



PURDICOM PARTNER DAY 2023

WELCOME



NEWBURY RACECOURS HEALTH & SAFETY

To keep you informed we thought it best to cover the basic H&S with you ahead of today's event:

Fire Exits



There aren't any planned fire alarm tests today, so in the event of an alarm please exit via your nearest door.

Today's Wi-Fi:

Connect to the network: !Purdicom Guest

2022 PARTNER DAY RECAP



TODAYS AGENDA:

11:00 Purdicom Welcome Presentation - Steve Kent, Director Sales & Marketing Director

11:15 WatchGuard - Oli Venn, Sales Engineer

12:00 Lunch Break

13:00 Purdicom Professional Services & Online Tools - Alex Claro, Director of Technical and Operations & Ashley Edwards, Senior Wireless Pre-Sales Engineer

13:30 CertaUPS – Matt De Frece, Commercial Manager & Josh Naylor, Divisional Manager

14:00 Cambium Networks – Dan McCarthy, Regional Sales Manager & Simon Staddon, Director, EMEA RTM

14:45 Break

15:15 IO by HFCL – Andrew Westerman, VP of International Sales

15:45 Siklu – Tim Herbert, Channel Manager

16:15 Ruckus Networks – Rob Everett, Country Manager UK&I

17:00 Networking & Discussion

19:00 Arrival Drinks

19:30 Evening Meal & Purdicom Prize Giveaway

(Get your bets ready for your evening entertainment)

23:00 Event Close

LANYARD OVERVIEW:



BLACK: Purdicom Members of Staff

GREY: Our Vendors/ Manufacturers

WHITE: Purdicom Customers

GIVEAWAY STAMP CARD:

In your Purdicom giveaway bag, you will have one of these vendor stamp cards.

Visit each exhibition stand outside in the exhibition area and receive a stamp, collect all 6 stamps and place your card in the ballot box situated on the corner of the bar, to stand a chance of winning our Purdicom Prize Giveaways.

Prize Giveaways to be given away at our evening event!



MEET THE VENDORS

To enter prize draw, gather stamps from each vendor stand and post in ballot box.



NAME:**COMPANY:**

A photograph of a large, traditional stone building with a tiled roof, likely a pub or restaurant. A semi-transparent blue rectangular overlay covers the center of the image, with the text 'PURDICOM: PRIZE GIVEAWAY' in white capital letters.

PURDICOM: PRIZE GIVEAWAY

1ST PRIZE:

APPLE WATCH SE



2nd PRIZE:

APPLE AIR PODS

3rd PRIZE:

£250 RED LETTER DAY





Purdicom is a next-generation wireless, networking and security distributor. Headquartered in Oxfordshire, we help our customers build networks across EMEA by offering true value-added support and services.

Purdicom's mission is to offer state of the art, best of breed and versatile wireless, cloud and security solutions that harmoniously align with the objectives of our customers.

PURDICOM OVERVIEW

FACTS & FIGURES



63 full-time employees



27% growth YoY



25+ Awards



Est. 2005

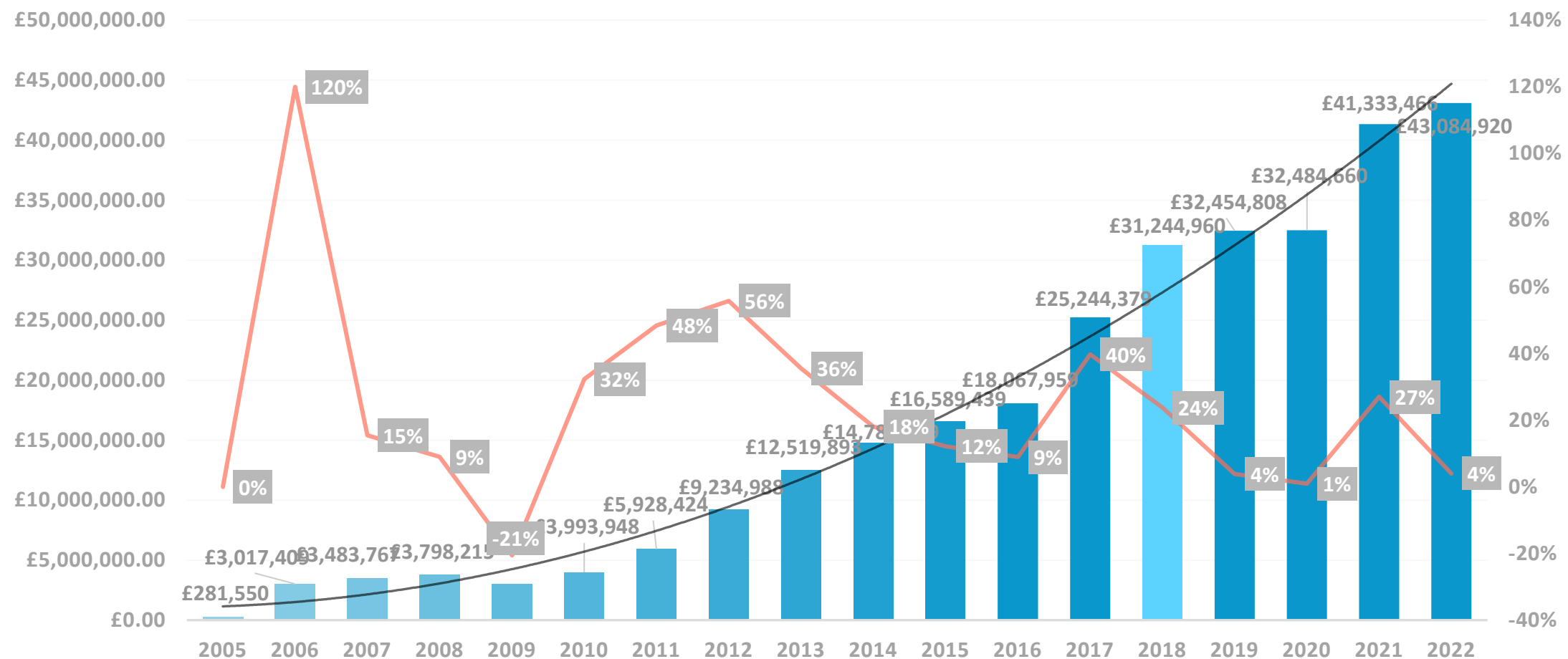


Oxfordshire, UK



ISO 9001 Certified

OUR GROWTH: 2005- 20 22



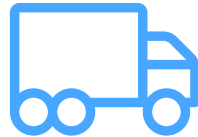
VALUE-ADD

DELIVERING VALUE AND BUILDING SUSTAINABLE PARTNERSHIPS



TRAINING & TECHNICAL SUPPORT

Our expert technical team provide pre and post sales support as well as accredited vendor training.



LOGISTICS & FINANCE

Flexible finance and logistical support helping you meet deadlines and schedule installation projects.



SALES

Dedicated account managers to fulfil your needs and be a single point of contact across the business.



MARKETING

Marketing campaign support, content creating, and vendor led MDF (Marketing Development Funds).

TECHNOLOGIES

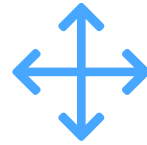
We offer our customers complimentary solutions that help solve easy and complicated networking and security challenges. Your account manager and technical team are here to offer the right solution that solves the problem.

TECHNOLOGIES

COVERING ALL YOUR NETWORKING AND SECURITY NEEDS



Wi-Fi &
On-Boarding



Point to Point &
Multipoint



Switching



Analytics & Control



UPS



Security

OUR VENDORS

OUR CAREFULLY SELECTED VENDOR PORTFOLIO OFFERS THE BEST TECHNOLOGY AVAILABLE



CertaUPS



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THANK YOU



WE HOPE YOU ENJOY OUR
PURDICOM PARTNER DAY



Purdicom Partner Day



Oli Venn
Senior Sales Engineer

Around 300,000 new
pieces of malware are
created daily

There has been
a 400% increase year-
over-year in phishing
attacks

Businesses suffered
50% more cyberattack
attempts per week in
2021

62%

of midmarket organizations
report that their IT environments
are more complex now than two
years ago





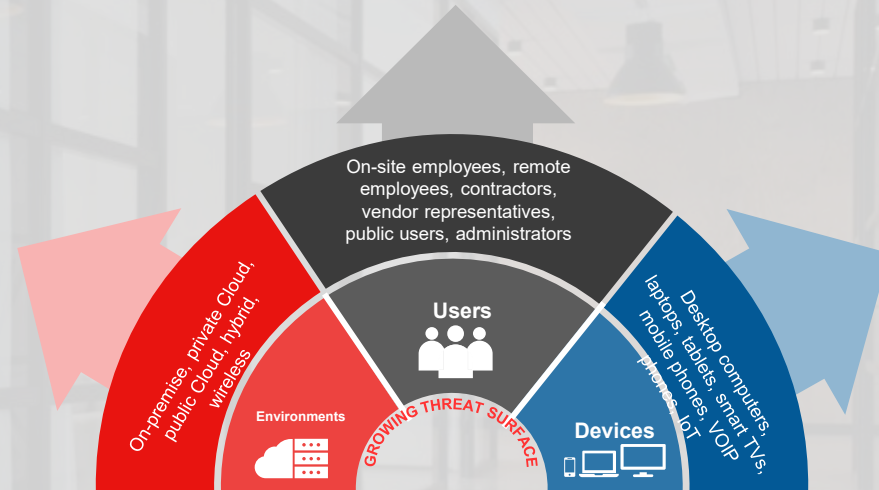
Attack Surface is Exploding

Businesses have evolved from having *offices with many employees*, to having *nearly as many offices as employees*.

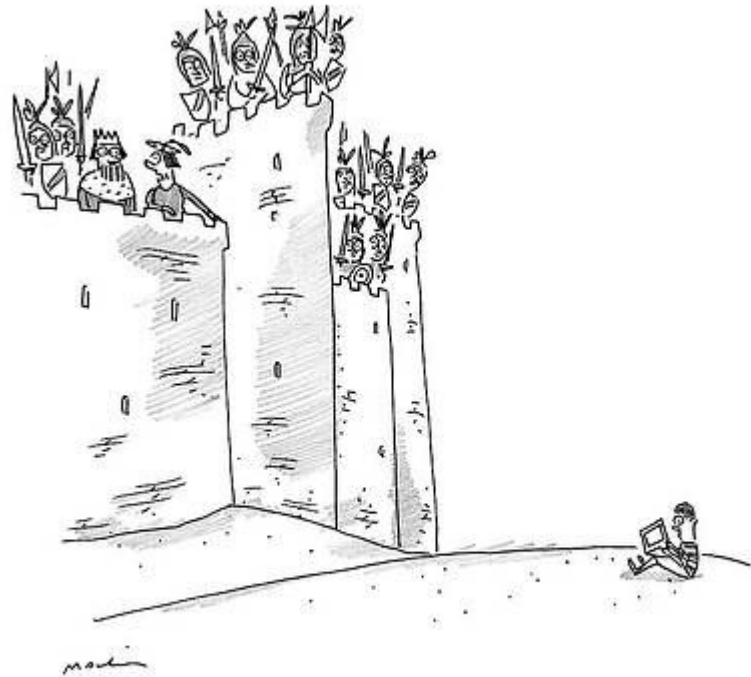
This expanded the attack surface into the homes of users and into multi-cloud environments.

- VPN use has skyrocketed
- Cloud use is greater than ever
- Phishing attacks have increased
- Response time has slowed

The number of network environments, users, devices, and connections is exploding



Tech/Target	Security Challenge
Infrastructure	• Limit physical access
Network	• Block external threats • Prevent lateral movement
Endpoints	• Prevent, detect, and remediate malware
Cloud	• Protect your assets on someone else's computer
Users	• Phishing • Credential theft • Insider threats
Data	• It's everywhere!



"Bad news, Your Majesty—it's a cyberattack."

Bad News by Michael Maslin

2023 Top Cyber Threats



Username

Password

SIGN IN

#1 Account Takeover



Quick History



Latest Evolutions



Targets, Tactics, and Trends

[EvilProxy] Phishing as a Service / Фишинг как услуга

by evilproxy - Monday July 4, 2022 at 09:48 AM

evilproxy



GOD User

GOD

Posts: 6
Threads: 1
Joined: May 2022
Reputation: 10

July 4, 2022, 09:48 AM (This post was last modified: July 12, 2022, 07:03 AM by evilproxy.)

Reverse proxy

Our phishing pages are 100% identical

You get LOGIN, PASSWORD, COOKIES and more info about user

Мы можем помочь вам повысить устойчивость к фишинговым атакам. Фишинг как услуга (PhaaS) - это программа повышения осведомленности о безопасности для всех сотрудников организации.

Наши симуляции фишинга поддерживаются программной платформой собственной разработки. В частности, наше бэкэнд-приложение предлагает полный набор функций, необходимых для проведения фишинговых кампаний:

Получите демоверсию совершенно бесплатно на 1 день!

We can help you improve your resilience against phishing attacks. Phishing as a Service (PhaaS) is a security awareness program for all employees of the organization.

Our phishing simulations are supported by an in-house developed software platform. In particular, our backend application offers the full set of functionalities required to conduct phishing campaigns:

Get a demo completely free 1 day!

+ Services:

- google.com 10/20/31 days = 250/450/600\$ (Click!)
- microsoft 10/20/31 days = 150/250/400\$ (Hotmail, CORP, Remote SSO, ADFS) (Click!)
- icloud.com 10/20/31 days = 150/250/400\$ (auto token/cookies refresh up to 2 days with internal tool)
- dropbox.com 10/20/31 days = 150/250/400\$ (also sign in with google)
- github.com 10/20/31 days = 150/250/400\$
- linkedin 10/20/31 days = 150/250/400\$
- yandex.ru 10/20/31 days = 150/250/400\$
- facebook.com 10/20/31 days = 150/250/400\$
- yahoo.com 10/20/31 days = 150/250/400\$
- twitter 10/20/31 days = 150/250/400\$
- wordpress.com 10/20/31 days = 150/250/400\$
- pypi.org 10/20/30 days = 150/250/400\$
- www.npmjs.com 10/20/30 days = 150/250/400\$
- rubygems.org 10/20/30 days = 150/250/400\$

Protection

- **Bot Protection** Utilize a variety of algorithms for bot detection and the blocking of unwanted visitors to your resources.
- **Virtualization Detection** Protect your links, from vmware, vbox, and other virtualization.
- **Automation Detection** Protect your links, from headless browsers, selenium, phantom-JS and other automation's.
- **Multi Stream** Streams help to manage traffic. You can send definite visitors to definite websites, landing pages, or prevent visitors from visiting some pages.

+ Information:

- Advanced Session info (You get LOGIN, PASSWORD, COOKIES and more info about user).
- create unique browser fingerprints.

+ Extra:

- proxy manager (with futures like rotation, geo-adaptation).
- domain manager (add own domains with wildcard SSL [*.mydomain.com] in minutes).
- Telegram Notifications

#1

#2 Fileless Malware



What Is Fileless Malware?

Fileless Malware:

- Is harder for traditional AV to catch
- Tends to inject normal processes on your computer
- Often leverages Powershell and scripts
- Typically arrives in two ways:
 1. Exploits a software vulnerability on your computer
 2. Can arrive as a document (a file), that runs a script

A fileless infection or **fileless malware** is a threat that *ONLY* loads malicious code in memory, rather than installing it on the victim's hard drive.



