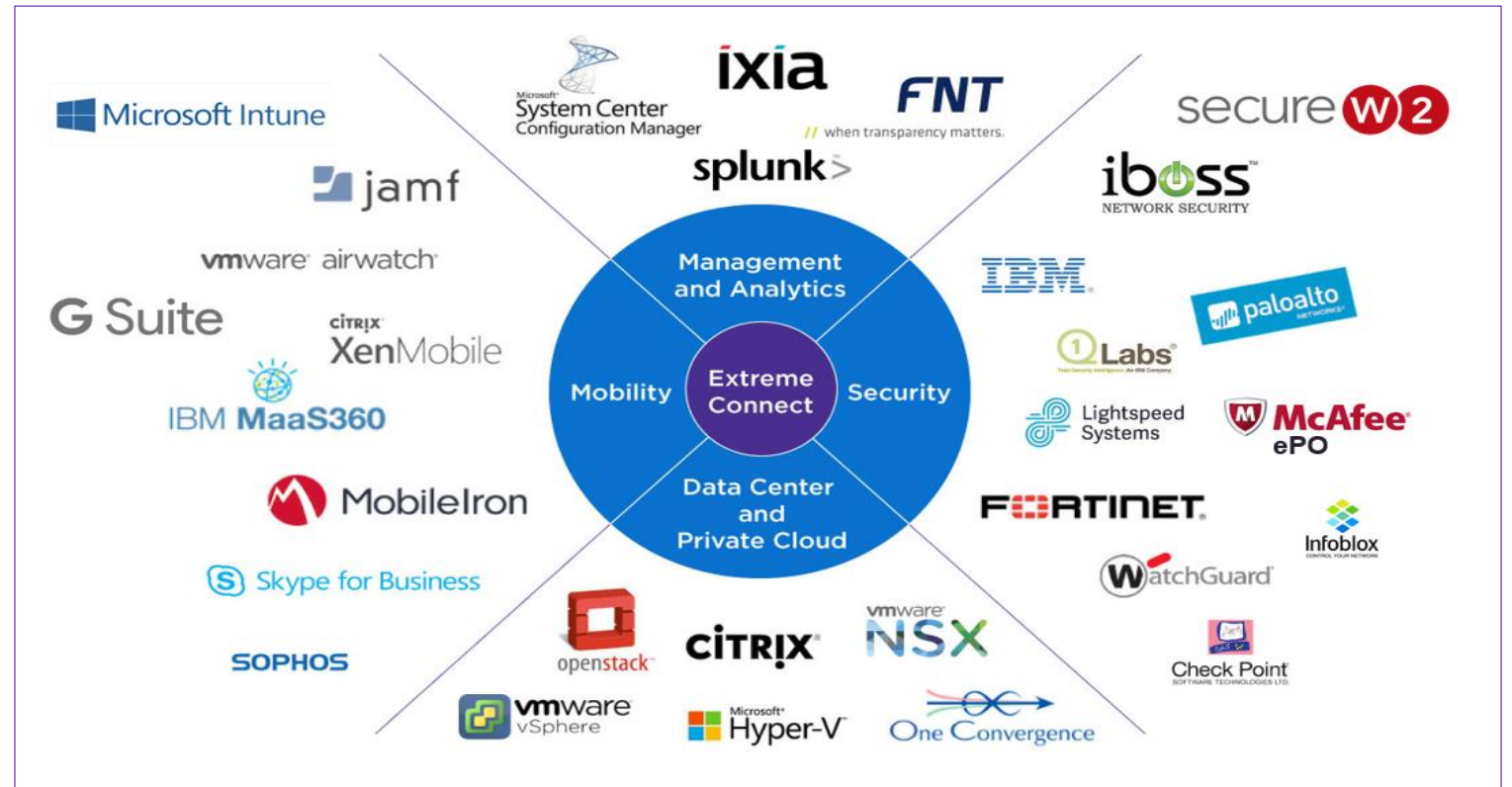
BUT

Never forget the **KISS** Rule

Third Party Integration

Solutions such as:

- NGFW
- SIEM
- CMDB
- Internet security
- EMM/MDM



Advanced Reporting and Notifications



Easy to Monitor

Advanced, customizable reports and alerts on

- authentication
- guest access
- onboarding
- device profiles
- authentication
- end-system health

The screenshot displays the 'Add NAC Notification' configuration window in the ExtremeCloud IQ Site Engine. The window is titled 'Add NAC Notification' and contains the following fields and options:

- Enable:**
- Name:** Test-Notification
- Notes:** This is a Test Notification for ExtremeCloud IQ Site Engine
- Type:** End-System
- Trigger:** Any
- Conditions:** Select Conditions... (dropdown menu)
- Actions:** Select Actions... (dropdown menu)
- Result:** Any End-System:

Four dropdown menus are highlighted with red boxes and labeled with arrows:

- Notification Type:** End-System, Registration, Health Result, End-System Group, User Group
- Notification Trigger:** Any, High Risk, Medium Risk, Low Risk, No Risk
- Notification Condition(s):** NAC Engines, Location Group, NAC Profile, Device Type Group, End-System Group, Location Group, Time Group, User Group
- Notification Action(s):** Syslog to Server(s), Access Control Events Workflow, Email, Trap Server, Execute Program, Access Control Events Workflow

The background shows the main interface with a sidebar on the left containing 'Network', 'Alarms & Events', 'Control', 'Analytics', 'Wireless', 'Compliance', 'Reports', 'Tasks', 'Administration', and 'Connect'. The top navigation bar includes 'Dashboard', 'Policy', 'Access Control', 'End-Systems', and 'Reports'. The 'Notifications' section is currently active, showing a list of notifications with columns for 'Action', 'Over...', and 'NA...'. A 'Notification Trigger' dropdown menu is also visible on the right side of the interface, listing various triggers such as 'Any', 'State Change', 'IP Address Change', 'Accept State', 'Reject State', 'Scan State', 'Any Error', 'Quarantine', 'Disconnected', 'End-System Moved', 'End-System Deleted', 'Device Type Change', 'MAC Registered', 'MAC Added To Group', 'Assessment Errors', 'MAC to IP Resolution Errors', 'License Errors', and 'RADIUS Errors'.

Visibility & Analytics

Benefits:

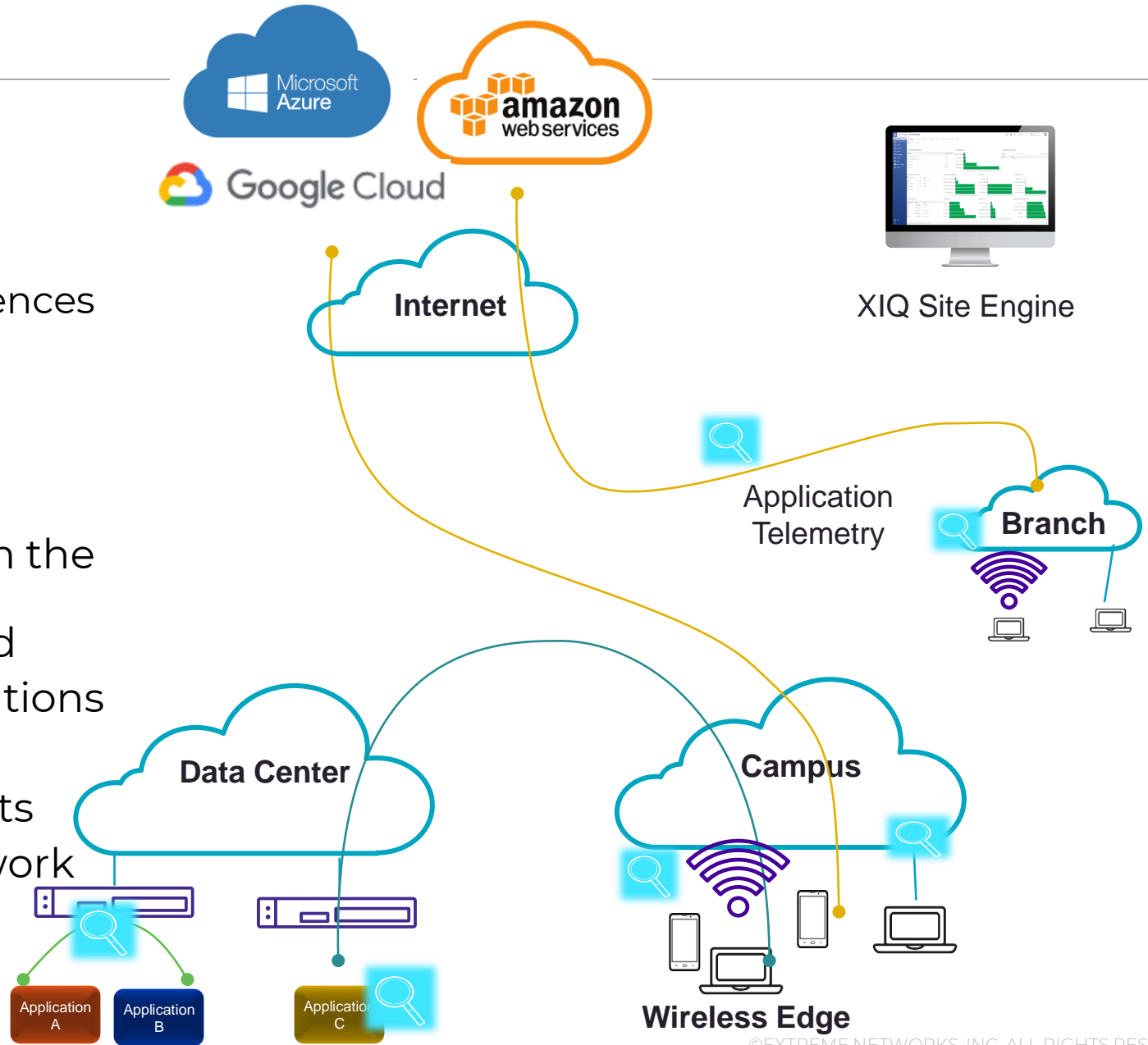
Strengthen security

Deliver exceptional application experiences

Speed up IT troubleshooting

How we do it:

- Application-level visibility from the edge to the DC virtual environments and multi-cloud
- Support for encrypted applications
- Over 10,000 fingerprints
- Real-time and historical reports
- Detailed application and network performance



ExtremeAnalytics with Application Telemetry



Key Benefits:

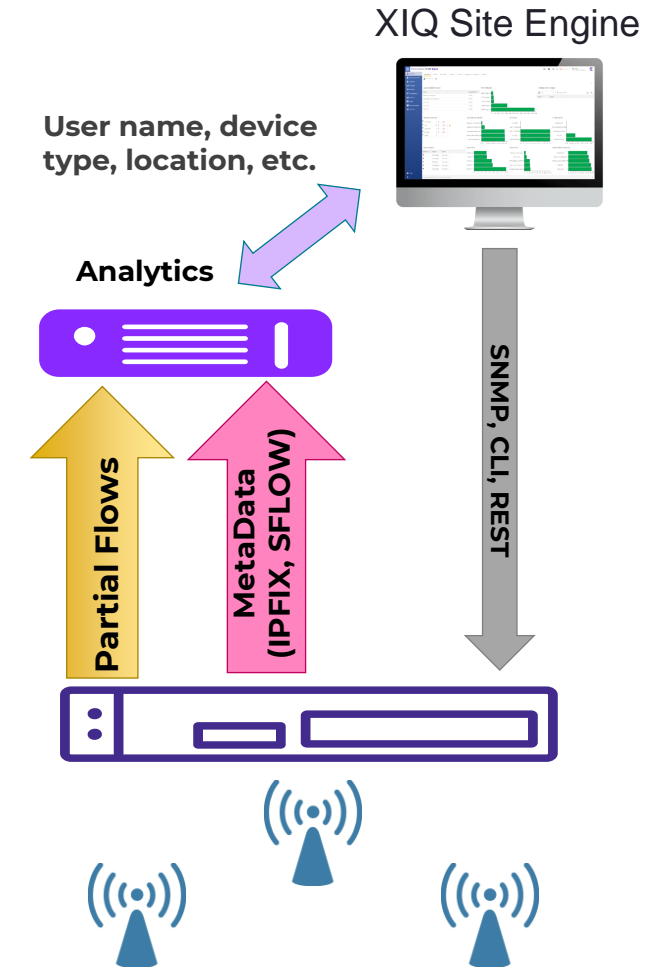
- Leverage network infrastructure
- No hardware probes
- Application visibility at every site
- Per flow application performance measurements

App level visibility:

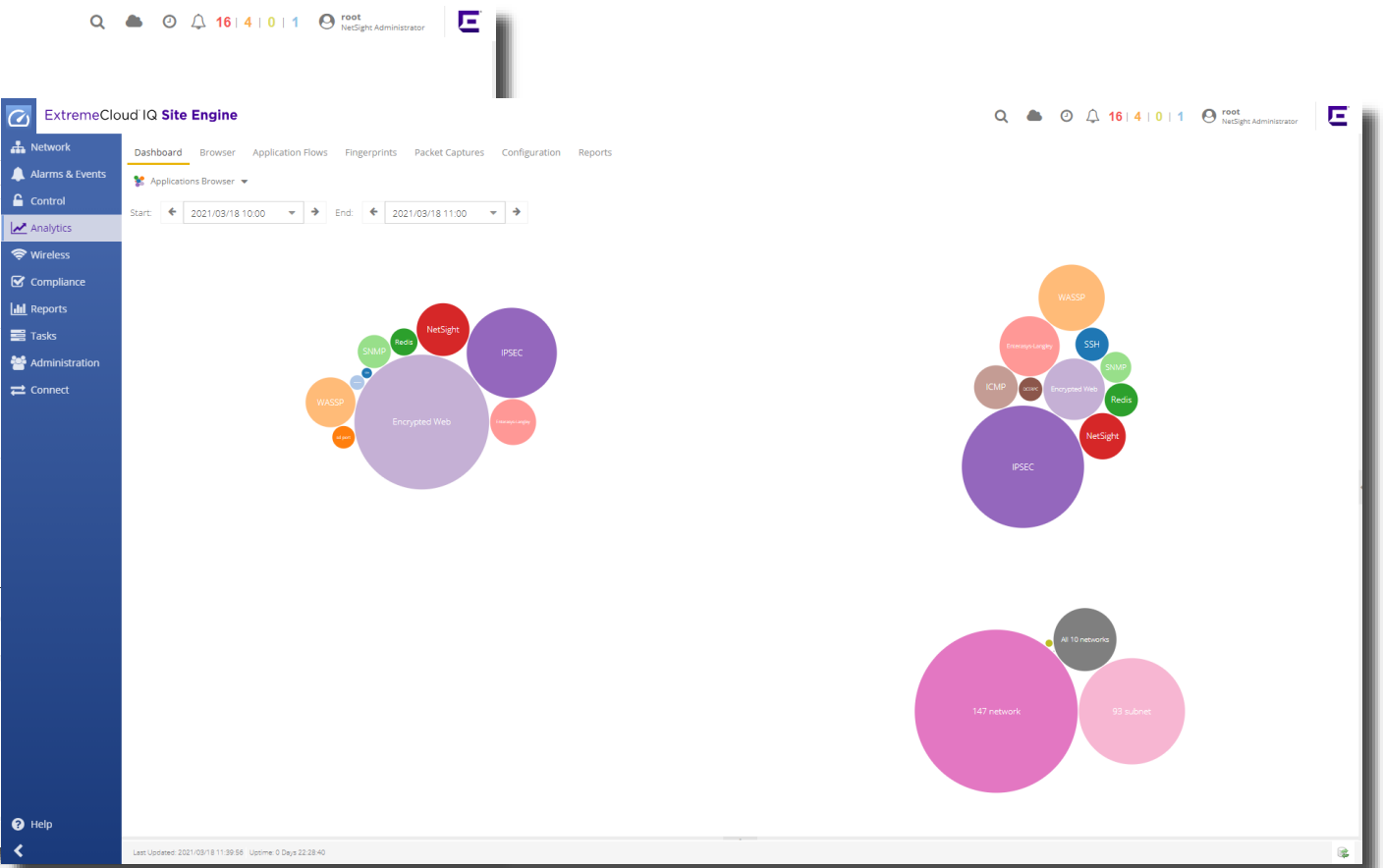
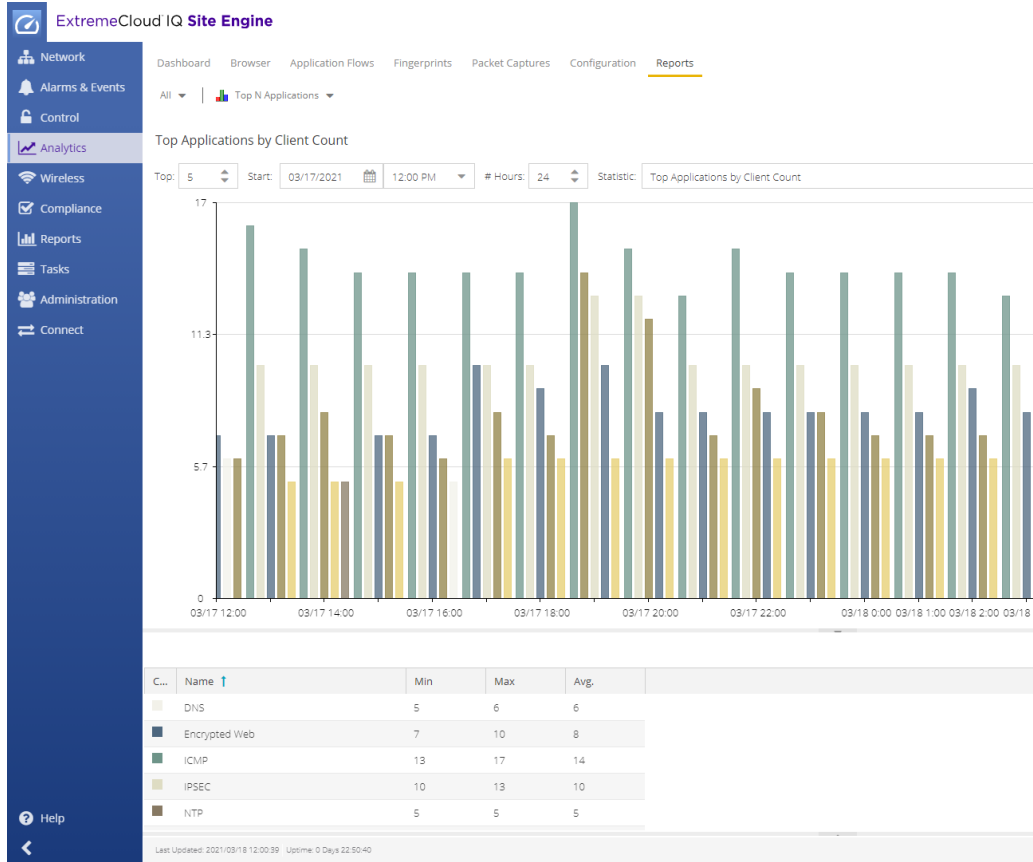
- 1000s of TCP apps (inc. encrypted)
- 100s of network protocols and services (LD, DHCP, DNS, etc.)