Quick History



Latest Evolutions



Targets, Tactics, and Trends

Word DDE Attacks

Macro-less Word malware abuses Microsoft's ***Dynamic Data Execution (DDE)*** features to executed code on a victim computer.

Example:

```
{DDEAUTO c:\\windows\\system32\\cmd.exe "/k calc.exe"}_
```

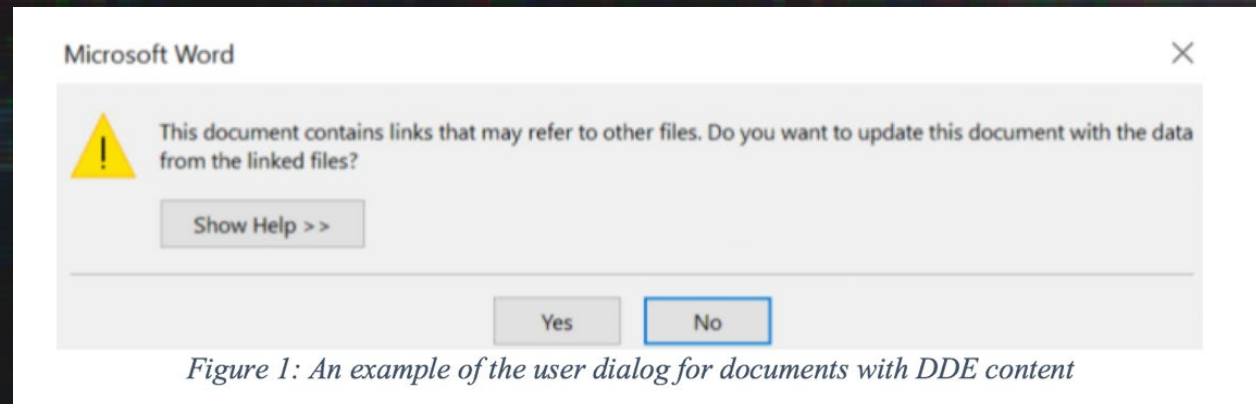
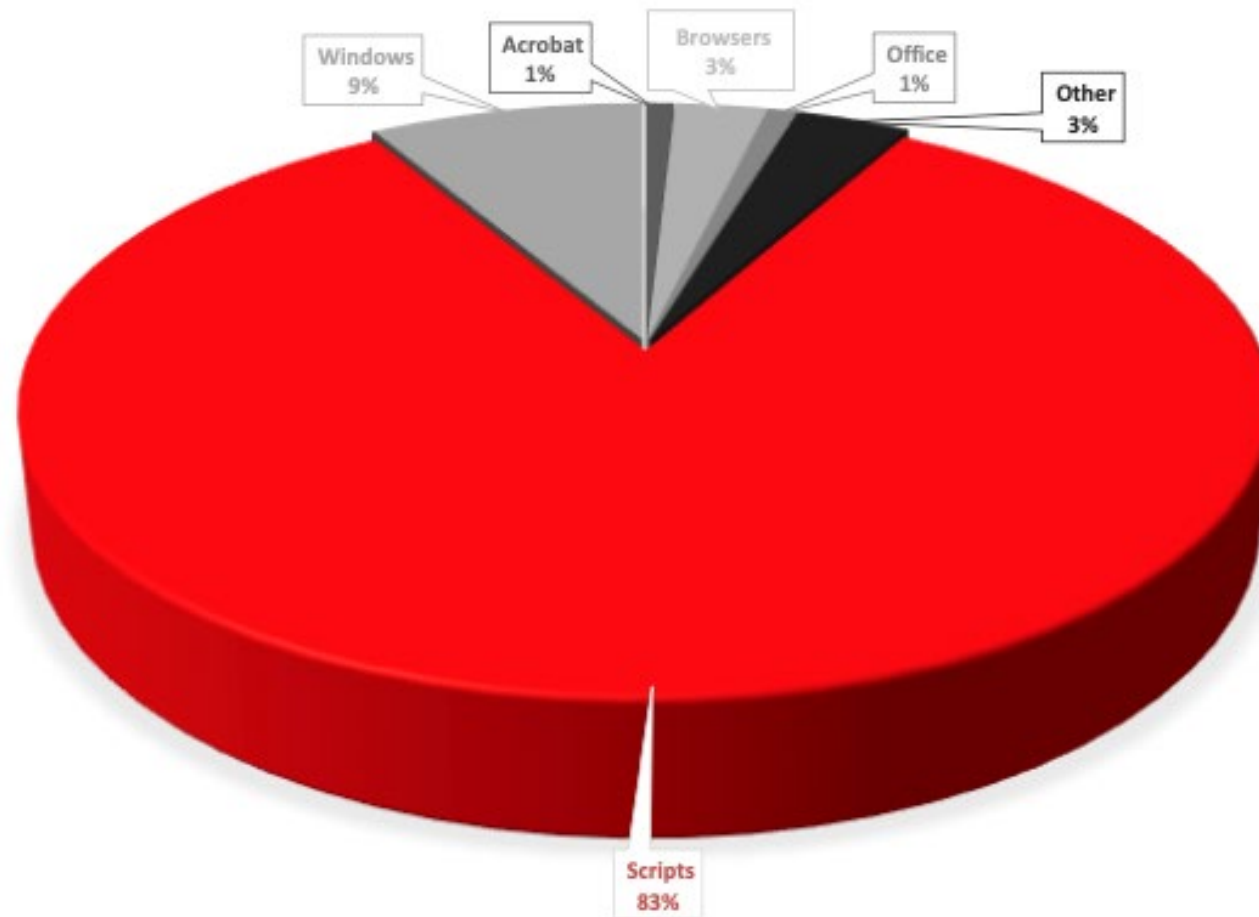


Figure 1: An example of the user dialog for documents with DDE content

Top Exploited Software for Malware Delivery





#3 Software Vulnerabilities



Quick History

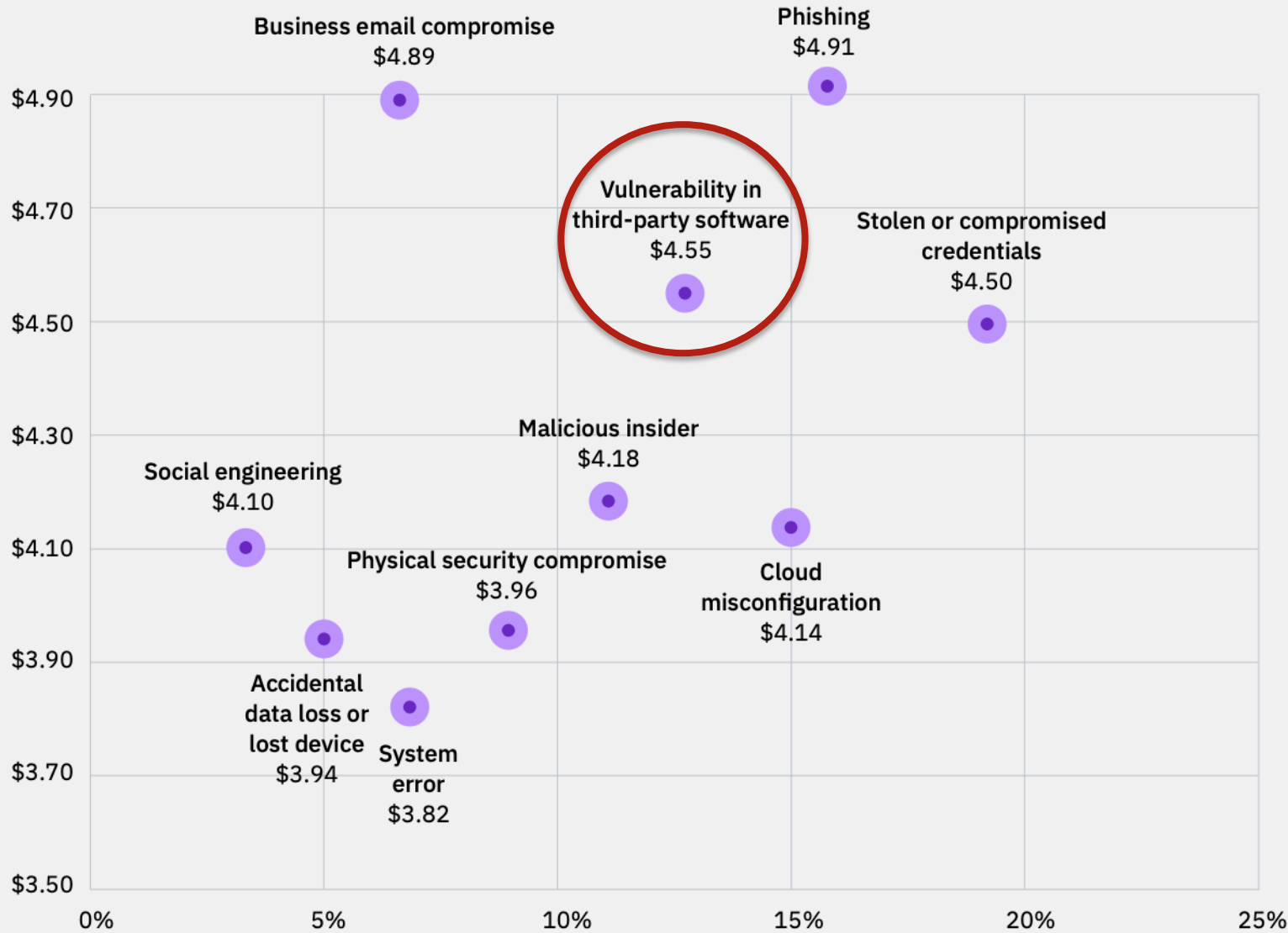


Latest Evolutions

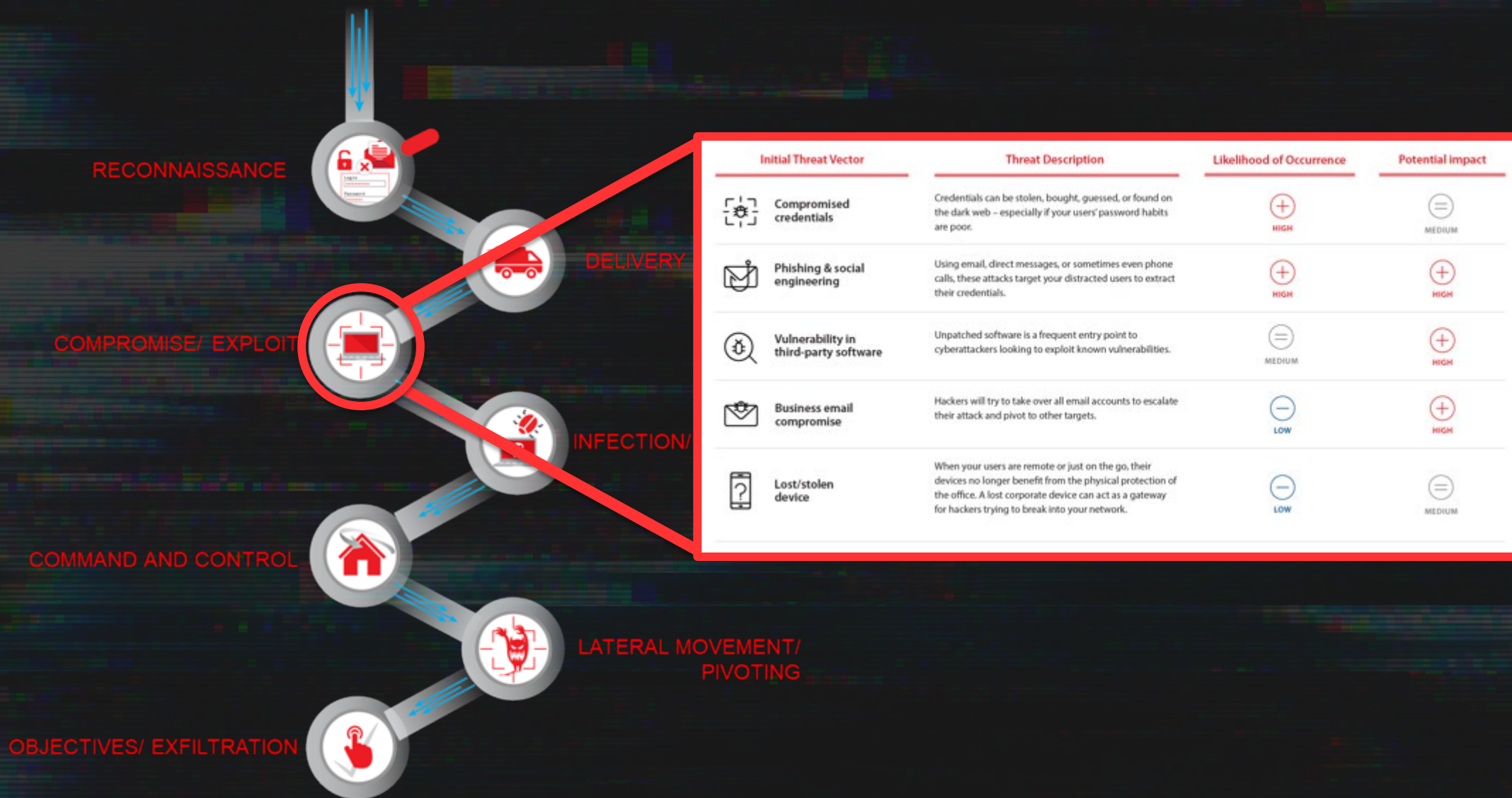


Targets, Tactics, and Trends

Average cost and frequency of data breaches by initial attack vector



Why break in, when you can simply sign in?



Pop Quiz Time

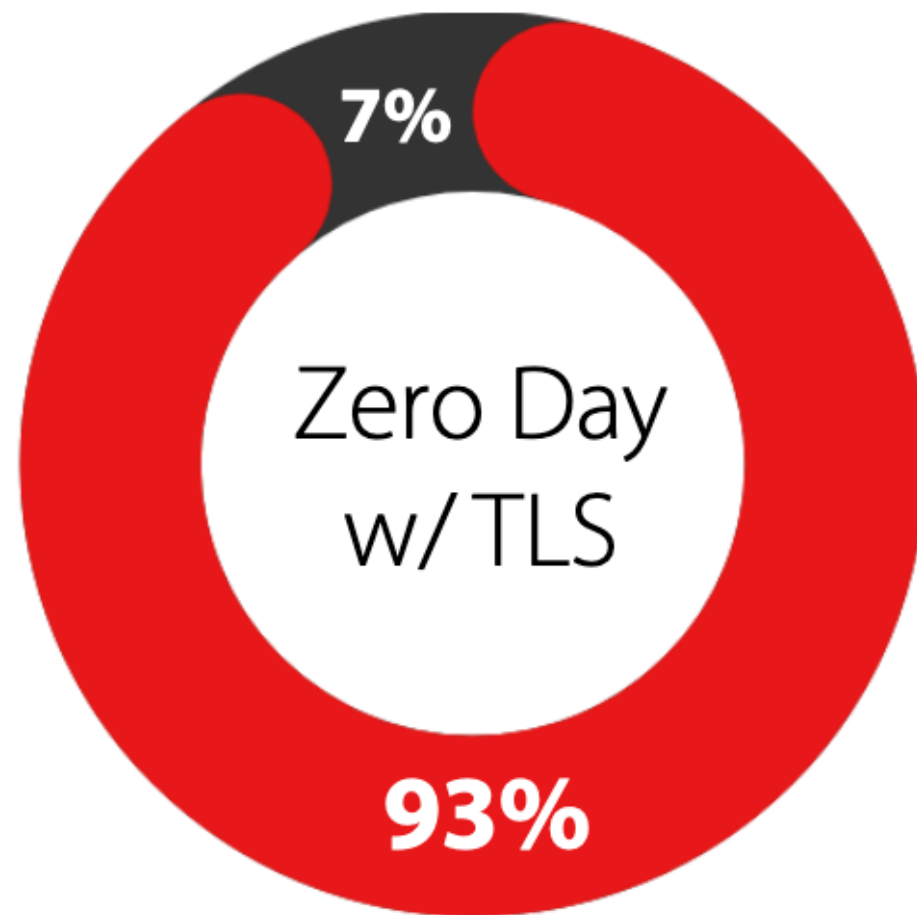
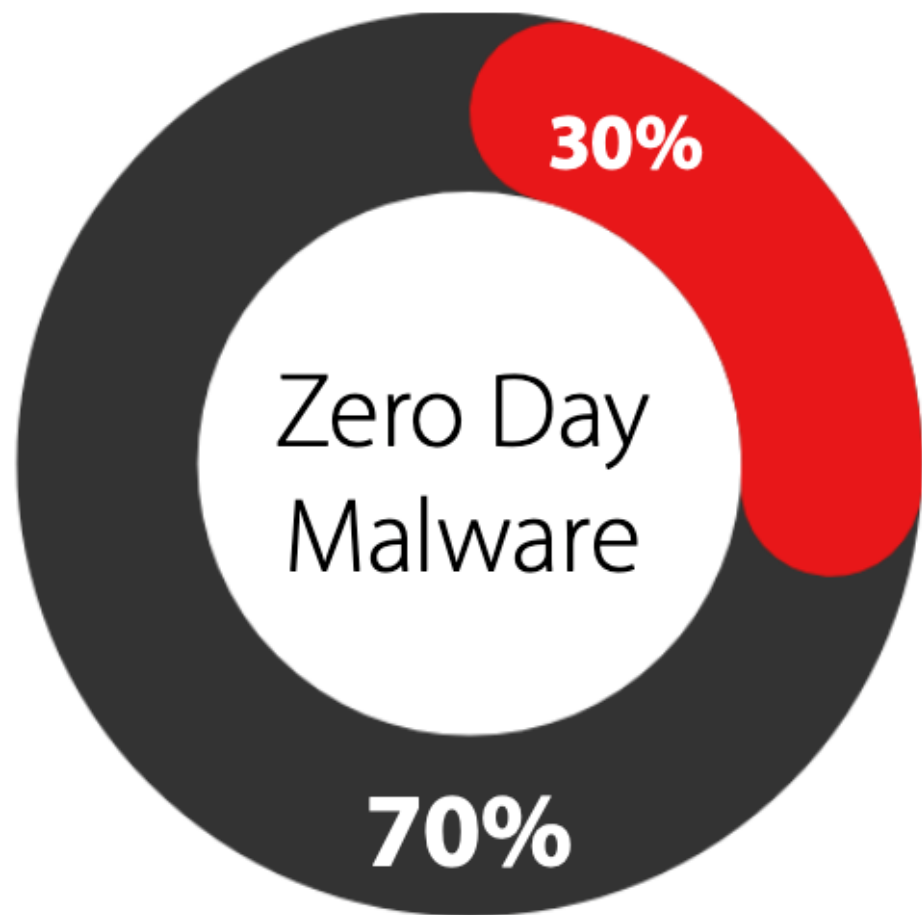
**What Percentage of Malware
Evades Basic Detection Methods?**

34%

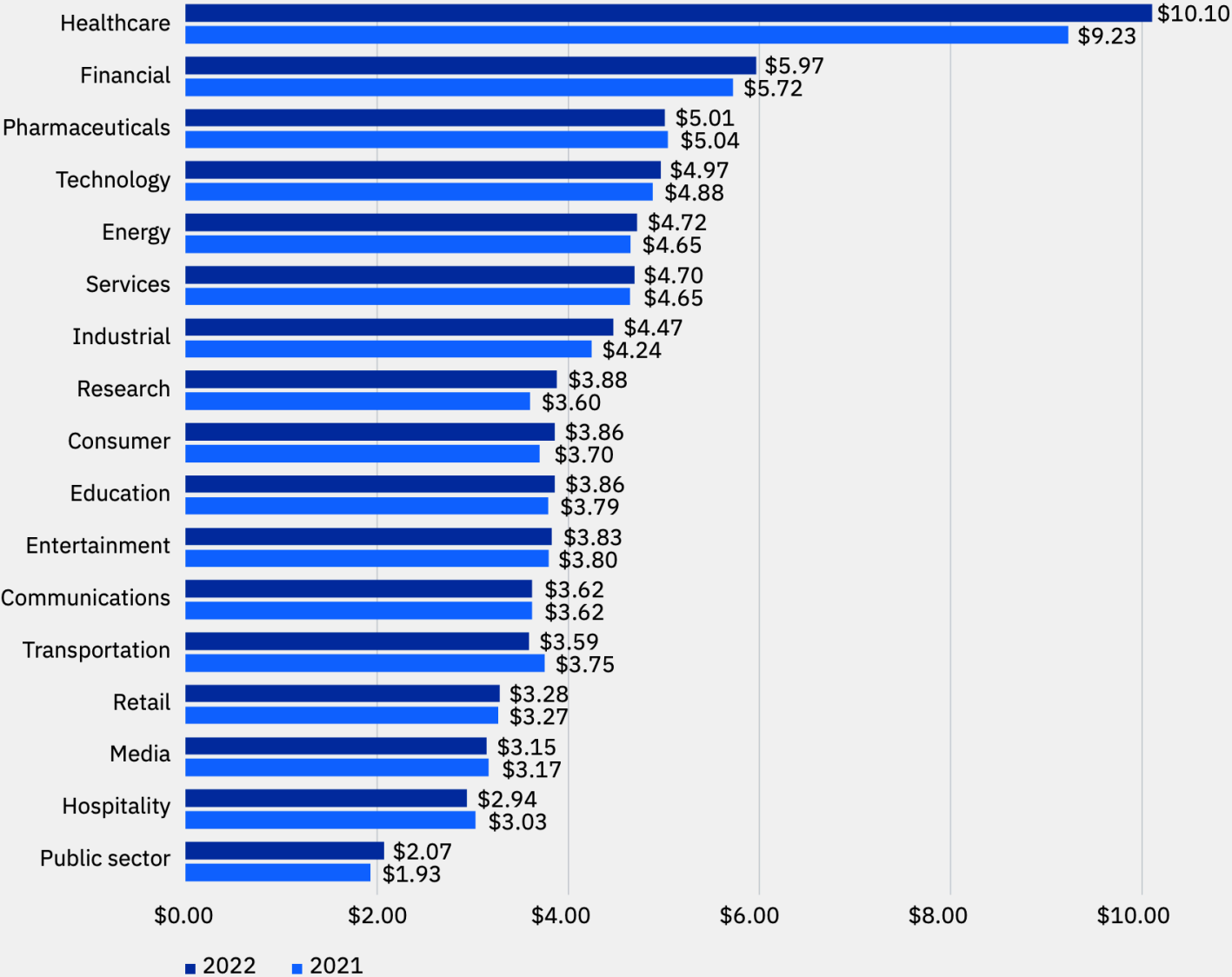
52%

70%

93%



Average cost of a data breach by industry IN MILLIONS



* 2022 VERIZON DBIR

Defending Against Evasive Threats

It's not a matter of if, but when.
There is no silver bullet defense.



General Tips – Layered Defenses

- Advanced threats leverage multiple vectors of attack
- No **single** defense will protect you completely
- Combination of network and endpoint security can help
 - Multi-Factor Authentication (MFA)
 - Advanced (proactive, non-signature) antimalware
 - Phishing Protection
 - Endpoint detection and response (EDR)
 - Procedure-driven patch management

General Tips – Adopt Zero Trust

- Assume nothing can be completely trusted and segment your services. Tackle with each one separately:
 - **Identify Users and Devices**
 - Provide Secure Access
 - Keep Monitoring

Embrace the “never trust, always verify” approach to security that uses multiple levels of protection to prevent threats.



Who We Are



Founded in **1996**



HQ: **Seattle, WA**



Operations in **7** countries;
direct presence in **21**



1,200 Employees



250K+ Customers



100+ Distributors
16,000+ Active Partners

Global. Experienced. Trusted.

Enterprise-Grade Security for Today's Business



A large number of customers are recognizing WatchGuard's scalable architecture and best-in-class manageability

- SMBs and SMEs
- Distributed Enterprises
- Retail
- Hospitality
- Government
- Education

Industry Accolades



Who We Serve

All organizations need enterprise-grade security. Those who value streamlined deployment and simple management always chose WatchGuard.



Come for the **Security**, Stay for the **Simplicity**.

What We Do – A Unified Security Platform



Secure Wi-Fi



Advanced Endpoint Protection



Network Security



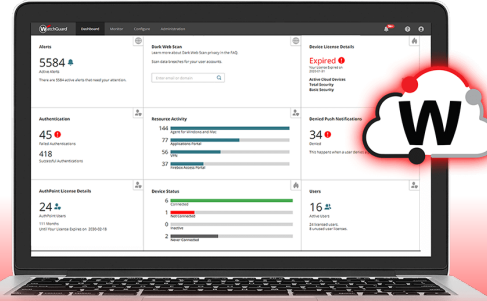
Multi-Factor Authentication

WatchGuard Visibility & Management
Centralized Management, Actionable Visibility, and Advanced Reporting



Total Security, Total Control.

A Portfolio Built for Differentiation



Network



Total network protection:

- Intrusion prevention
- URL filtering
- Application control
- Spam blocking
- AI-powered anti-malware
- Cloud sandboxing
- DNS-filtering
- And more!

Wi-Fi



Unified Wi-Fi:

- Wi-Fi 6
- OWE & WPA3 encryption
- Diagnose, monitor and report
- PSA integration
- IKEv2 VPN (RAP)
- And more!

Endpoint



A Full endpoint suite:

- Signatures and heuristics
- Contextual detection
- Anti-exploit
- Automated response
- DNS filtering
- Zero-trust Application Service
- Threat Hunting
- Patch Management
- And more!

User



Unique approach to MFA:

- Mobile Device DNA
- Push message
- QR code,
- One-time password (OTP)
- Authenticate right from your phone
- Fast VPN and Remote Access
- Hardware token available

Remote Access



Extending protection:

- Risk-based policies
- Integrated clientless VPN
- SAML support
- 3rd party integrations
- Full user synchronization
- 140 third-party integrations

WatchGuard Fireboxes each blocked an average of

460

network attacks in Q1 2023

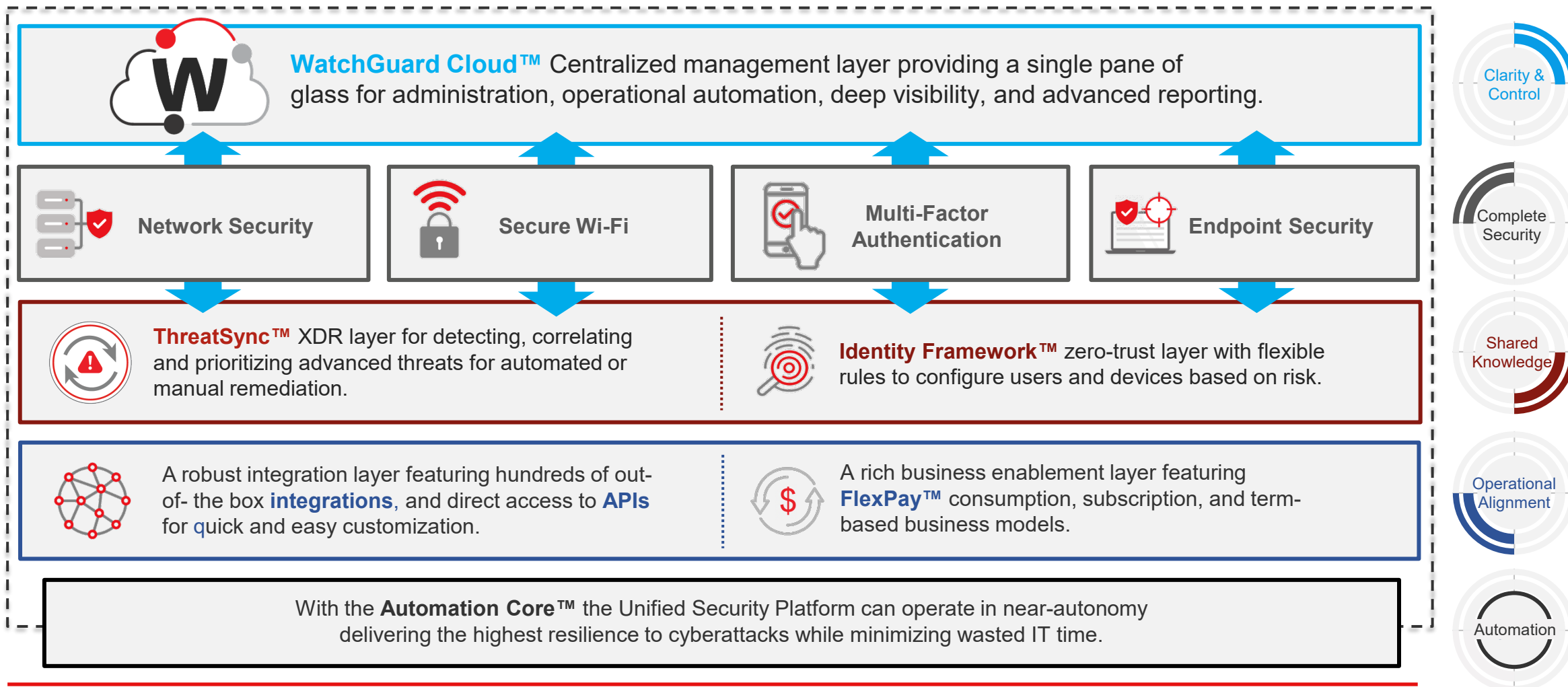


**Attacks Blocked Per 100k
Active Machines**

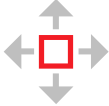
1,068

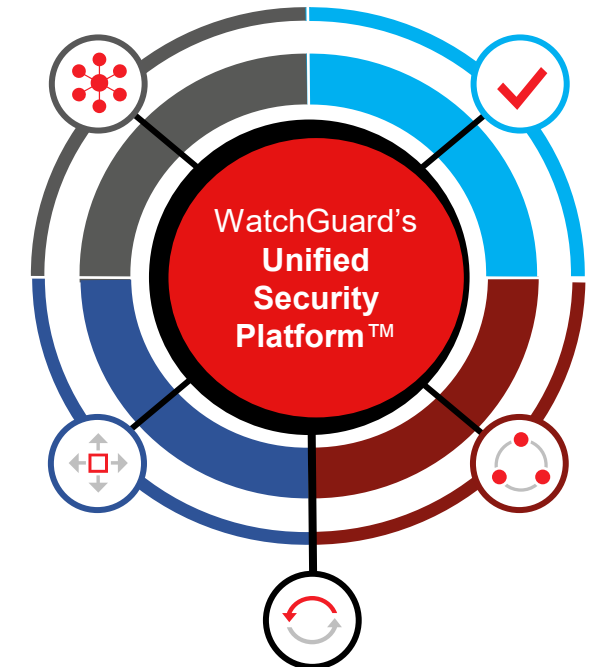
WatchGuard's Unified Security Platform™

WatchGuard's Unified Security Platform



A Purpose-Built Platform for MSPs

MSP PRIORITY		WATCHGUARD DIFFERENTIATION
	BREADTH & RELEVANCE OF PORTOFLIO	➔ A complete portfolio of endpoint , multi-factor authentication , and network security products and services for protecting environments, users, and devices.
	EASE OF ADMINISTRATION	➔ WatchGuard Cloud is a centralized security administration, visibility, and advanced reporting hub acting as a single pane of glass for MSP partners
	ENABLE THE S in MSSP	➔ A fully integrated platform for adopting a zero-trust security posture via WatchGuard's Identity Framework and deploying a true XDR-based approach to threat detection and remediation via ThreatSync .
	PROCESS AUTOMATION	➔ WatchGuard's Automation Core brings simplification and scale to every aspect of security consumption, delivery, and management.
	BUSINESS MODEL FLEXIBILITY	➔ Simplified business operations with direct API access, a rich ecosystem of out-of-the-box integrations , and support for all payment and consumption models via FlexPay .