Application Telemetry Platform Support

- Edge: Summit Switches, ExtremeWireless
- Core: VSP 7K, 4K
- DC: SLX, Virtual Sensor (Q1 2019)



Application Usage Dashboard



ExtremeAnalytics for ExtremeCloud IQ – Site Engine
Client Count, Network, App Response times for all applications

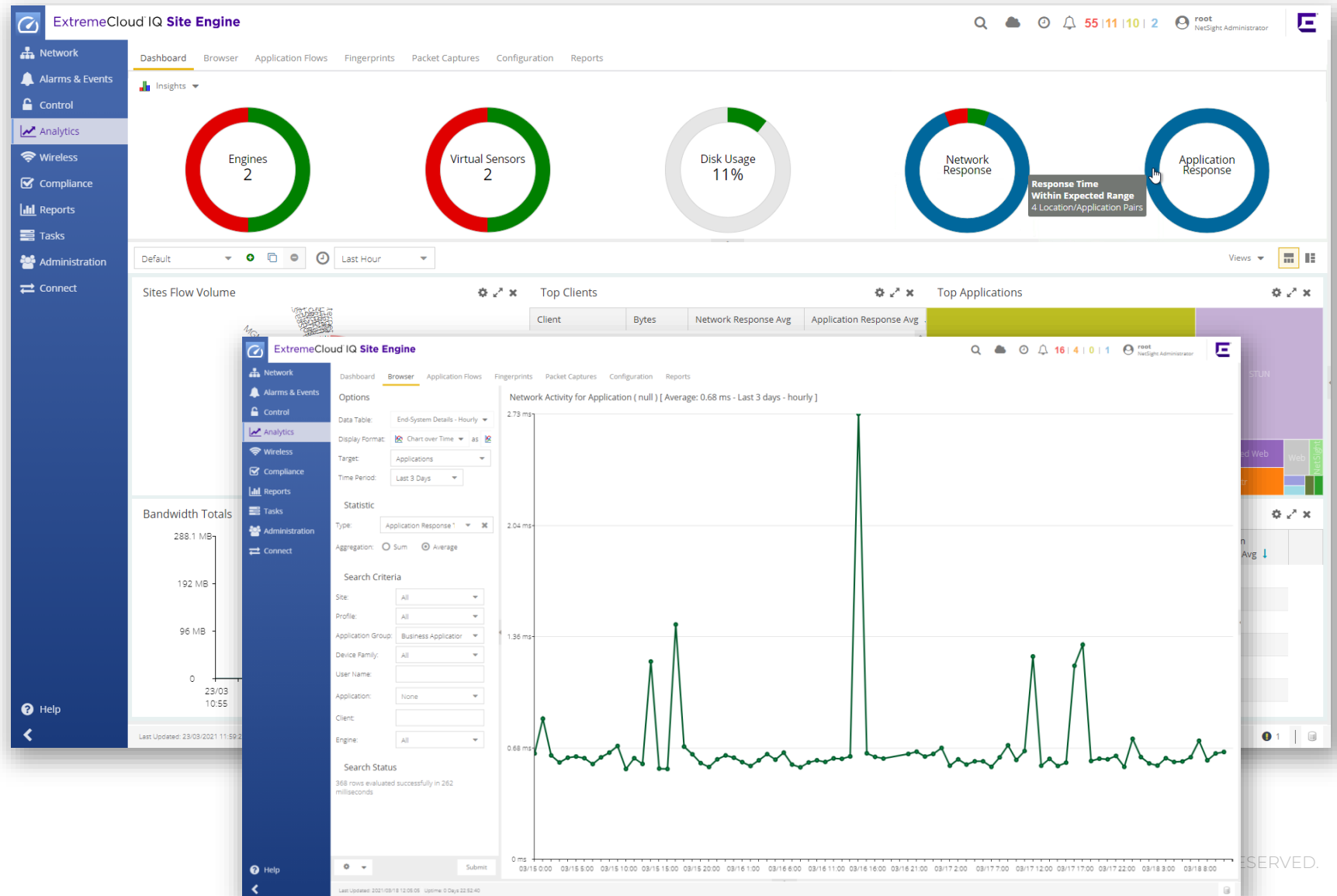
Deep insights across the entire network



Customizable dashboard

Real-time statistics

IT Role-specific dashboards

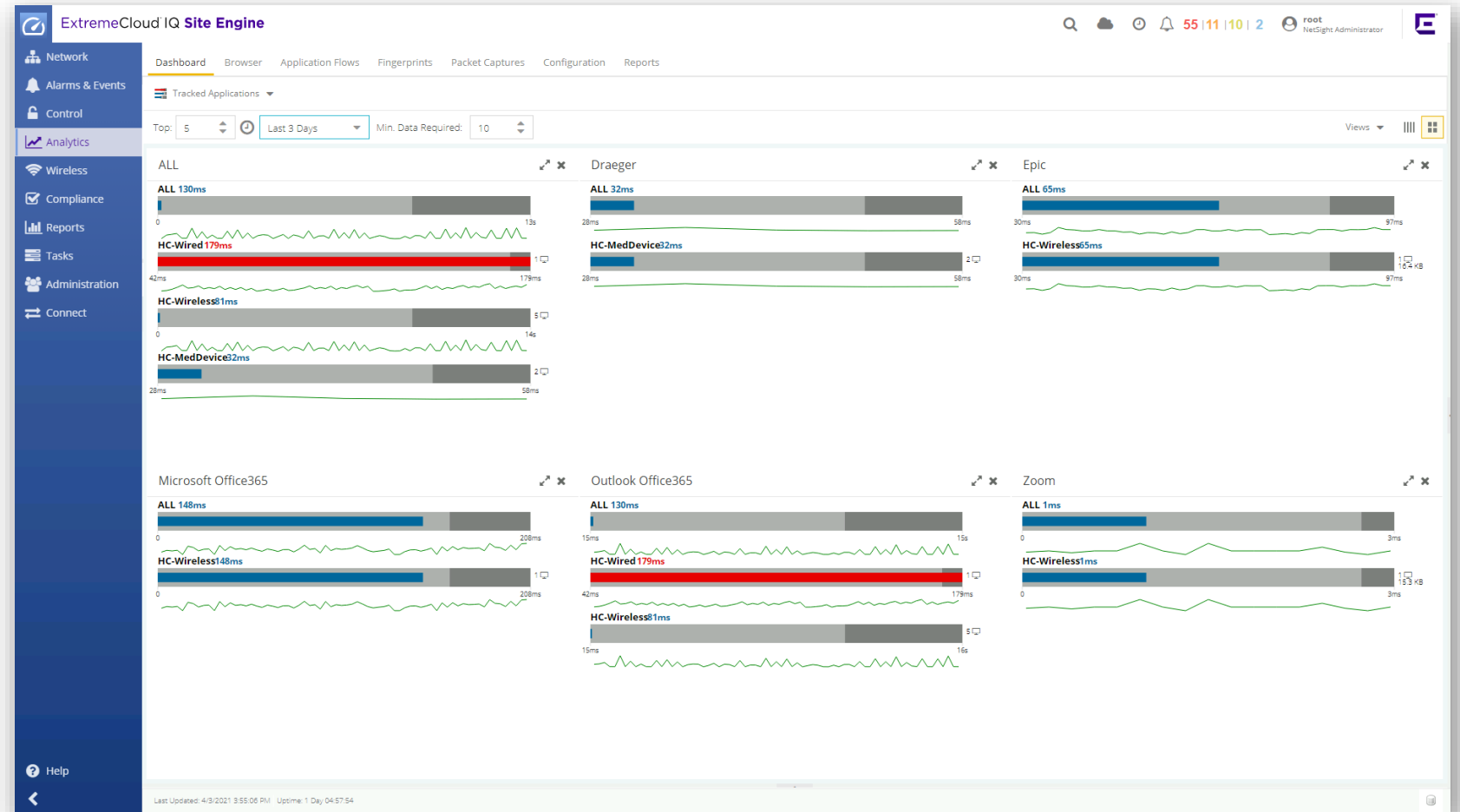


Tracked Applications – across sites



Track performance
baseline

Automate alerts for
business applications



Geolocation (Security use case)



Client country and server country details per flow

- Dynamically updated IP to geolocation database

Filter flows based on source or destination country

The screenshot displays the ExtremeCloud IQ Site Engine interface. The main content is a table of network flows. The table has columns for flow ID, client address, user, server address, server port, application, application group, application info, type, network response, application response, site, detailed location, and server site. The table is filtered to show bidirectional flows for the 'AnalyticsEngine' application group. The interface includes a sidebar with navigation options like Network, Alarms & Events, Control, Analytics, Wireless, Compliance, Reports, Tasks, Administration, and Connect. The top navigation bar shows 'Application Flows' and various filters. The bottom status bar indicates 'Max Rows: 100' and 'Aggregate Flows: 0 Days 00:52:57 (Current Load: 1.318 fps / Peak 0 fps)'. The last updated time is 03/04/2021 18:40:11.