Thank You



PROFESSIONAL SERVICES

Alex Claro & Ashley Edwards



TECHNICAL VALUE- ADD – FREE!

OUR TECHNICAL SUPPORT TEAM - HELPING YOU WIN MORE OPPORTUNITIES



PRE-SALES SUPPORT

Design Support
Predictive Heat Mapping
Demonstrations
On-Site Visits
Bill of Materials/ comparison



POST-SALES SUPPORT

Technical Support
Returns
Configuration Advice



CONTENT

Knowledge Base
Webinars
Blog Post



TRAINING – (FREE Remote)

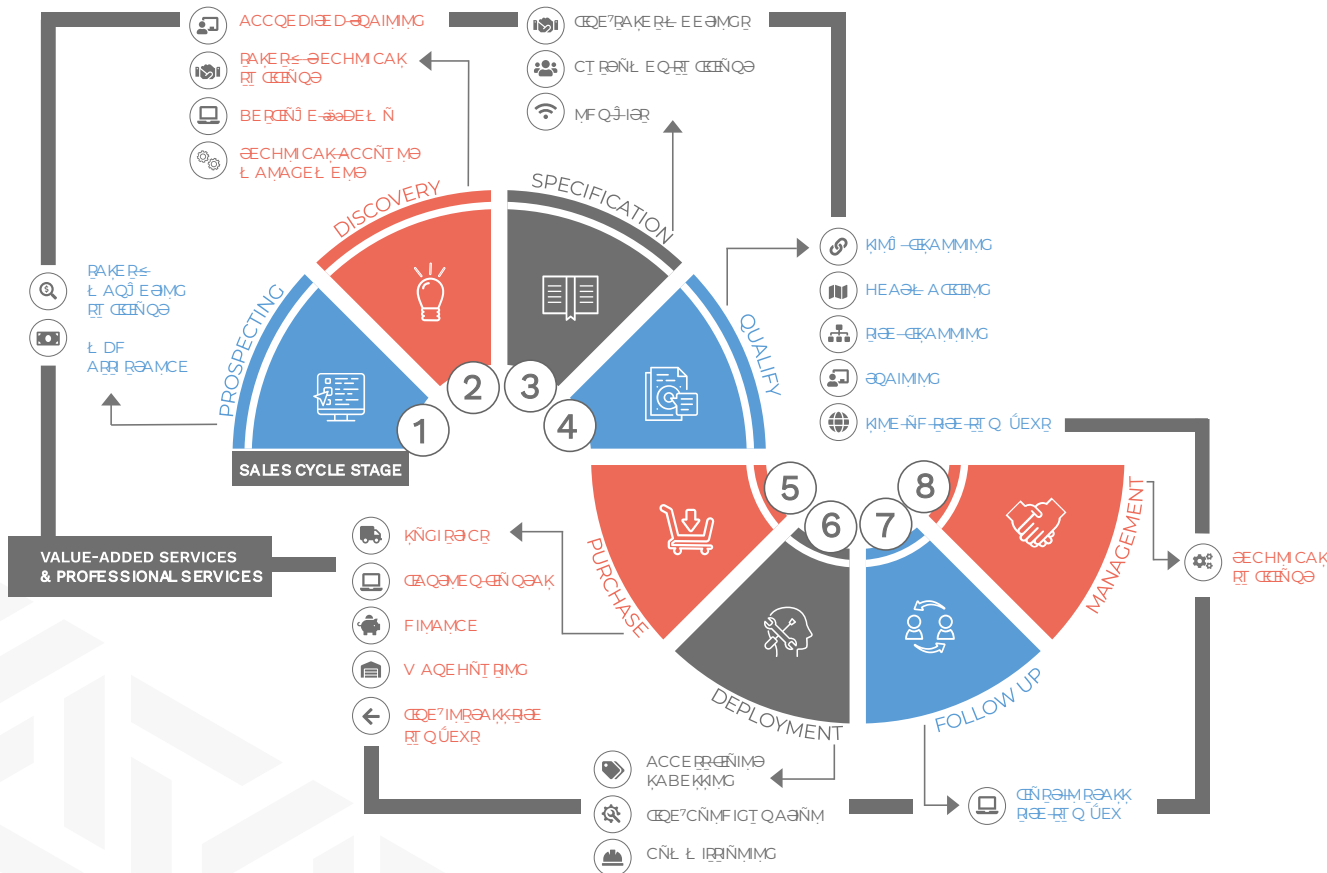
Accredited Training
Bespoke Training

A modern outdoor patio area featuring a curved light-colored sofa with green cushions, a low wooden coffee table, and several matching ottomans. The patio is enclosed by a wooden railing, and two large, light-colored pendant lamps hang above the seating area. A potted plant is visible on the right side. The entire scene is overlaid with a blue and red gradient.

THE BENEFITS OF PURDICOM PROFESSIONAL SERVICES?

PROFESSIONAL SERVICES

OUR TECHNICAL SUPPORT TEAM - HELPING YOU WIN MORE OPPORTUNITIES



POST-SALES

- Dedicated Engineers for your project
- Indoor/ outdoor surveys & installations
- Line of site Surveys
- Commissioning
- Pre-Staging/ Configuration
- Asset register/ labelling
- Health Checks
- Bespoke training
- Cabling



PURDICOM ONLINE TOOLS WEBSTORE

Alex Claro

Reception

PURDICOM ONLINE TOOLS

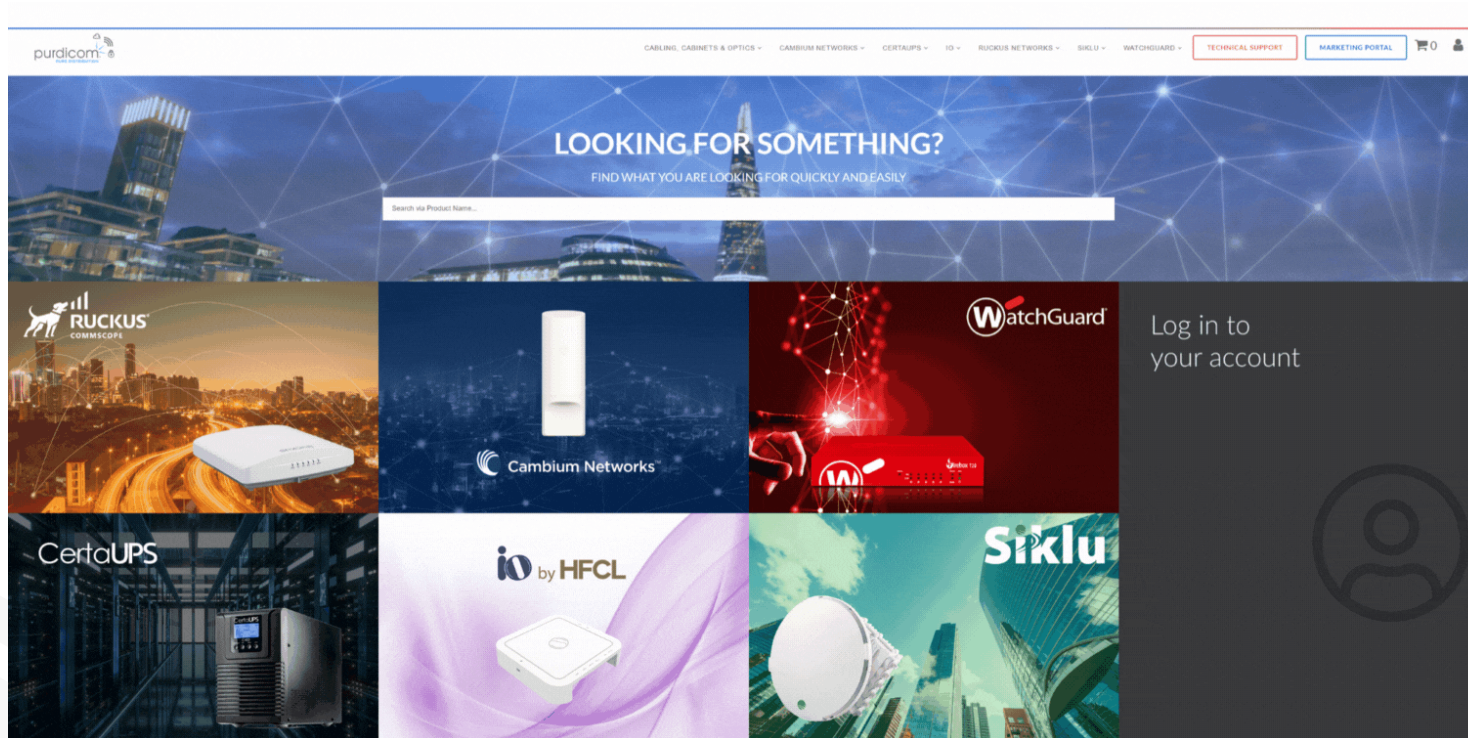
Our aim is to improve customer engagement by automating some of the manual tasks we have in place today. This will in turn improve response times and customer engagement with Purdicom.



THE BENEFITS OF PURDICOM WEBSTORE?

OUR NEW AND IMPROVED LOOK

PURDICOM WEBSTORE



- Able to view and approve any quotes
- Ability to edit quotes
- View any license, tracking information and order status
- Submit heatmaps and request any amendments
- Ability to view and pay all invoices
- Ability to view a live statement
- Marketplace with datasheets and related items to see what products complement each other

A large, dark wooden barn with a steep, thatched roof is the central focus. It has several windows and a small entrance with a wooden frame. The barn is situated on a grassy field. In the foreground, a paved path curves from the bottom right towards the barn. Large, leafy trees are on either side of the barn, and a stone wall is visible in the background to the right. The sky is blue with some clouds. The entire image has a semi-transparent blue overlay.

THANK YOU



CertaUPS

A  **legrand**® business



PURDICOM PARTNER DAY

Date: 14th September 2023

KNOWLEDGE BEYOND POWER

In case you don't know who we are:

- CertaUPS is an internationally acclaimed UPS (Uninterruptible Power Supply) specialist
- We support the channel and have worked with Purdicom for nearly five years
- With nearly three decades of industry experience, we have delivered thousands of solutions for critical applications across healthcare, education, IT, data centre and public sector

UPS systems
from
800VA – 30kVA

Up to
£2.5million in
UPS stock held
in the UK

Unlimited access
to CertaUPS sales
and technical
teams

CertaUPS

A  legrand business

OUR PARTNERSHIP WITH PURDICOM

Purdicom has supported us from the beginning, and together we have achieved huge success



- Gold CertaUPS Partner
- Exponential year on year growth
- Distributor of the year
- A certified trained partner

CertaUPS

A  legrand business

LEGRAND UK & IRELAND

In 2021 CertaUPS became part of the Legrand UK & Ireland family

- Legrand has been manufacturing in the UK since 1980 and is a global specialist in electrical and digital building infrastructures
- It has four specialist areas; critical power, cable management, digital infrastructures and working and living spaces



OUR BUSINESS IS MORE THAN JUST UPS SYSTEMS

To start with, CertaUPS is now a **legrand®** business

What that means for our partners and customers:



- An open invitation to the Legrand Customer Care Centre
- Access to the Legrand portfolio of products
- More resource

CertaUPS
A **legrand®** business

EXCELLENCE BEYOND TECHNOLOGY

CertaUPS is proud to have some of the best people in the industry

- The frontline
- Behind the scenes
- On the ground

We are a team of highly skilled, incredibly experienced and vastly knowledgeable individuals If we do say so ourselves!

CertaUPS
A  legrand business



THE BLACK BOX



UPS Systems (Uninterruptible Power Supply)
[a device that maintains power in the event of a failure]

800VA – 20kVA
Line interactive
Online double conversion
Tower
Rackmount

A UPS system not only protects electrical devices from power interruptions but also provides a clean, reliable power supply

CertaUPS
A  legrand business

APPLICATIONS

APPLICATIONS

Data centres
Sever rooms
Telecoms
CCTV
Banking
Healthcare
Hospitality
Retail
Small office
Commercial buildings

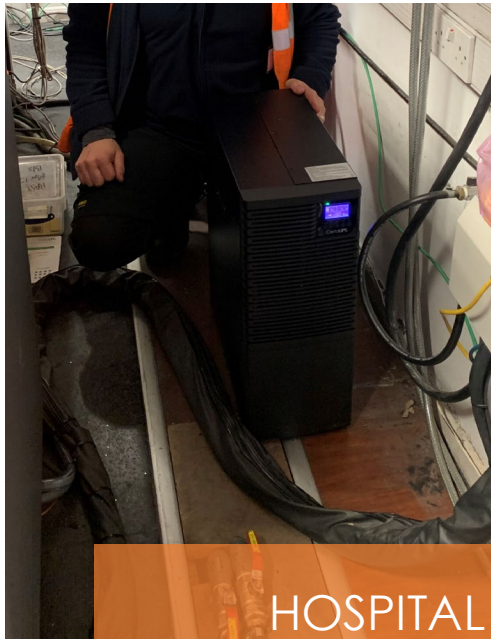


CertaUPS

A **legrand** business

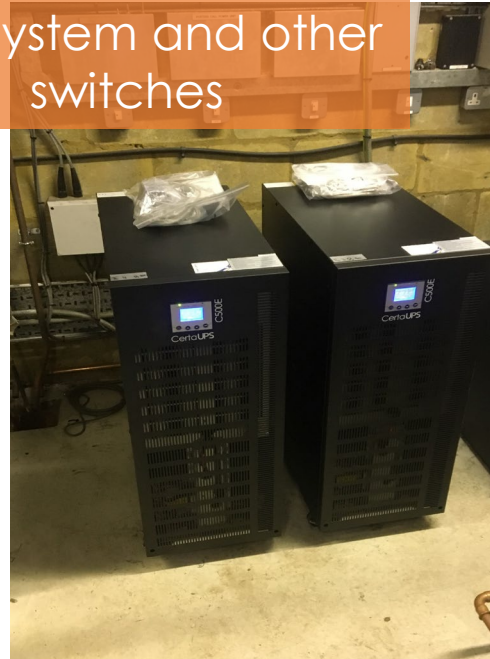
WE MUCK IN

It's not glamorous - unlike Josh... But it's what we do, and we love it!



HOSPITAL
IPS support

STADIUM
VAR system and other
switches



HOTEL
Switches and access
points



CertaUPS
A  legrand business

SOME NAMES YOU'LL RECOGNISE

We are proud to have worked with the best; with and for big brand names to support critical applications from EPOS and IT hardware through to evacuation lifts, life safety equipment, emergency lighting and data centres



BANK OF ENGLAND

LLOYDS BANK



CertaUPS

A  legrand business

A WISE MAN ONCE SAID

“CertaUPS has provided exceptional support right from the very start of the opportunity with Hyperoptic and has been instrumental in ensuring those high standards have been maintained throughout.

“From providing test equipment at the proof-of-concept stage, to logistical and operational support as the project rolled out, they have made every aspect of a challenging project as easy as it possibly could have been. We can't recommend CertaUPS enough, they have a very reliable product with excellent performance and exceptional value for money, along with the staff that always go the extra mile.”

PARTNER Q&A

CertaUPS

A  legrand business

A SOLUTIONS BASED APPROACH

Hyperoptic is a London based, fibre-to-the-building and fibre-to-the premises internet service provider.

Since the company's inception in 2011, Hyperoptic has benefited from significant investment and subsequent growth. It has expanded its business to Reading, Cardiff and Bristol.

At the beginning of 2023 it was reported that Hyperoptic had built out network to 1.15million homes and had over 250,000 customers. It is now regarded as one of the top five fibre network companies in the UK.



A FINAL WORD

We've had a really good year. A particular note of thanks must go to our favourite partner – Purdicom and their incredible team. We would also like to thank Purdicom's other vendors for the support and opportunities – it has been great to work with you.

CertaUPS 94% annual growth

New projects

Team expansion

Award finalists (Rising Star, Vendor of the year, Hidden Hero)



ANY QUESTIONS?

CertaUPS

A  business

THANK YOU FOR HAVING US

We can't wait to see what comes next!

CertaUPS

A  **legrand**® business



Cambium Networks™

Connectivity That Just Works

Purdicom Partner Day 2023

Newbury Racecourse

Deep and Experienced Leadership Team



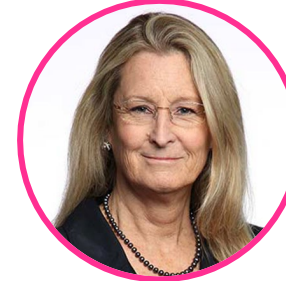
MORGAN KURK
President and CEO



SCOTT IMHOFF
SVP of Product Mgmt



RON RYAN
SVP Global Channel Mgmt



SALLY RAU
General Counsel



MARY PETERSON
SVP of Marketing



ANDREW BRONSTEIN
CFO



VIBHU VIVEK
SVP of Products



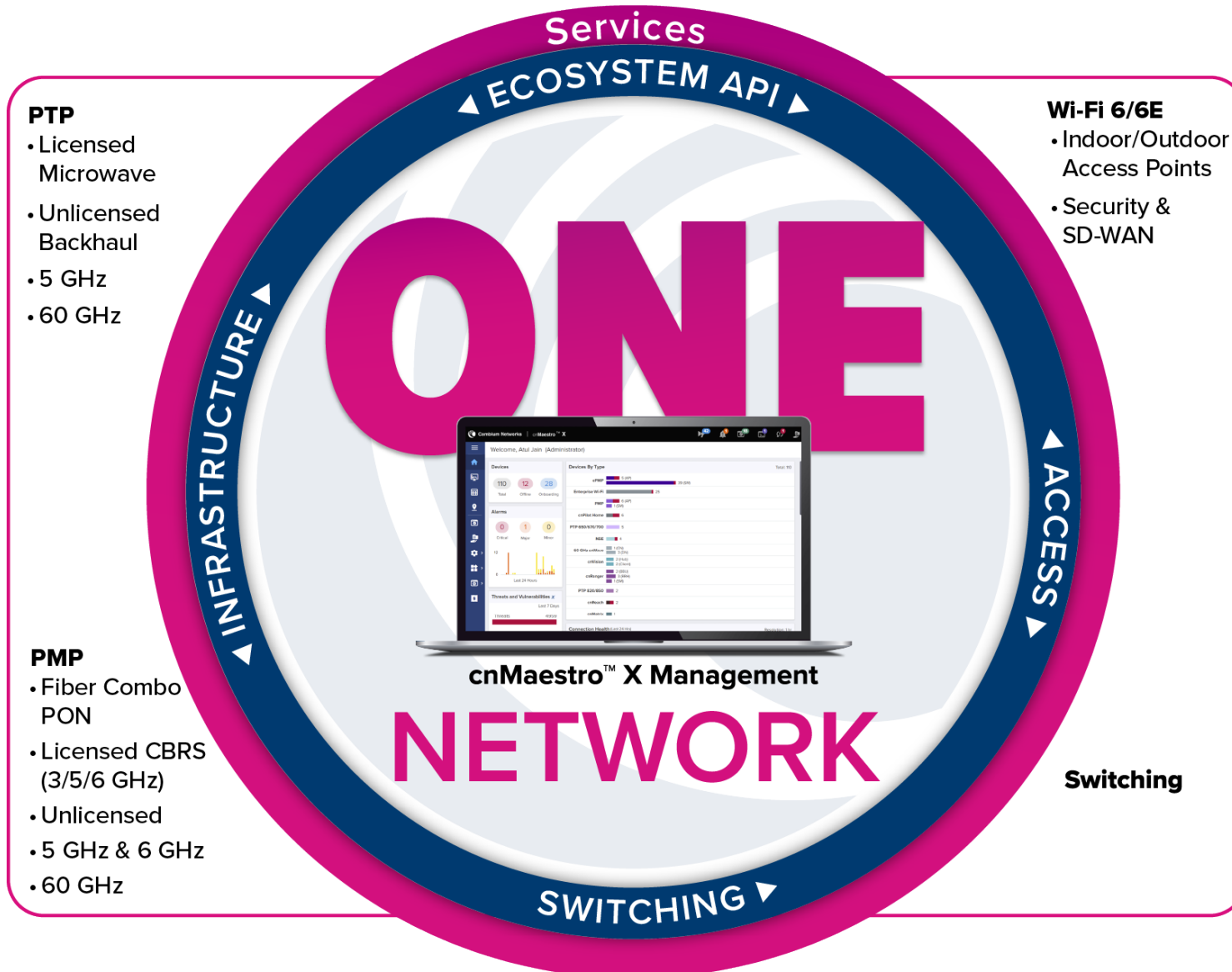
BRYAN SHEPPECK
SVP of Global Sales



RAYMOND DE GRAAF
SVP of Ops



Cambium ONE Network Summary



ONE Network

Wi-Fi, switching, security & backhaul in one solution



Superior Performance

- Application optimized
- High density, long range



Simple to Operate

- Cloud managed
- Integrated automation



Economical

- Less equipment
- Lower TCO

Broad portfolio of network building blocks



**Cloud
Management**

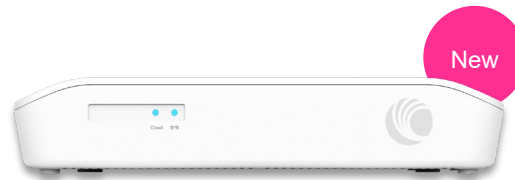
Wi-Fi



Switching



Security & SD-WAN



Network
Service Edge



Fixed Wireless



2,5 GHz, 3 GHz, CBRS, 5
GHz, 6 GHz, 60 GHz, 5G
Fixed



Fibre Combo PON



Wi-Fi 5



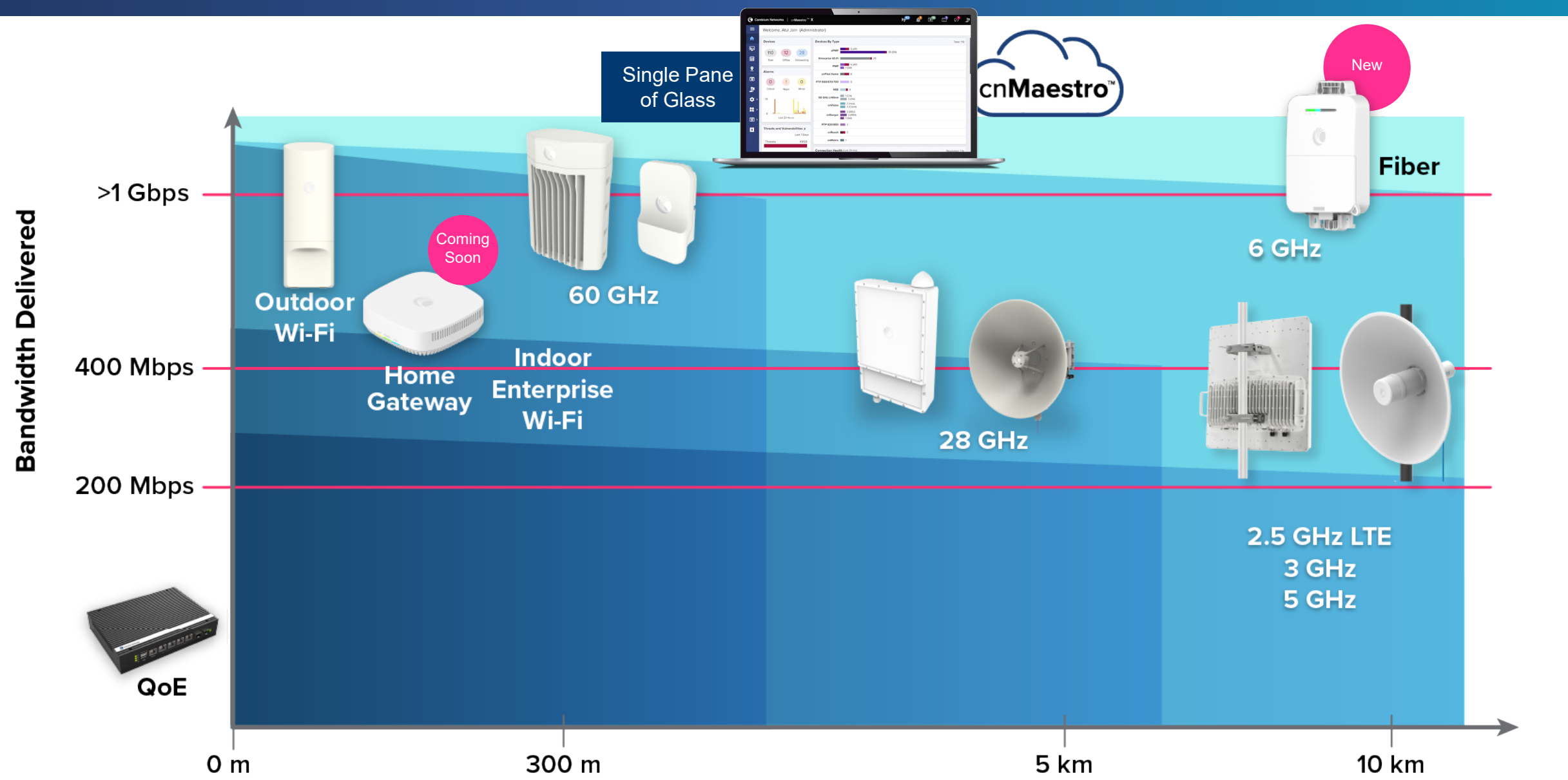
Wi-Fi 6



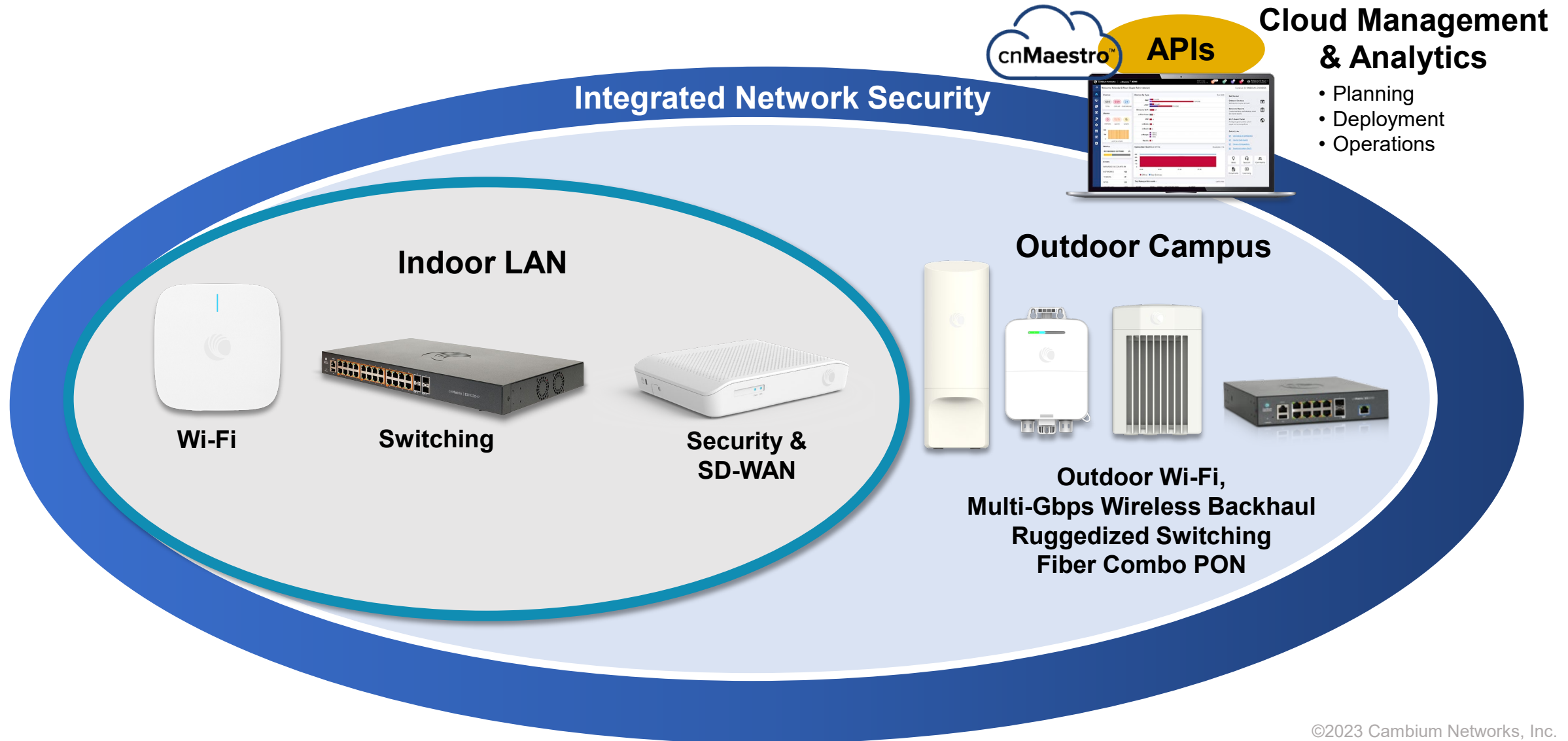
Wi-Fi 6E w/ SDR



Broadband Services Delivery Platforms



Not to scale. Theoretical distance ranges with optimal conditions.