Flo...	Client Address	User	Server Address	Server Port	Application	Application Group	Application Info	Type	Network Response	Application Response	Site	Detailed Location	Server Site
4	zpala-PC	Zpala	52.239.149.196	https	Windows Azure	Cloud Computing	ServerIP=52.239.149...		120 ms	124 ms	✓ /World	192.168.130.1/1:12	✓ Microsoft Azure usn
1	zpala-PC	Zpala	23.101.171.94	https	quickhelp	Web Applications	ServerIP=23.101.171...		116 ms	118 ms	✓ /World	192.168.130.1/1:12	✓ Microsoft Azure usn
1	LinuxPC-10	User-10	52.46.132.117	https	Amazon	E-commerce	uid=2edbc45d Serve...		96.6 ms	98.2 ms	✓ MGMT-LAB	192.168.130.1/	✓ Amazon Web Servic
1	LinuxPC-10	User-10	52.214.143.239	https	tier1-euw1.ireland.deli...	Web Applications	PerSwitchData=([192...		37.4 ms	36.6 ms	✓ MGMT-LAB	192.168.130.1/	✓ Amazon Web Servic
2	zpala-PC	Zpala	20.190.159.134	https	Microsoft Office365	Cloud Computing	ServerIP=20.190.159...	✓	37.4 ms	33.7 ms	✓ /World	192.168.130.1/1:12	✓ United States
1	LinuxPC-117	User-17	172.217.23.238	https	YouTube	Streaming	uid=977b5468 Serve...		19.5 ms	32.8 ms	✓ MGMT-LAB	192.168.130.1/	✓ United States
1	zpala-PC	Zpala	162.125.72.17	https	Dropbox	Cloud Storage	ServerIP=162.125.72...		27.4 ms	27 ms	✓ /World	192.168.130.1/1:12	✓ United States
1	LinuxPC-10	User-10	185.94.180.125	https	Spotxchange	Advertising	uid=48e5b44a Serve...		21 ms	26.4 ms	✓ MGMT-LAB	192.168.130.1/	✓ Netherlands
2	LinuxPC-10	User-10	172.217.23.225	https	Google Ads	Advertising	uid=52635e1a Serve...		3.81 ms	22.9 ms	✓ MGMT-LAB	192.168.130.1/	✓ United States
1	LinuxPC-10	User-10	185.33.221.15	https	AppNexus	Advertising	PerSwitchData=([192...		21.4 ms	20.7 ms	✓ MGMT-LAB	192.168.130.1/	✓ United States
2	LinuxPC-10	User-10	172.217.23.225	https	Google	Search Engines	uid=3ff3f1d7 ServerI...		4.92 ms	20.1 ms	✓ MGMT-LAB	192.168.130.1/	✓ United States
1	zpala-PC	Zpala	51.107.59.180	https	Microsoft Visual Studio	Web Content Services	ServerIP=51.107.59.1...		16.6 ms	18.9 ms	✓ /World	192.168.130.1/1:12	✓ United Kingdom
2	LinuxPC-10	User-10	143.204.90.50	https	Mozilla	Web Applications	ServerIP=143.204.90...		10.7 ms	14.8 ms	✓ MGMT-LAB	192.168.130.1/	✓ Amazon Web Servic
2	LinuxPC-10	User-10	151.101.1.140	https	reddit	Social Networking	uid=1f951625 Serve...		9.46 ms	13.5 ms	✓ MGMT-LAB	192.168.130.1/	✓ United States
1	LinuxPC-10	User-10	151.101.129.140	https	redd	Web Applications	PerSwitchData=([192...		9.43 ms	13.2 ms	✓ MGMT-LAB	192.168.130.1/	✓ United States
1	192.168.101.26	User-10	185.60.216.53	https	WhatsApp	Real Time and Cloud ...	ServerIP=185.60.216...		9.81 ms	12.9 ms	✓ /World	192.168.130.1/	✓ Ireland
2	LinuxPC-10	User-10	151.101.65.140	https	reddit	Social Networking	PerSwitchData=([192...		9.86 ms	11.1 ms	✓ MGMT-LAB	192.168.130.1/	✓ United States
1	LinuxPC-10	User-10	152.199.21.141	https	Twitter	Social Networking	uid=c4d9813a Serve...		11 ms	11.1 ms	✓ MGMT-LAB	192.168.130.1/	✓ United States
1	LinuxPC-10	User-10	151.101.193.16	https	Amazon	E-commerce	uid=43b71257 Serve...		9.68 ms	11 ms	✓ MGMT-LAB	192.168.130.1/	✓ United States
1	LinuxPC-10	User-10	185.60.216.19	https	Facebook	Social Networking	uid=e5f1a511 Server...		9.64 ms	10.7 ms	✓ MGMT-LAB	192.168.130.1/	✓ Ireland
1	LinuxPC-10	User-10	143.204.101.20	https	Amazon Web Services	Cloud Computing	uid=287a0b57 Serve...		9.64 ms	10 ms	✓ MGMT-LAB	192.168.130.1/	✓ Amazon Web Servic
2	XIQ-SE	XIQ-SE		https	NetSight	VPN and Security	ServerIP=192.168.130...		0.2 ms	6.99 ms	✓ MGMT-LAB	192.168.130.1/1:12	✓ MGMT-LAB
1	LinuxPC-10	User-10	185.17.117.38	https	1gr	Web Applications	uid=9c80d976 Serve...		3.55 ms	5.72 ms	✓ MGMT-LAB	192.168.130.1/	✓ Czechia
10	192.168.130.88		192.168.130.2	ldap	LDAP	Protocols	AuthenticatedUserC...		0.16 ms	2 ms	✓ MGMT-LAB	192.168.130.1/	✓ MGMT-LAB

Why Extreme?



- ✓ Single Pane of Glass Management and Orchestration
- ✓ Visibility of all devices
 - ✓ Cloud Native
 - ✓ Non-Cloud Native
 - ✓ Third Party
- ✓ Deployment flexibility
 - ✓ On-Premise
 - ✓ Cloud
- ✓ Comprehensive Control & Analytic Applications



ExtremeCloud IQ – Site Engine



ExtremeControl for
ExtremeCloud IQ – Site Engine



ExtremeAnalytics for
ExtremeCloud IQ – Site Engine



ADVANCE
WITH US™