One Service Provider Experience

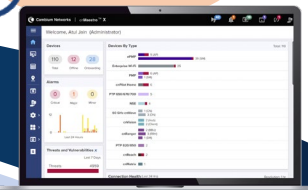
Fixed Wireless Distribution



APIs

Cloud Management & Analytics

- Planning
- Deployment
- Operations



Home or Small Business

Coming Soon

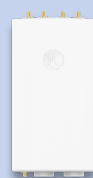


Wi-Fi Router
Managed Home Wi-Fi
Fiber or FW Access



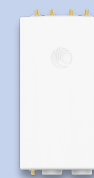
New

Campus or Community



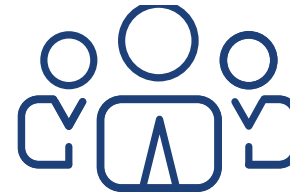
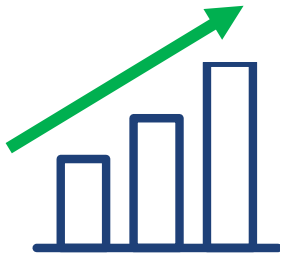
**Outdoor Wi-Fi,
Multi-Gbps
Wireless
Ruggedized
Switching**

Fixed Wireless or Fibre Access



**FWB or Fibre
Ruggedized Tower Switching**

Cambium Networks ConnectedPartner Program



Exceptional ROI

Competitive pricing
Deal & margin protection
Compelling promos
Low TCO

Marketing Tools

Co-brandable marketing content
Case study collaboration
Competitive positioning
MDF

Sales Enablement

Free training
Partner webinars
Partner communications
NFG gear
Free planning tools

**Apply for Partnership
or Request a Login**

channel.cambiumnetworks.com

Cambium Networks™
ConnectedPartner

LOG IN

Email

Password

[Log In](#)

[Lost your password?](#)

Don't have an account?

[Apply for Partnership](#)

[Request New User Login](#)



Cambium Networks™

Key Focus Areas in 2H 2023



**Fibre and fixed
wireless broadband**



**Guest, Employee &
Subscriber Wi-Fi Access**



**Wi-Fi Hotspots
CCTV Backhaul**

- Indoor and outdoor Wi-Fi that simply just works – scaling from small offices to high density venues or enterprise campuses
- Automated enterprise-grade ethernet switching solution streamlines operations
- Application-aware to match the needs of your business
- Centrally managed by a cloud-based system
- Delivers a disruptively low total cost of ownership



- Cover the Entire Facility with Exceptional Connectivity
- For today's hotel guests, fast, accessible Wi-Fi is as important as an on-site gym and a pillow menu
- Blanket guests with Wi-Fi that amazes guests in their rooms, in conference areas and across the entire facility
- Secure access for guests, staff, maintenance, IoT devices and video surveillance cameras
- High-capacity, high-density connectivity in meeting and conference rooms
- Low latency to support streaming video services



- Fixed wireless is a proven technology used in thousands of networks around the world
- Fixed wireless and Wi-Fi connectivity provide multi-gigabit, low latency connections
- Wireless solutions can be deployed faster and at lower cost than trenching fibre
- Wi-Fi connectivity enhances commerce
- Leverage an IP-based wireless infrastructure across multiple applications



- Meet Learning Targets with Better Wireless Experiences at School or Home
- Focus on learning, not IT infrastructure
- Whether accessing digital learning content, collaborating with a team on a project or taking online tests, long login times and sluggish connections are not acceptable



- Cambium offers a complete solution with multi-gigabit connections to the building to switching and complete Wi-Fi coverage inside and outside
- Fixed wireless and Wi-Fi solutions offer high performance without breaking the budget



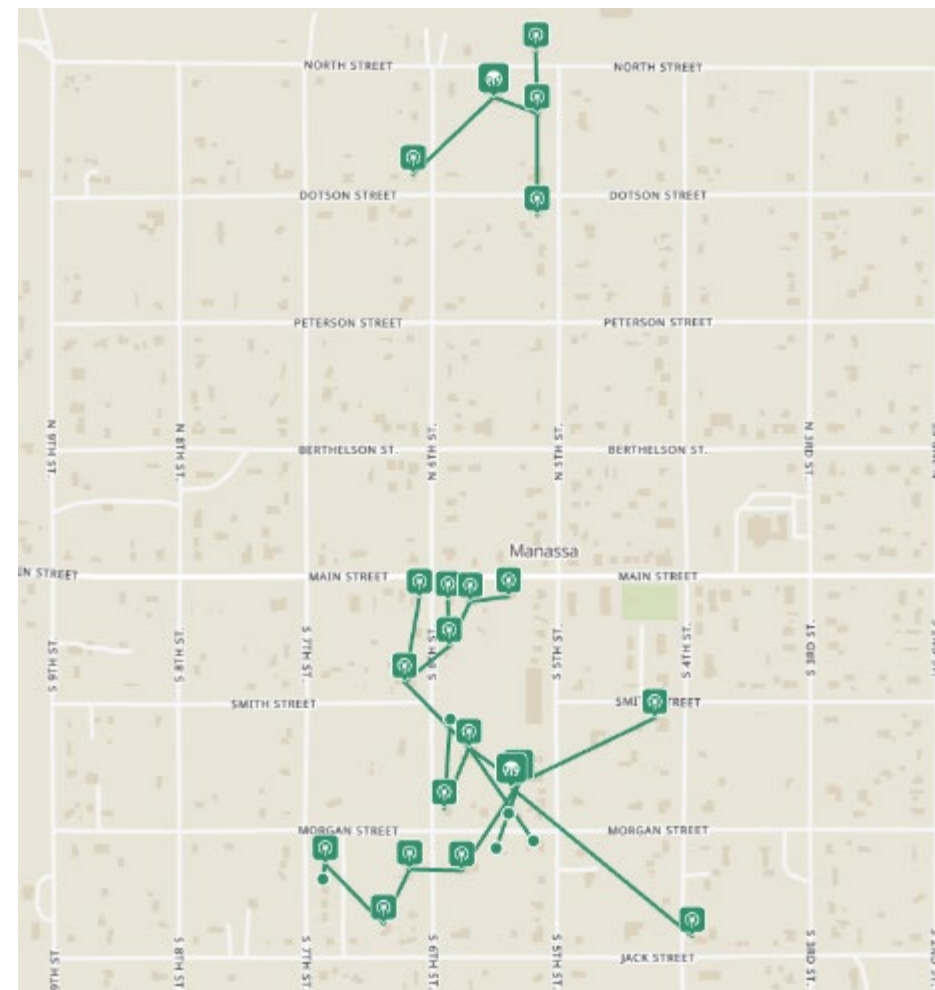
- Rapidly expand the network in a matter of days or weeks instead of months
- A fraction of the time and cost of trenching fiber
- Multi-gigabit speeds
- Indoor and outdoor Wi-Fi connectivity
- Centralized cloud management improves efficiency



- Deliver high speed connectivity faster
- Wireless offers multi-gigabit speeds with low latency
- Profitably offer faster service at a lower cost
- Reduce the total cost per address passed
- Reach customers where fibre is not economical



- Extend your fibre network now
- Say “yes” to more requests for faster broadband service
- Expand the network in days or weeks to get to new customers first



- Get to markets first
- Satisfy demanding customers
- Low total cost of ownership



- Win the customer connectivity land grab
- Reach business and residential customers in days or weeks
- Rapidly open new revenue streams
- Don't need mobility? Expand now with Fixed Wireless and Wi-Fi
- Fixed wireless offers more efficient use of spectrum and provides high speed broadband service to business and residential locations
- Indoor and outdoor Wi-Fi connectivity
- Centralized cloud management improves efficiency





Cambium Networks™

Solutions Updates for 2023

Cambium's portfolio of Connectivity solutions

ONE Network Portfolio Detail

Network Management	cnMaestro X - Cloud Managed Services							
Network Services	QoE and NSE 2000 Advanced Services Platforms							
Wired Interface	cnMatrix - Wireless Aware Switching							
Product Platform			Fixed Wireless Broadband					
	Wi-Fi 6/6E	Fiber	PTP 820/850	PTP 550/670/700	PMP 450	ePMP	cnWave	cnReach
								
Design Focus	Software-Defined Radios, Cloud Managed, High-Performance Wi-Fi	XGS PON Converged Fiber and Wireless Networks	Licensed Microwave Backhaul	Industry Leading Sub-6GHz Backhaul Performance	Unparalleled Scalability for Multipoint networks	Price / Performance PTP and PMP Leadership	Gb to the Edge for Urban, high-density Suburban, and Rural markets	Licensed Narrowband in rugged I/O rich package
Throughput	1+ Gbps/AP	10 Gbps Symmetric OLT	2+ Gbps	450–1400 Mbps	1.4 Gbps / Sector	1.2 Gbps / Sector	15 Gbps / DN 3 Gbps / BTS	KB to MB
Spectrum (GHz, except where noted)	2.4, 5, 6	PON	6–38	4.400–5.925 7.125–8.500	900 MHz, 2.4, 3, 5	2.4, 5, 6.4	24.25–29.50 57–66	220, 450, 700, 900 MHz

Enterprise Wi-Fi & Switching

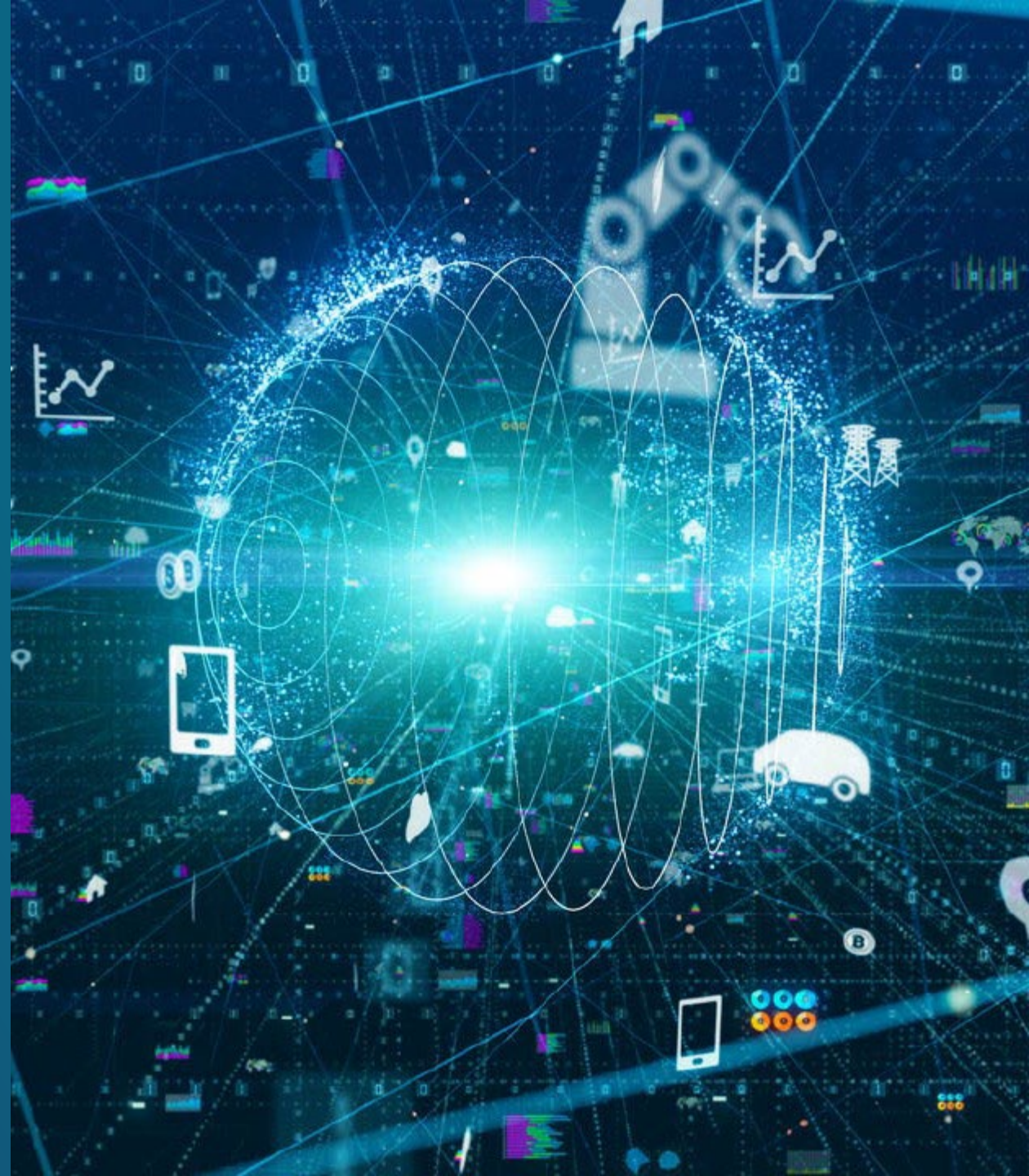
Wi-Fi access
networking for
businesses

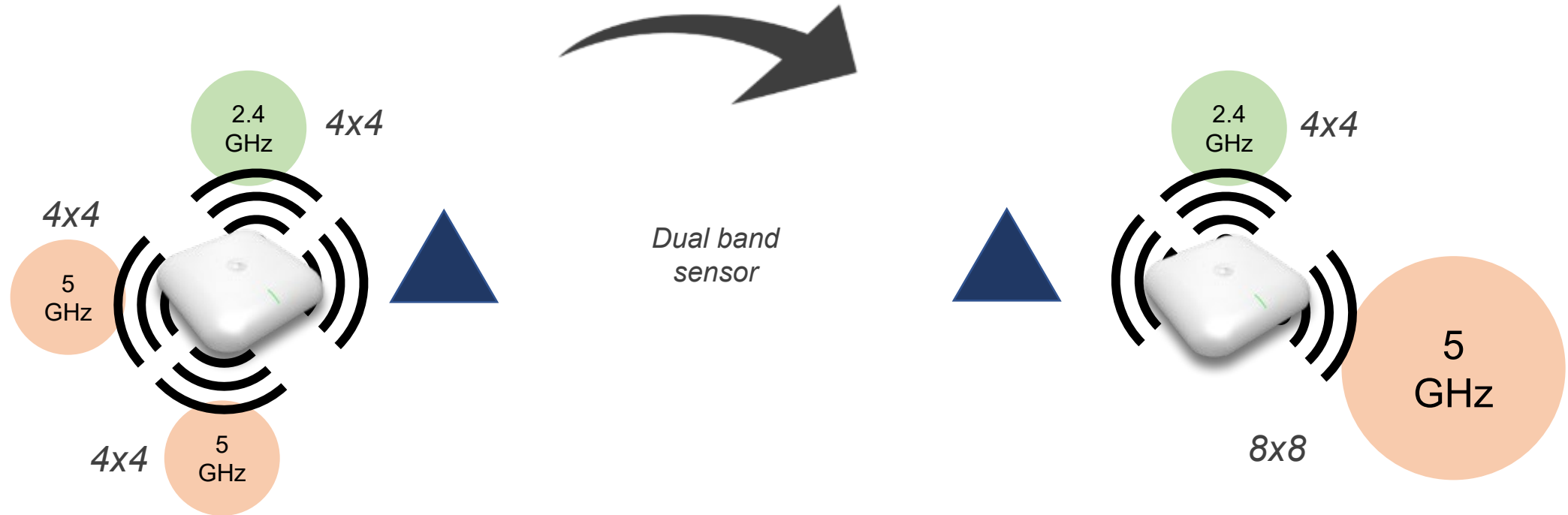
Fixed Wireless

Wireless internet
across large
geographic areas to
last mile residential
& business

Cambium Wi-Fi Solutions

What's New??





Legacy Networks: Double 5GHz capacity for Education, Hospitality, Enterprise

Ideal for 11n, 11ac mixed with new 11ax devices

802.11ax: Migrate to 8x8 for full MU-OFDMA, MU-MIMO, IOT ready

Ideal for 11ac, mostly 11ax, IOT mixed networks

Wi-Fi 6E: Future Proof Wi-Fi without the Premium

NEW

Wi-Fi 6E™

XE3-4

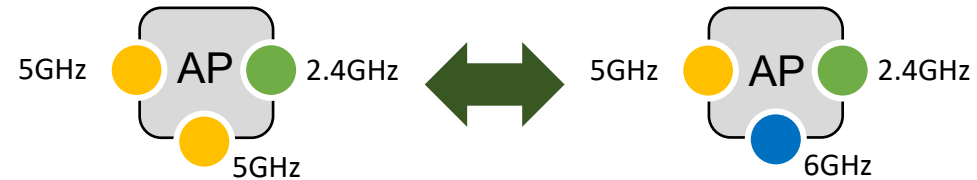


XE5-8

Highlights

- Value-priced 3-radio AP at \$895
- Ultra-high density 5-radio AP with 15 Gbps Wi-Fi bandwidth
- Software-defined 5/6GHz radios
- Wi-Fi 6E client migration assist
- Application Control for 2400+ apps
- Integration with Microsoft Azure & Google G-suite directories

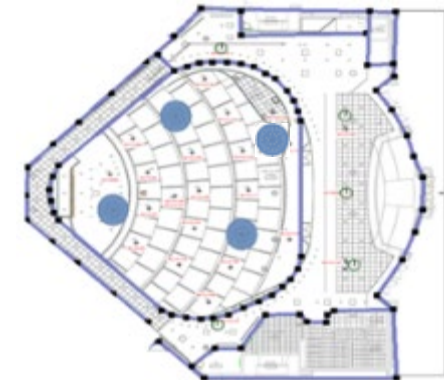
Software-defined Wi-Fi: Gracefully migrate to 6 GHz



High Density Wi-Fi: Fewer APs dramatically reduces TCO



13 Traditional 2-radio APs



4 Cambium 5-radio APs

**Example 500 Seat
Auditorium**

Enterprise Wi-Fi 6/6E with SDR: Mid → High Performance

Cloud or On-premises managed

Split-Band / Split-Radio SDR

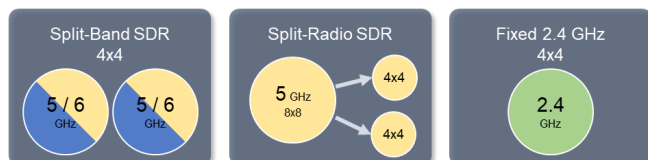
4x4 | 4x4 Dual 5G | 8x8 | Dual 6G

XE5-8


XV3-8


XE3-4

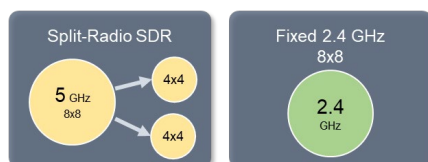

XE5-8 Radios



XE3-4 Radios



XV3-8 Radios



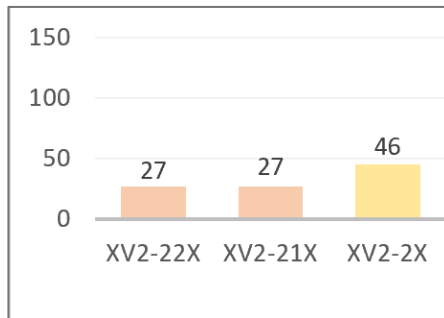
Higher Education/K12	Higher Education/K12	Higher Education/K12
Ballroom, Conference Ctr	Hospitality Meeting rooms	Meeting Rooms
Large public venues	Retail	Retail, MDU/LT care
Large Enterprise	Large Enterprise	Small – Large Enterprise

	XE5-8	XV3-8	XE3-4
Wi-Fi	Wi-Fi 6/6E	Wi-Fi 6	Wi-Fi 6/6E
Streams [2.4/5/6GHz]	4+8+4+4 SDR	4+8 SDR	2+2+4 SDR
5GHz EIRP	32dBm	36dBm	31dBm
Ethernet	Dual 5 GbE	5 GbE, 1 GbE	2.5 GbE, 1 GbE
Other ports	BLE, USB	BLE, USB	BLE, USB
Key Point	Only dual 5/6GHz AP on the market Three SDR radios	Proven performance 5GHz split-stream SDR	Investment protection 5/6GHz split-band SDR

Enterprise Wi-Fi 6: Value Tier → Mid Performance

Cloud or On-premises managed	XV2-22H	XV2-21X	XV2-2X
Purpose built designs, discreet			
2x2, dual band			

Wi-Fi Performance Scale
(aggregate value of throughput, MUMIMO, Clients, RF)



Low	Med
2x2, dual band	2x2, dual band

SME, Primary Edu, Guest Rooms, Apartment MDU

Primary Edu, SME, hotel Lobby, MDU

Education dorm, hotel guest room	Higher Education/K12	Higher Education/K12
Apartment MDU, LT care	Lobby, BOH, FOH, low density	Meeting rooms, Lobby, BOH
SME, small Wi-Fi cells	Retail, MDU/LT care	Retail
Retail	Small Enterprise	Small – Large Enterprise

	XV2-22H	XV2-21X	XV2-2X
Wi-Fi	Wi-Fi 6	Wi-Fi 6	Wi-Fi 6
Streams [2.4/5/6GHz]	2+2	2+2	2+2
5GHz EIRP	28dBm	33dBm	31dBm
Ethernet	3 GbE	GbE	2.5 GbE
Other ports	BLE/Zigbee/Matter		BLE, USB
Key Point	2 x PoE in ports 1 x PoE out port Wallplate AP with desk or flush wall optional adapter	Flexible and extensive installation options, small footprint Value tier low density AP	2.5 GbE with > 1Gbps throughput, medium density AP with AVC Manage with cnMaestro, XMSC

Outdoor Wi-Fi 6/6E: Extended range, easy installation

High Efficiency Antenna

Self-optimizing for consistency & quality

PoE out, 2.5GbE, Sector ant

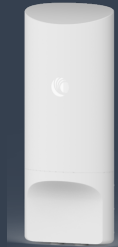
XV2-23T



XV2-2T0



XV2-2T1

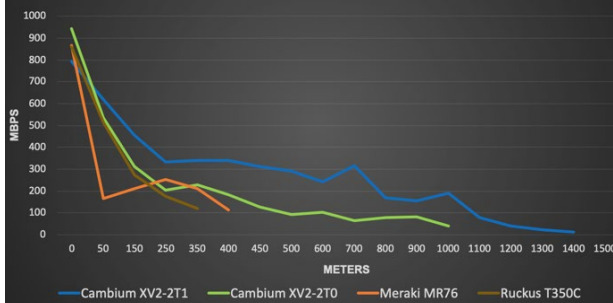


XE3-4T

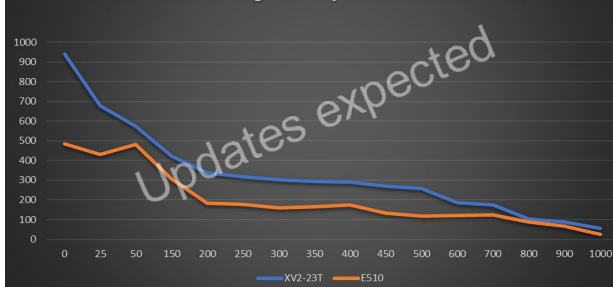


WIFI 6/6E with SDR

Downstream TCP Throughput by Distance -
Samsung Galaxy S10e Client



5GHz DL TCP Tput by Distance -
Samsung Galaxy S10e Client



Higher Education/K12 Outdoor

Higher Education/K12 Outdoor

Higher Education campus

Poolside, parking lots

Retail Transportation & Logistics

Stadium, Outdoor venues

Cold storage, digital warehouse

yard, wireless cameras, mobile devices,
digital scales

Indoor high ceiling, high density

Public / municipal Wi-Fi

Public Wi-Fi, outdoor venues

Transportation & Logistics

	XV2-23T	XV2-2T0	XV2-2T1	XE3-4T
Wi-Fi	Wi-Fi 6, Omni antenna	Wi-Fi 6, Omni antenna	Wi-Fi 6, 120° sector antenna	Wi-Fi 6/6E
Streams [2.4/5/6GHz]	2+2	2+2	2+2	2+2+4 SDR
5GHz EIRP	36dBm	36dBm	36dBm	36dBm
Ethernet	GbE	2.5 GbE / 1 GbE	2.5 GbE / 1 GbE	2.5 GbE, 1 GbE
Other ports		PoE out	PoE out	GPS
Key Point	IP67, -40°C to 65°C Integ pole/wall mount ~11 watts required	Best-in-class rate up to 1km PoE out to connect broadband SM, IP camera, other IP67 rated, -40°C to 65°C operating temperature		IP67, -40°C to 65°C 0Connectorized antennas 5/6GHz split-band SDR

Deploy Resilient Networks with cnMatrix™



Policy Based Automation

Cloud/On-Prem Management

Enterprise-grade L2-L3 Capabilities

Best-in-Class Total Cost of Ownership



cnMaestro™



XMS

**Wired-Wireless
Deployment Made Simple
with cnMatrix**

EX2000 Enterprise Switches – Product overview

cnMatrix | EX2028-P

cnMatrix | EX2028

cnMatrix | EX2010-P

cnMatrix | EX2010

Understanding the Model Name

EX ABCDY-P



EX – Enterprise Switch

A – Market Segment

B – Generation of switch

CD - # of physical ports

Y – Port type identifier

-P – PoE capable

Examples

EX 2028 – 24x1G + 4xSFP+

EX2010 – 8x1G + 2xSFP

EX 2052 – 48x1G + 4xSFP+

EX2022M – 4x2.5G + 16x1G +
2xSFP+

EX3028 – High End Enterprise

TX2028 – WISP switch

VX2004 – 4x1GE Outdoor switch



Policy Based Automation

- Simplifies wired-wireless deployments
- Improves security for IoT deployments
- Minimizes human errors
- Improves network resiliency
- Reduce cost of operating the network

POLICY BASED AUTOMATION

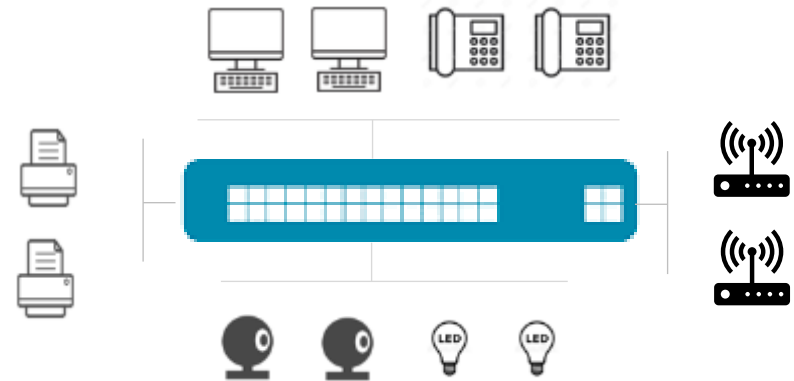
Zero Touch
Provisioning

Device
Profiling

Policy
Enforcement

- Automatically Profile Devices
- Automatically Apply Policy Based on Device Type
- Automatically Segment devices and block unauthorized access

Increasing number of user devices and “things”
connect to a converged IP network



A port is a port is port – no need to
label your ports for type of device



- **Eliminates error prone manual configuration**
 - Simplifies and reduces trouble-shooting
- **Every port is treated equally**
- **Reduce expenses required to deploy and manage**
- **Zero Touch Simplicity with automated configuration**
- **Automated security with device profiling and policy enforcement**
- **Automates 'Adds', 'Moves,' and 'Changes' of network devices**



cnMaestro provides an integrated, intelligent, easy way to manage your network in the cloud or On Premise



Easy onboarding – Claim your devices in the cloud or on premises



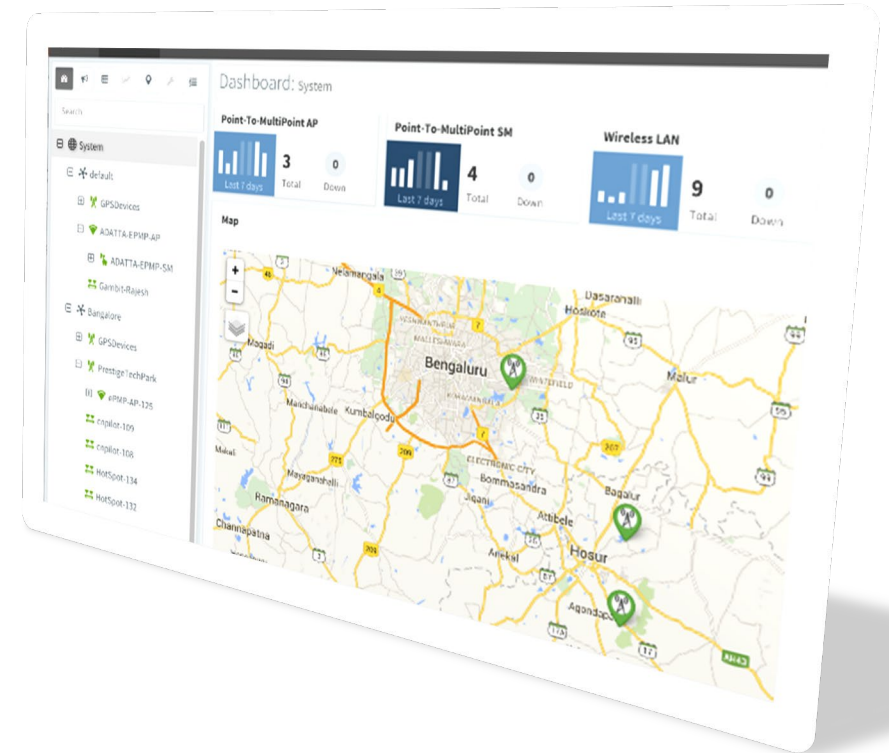
Configure devices – Automatically provision devices upon registration, or group devices and apply configuration parameters across your network



Monitor your entire network – Leverage hierarchical dashboards, statistics, and maps to view status and drill into problem areas



Intuitive end-to-end troubleshooting – Visualize tower-to-edge device health and evaluate real-time client network connectivity



Operates from 5.15 to 7.125 GHz in a single platform

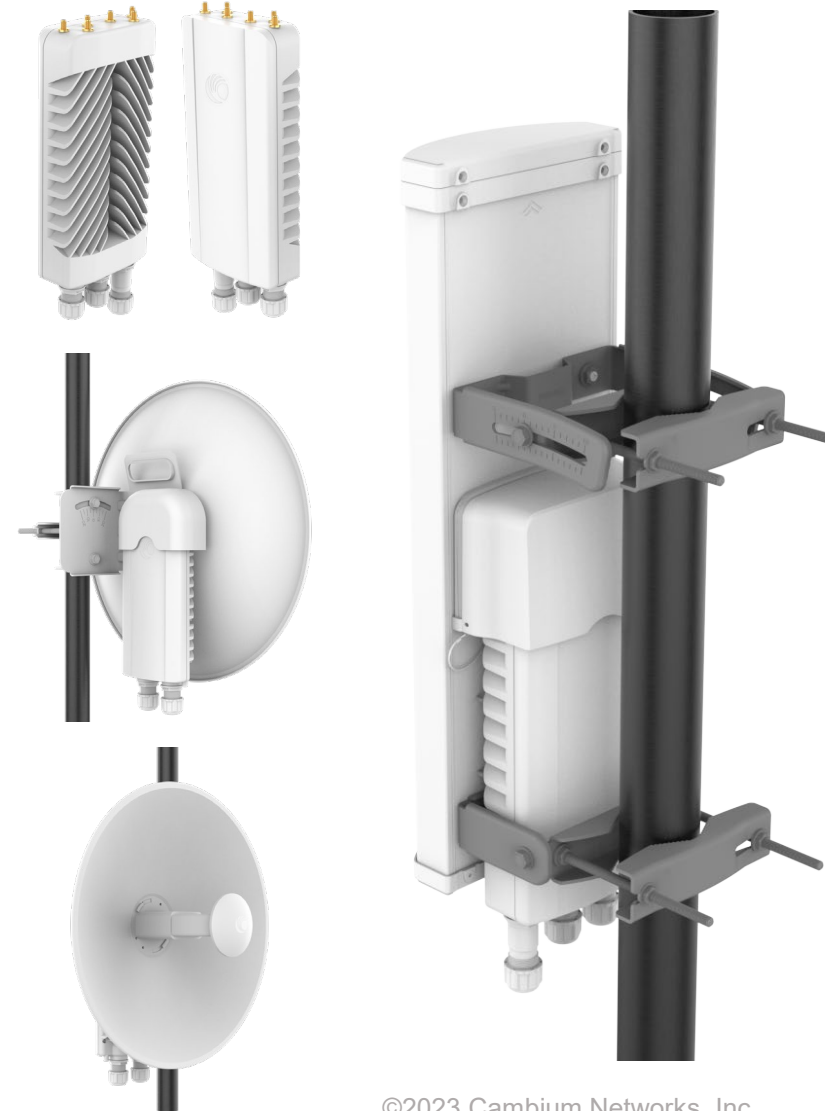
Backward and Forward Compatible *and* Future Proof

1.5 Gbps 4x4 MU-MIMO Access Point

- Up to 2x100 MHz Channels
- Dual Sector mode or Carrier Aggregation

4x4 High Performance or 2x2 Subscriber Module

- 4x4 SM capable of carrier aggregation and Gigabit speeds
- 2x2 SM capable of 100 MHz channel support and 700+ Mbps



PMP 450mv – Leading-Edge ... Again!

A step-function in performance leadership

1H 2024



2nd Generation of
cnMedusa™

Operates from 5.15 to
7.125 GHz in a single
platform

24x24 Massive MU-MIMO
– simultaneous
communication with up to
twelve subscribers

1024 QAM and extended
Coding Rates

- N=1 Frequency Re-Use
- Up to 2x100 MHz Channels
- Active Interference Mitigation techniques
- Deep Networking and Management feature set you require and expect
- Backwards and Forwards compatibility with your subscriber base



**Cambium ONE Network –
from Planning to
Deployment to Operation**

Simultaneous 3 and 6 GHz Dual Band Operation

**3300 – 3900 MHz supporting
5,7,10,15,20,30,40 MHz Channels**

**5925 – 7125 MHz supporting
20,40,80,160 MHz Channels**

20 dBi Peak Gain 3300 – 3900 MHz

23 dBi Peak Gain 5925 – 7125 MHz

**2+ Gbps Aggregate Load Balanced
Across Links***

*AP Tower Requires Aggregation Switch



ePMP 4500

4900 – 6000 MHz

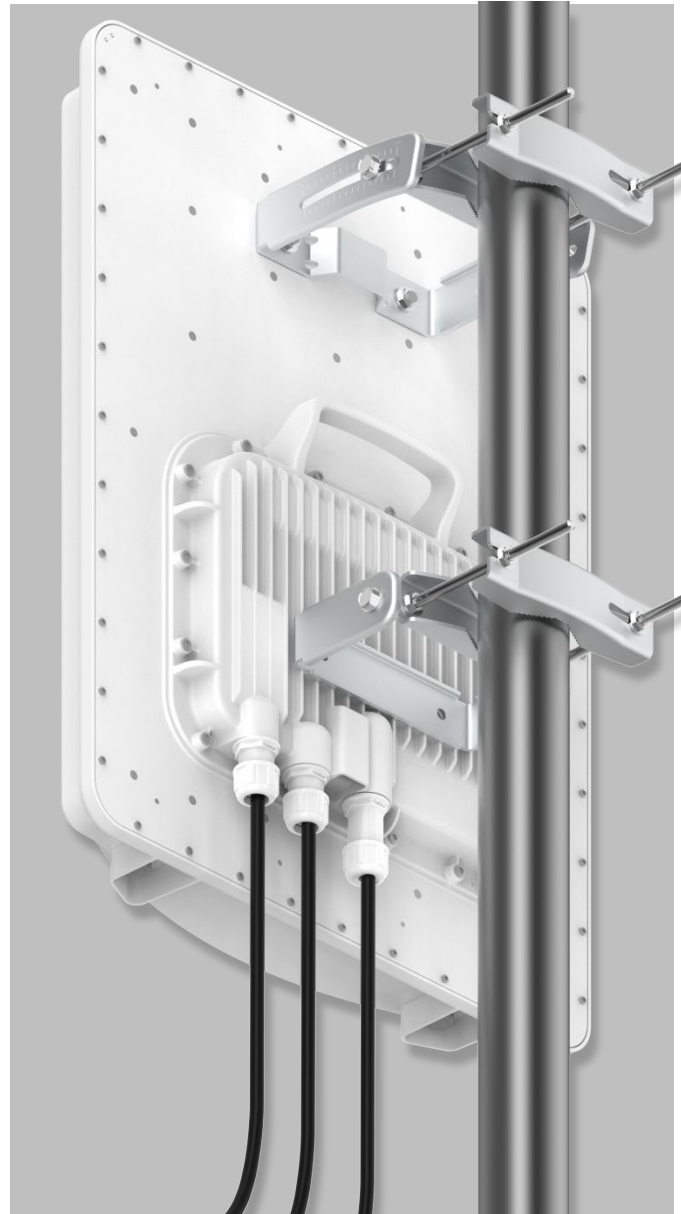
3+ Gbps per Sector

8x8 MU-MIMO AP and 25 dBi

Dish SM

1024 QAM Modulations

20 / 40 / 80 MHz channels



ePMP 4600

- 5800 – 7125 MHz

- 4+ Gbps per Sector

- 4x4 MU-MIMO AP and 25 dBi

Dish SM

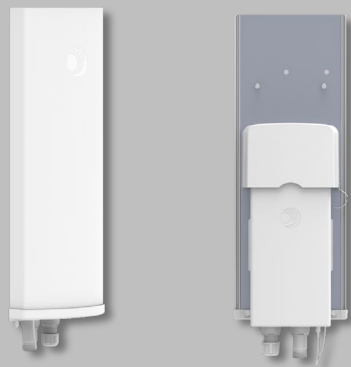
- Connectorized SM up to 4096 QAM

- 20 / 40 / 80 / 160 MHz channels

ePMP 4600 Series

Gbps Service to the Edge with 6 GHz

4x4 6 GHz Access Point



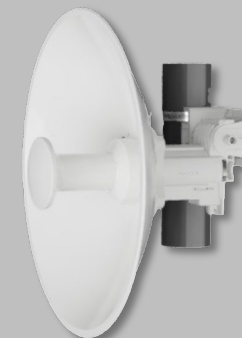
- 4x4 6 GHz Sector Antenna
- 48V PoE in
- SFP+ interface
- 160 MHz Ch, 4096QAM support
- TX Power 24 dBm/chain

Force 600C Subscriber Module



- 48V Active PoE in
- SFP interface
- 160 MHz Ch, 4096 QAM
- TX Power 24 dBm/Chain
- Internal GPS

Force 4625 Subscriber Module



- 25 dBi Antenna
- 48V Passive PoE in
- 160 MHz Ch, 1024 QAM
- TX Power 24 dBm/Chain
- USB GPS Accessory

➤ **Cambium Networks will provide a complete 6 GHz solution, including coverage modeling, network design, infrastructure equipment, customer premise equipment, as well as AFC services**

➤ **The perfect balance of cost and performance to provide Gb to the edge**

- Offer the most current and advanced technology when it comes to a PON solution
- Simplify the solution from every aspect keeping the WISP community in mind
- Single pane of glass and converged management with wireless and fiber via cnMaestro



XGS Combo PON 8 Port OLT

8x SFP+ GPON/XGS-PON and Combo Any-PON

2x 10G/25G SFP28 and 2x100G QSFP

1 x USB 2.0 interface for x86 module, USB-A

1xRJ45 for Out-of-Band Management

440 x 260 x 44.5 mm (1U 19" Rack)

AC Power module, INPUT 100~240VAC, OUTPUT
250W

Temperature range -40°C to +65°C



Indoor & outdoor GPON & xGSPON SFU (Single family unit)

ONU type	Input power	Ethernet	Temperature
GPON indoor	12V DC	1 Gbps	0° C to 45 °C
GPON outdoor	30V PoE	1 Gbps	-30° C to 60 °C
xGSPON indoor	12V DC	2.5 Gbps	0° C to 45 °C
xGSPON outdoor	30V PoE	2.5 Gbps	-30° C to 60 °C

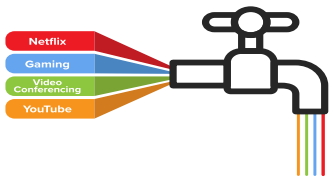




TCP optimizer. Inline TCP stack ACKing on behalf of apps to improve QoE



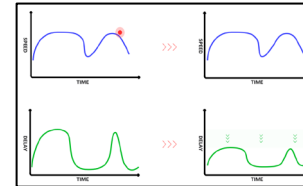
Network visibility via multi-level statistics



Multi-criteria traffic shaping (at subscriber / application / flow / VLAN / Src IP / interface level)



Speed Test detection and bursting to rate plan

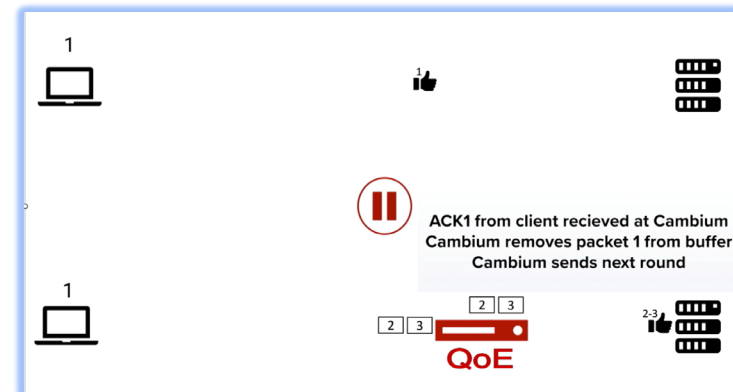


Automatic congestion detection and management



DoS/DDoS attacks detection

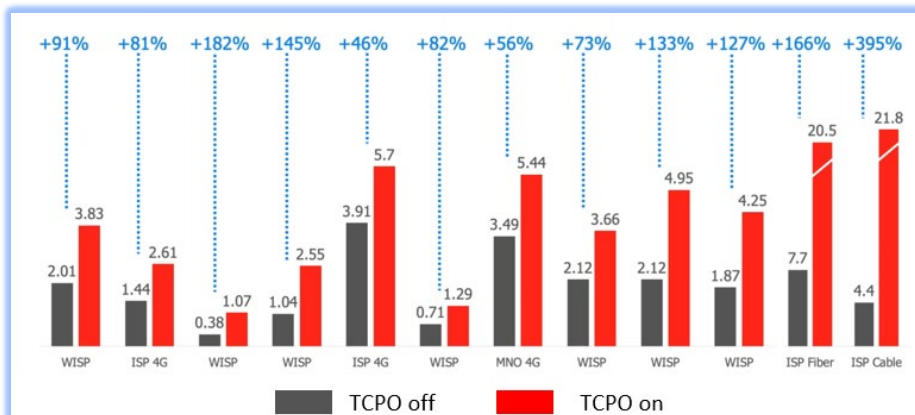
TCP protocol optimization



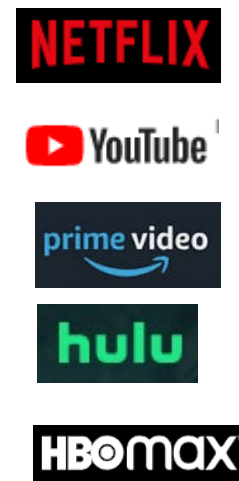
TCP proxy generating acks locally to present a healthy network to the internet



Faster web page downloads



Speedier Network



Reduced buffering of streaming applications

Cambium QoE At a Glance



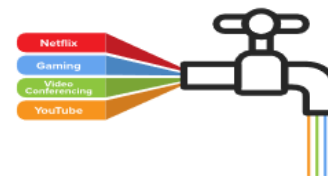
Network visibility via multi-level statistics



Application Usage History

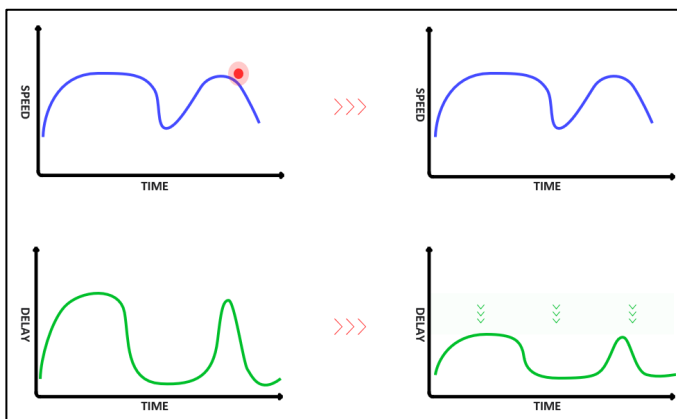


Detailed Subscriber Statistics



Multi criteria-based traffic shaping

Automatic congestion detection and management

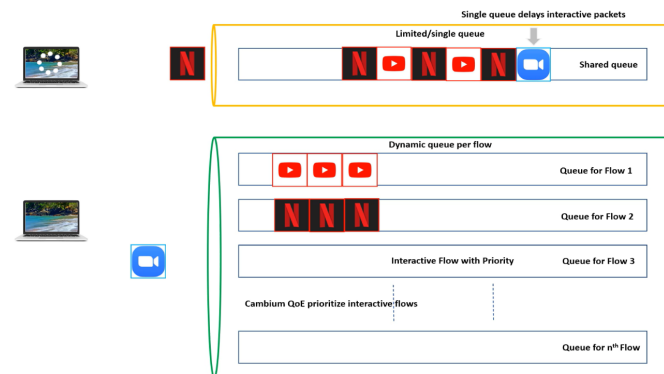


50% reduction in latency during congestion

Multi-queue, priority-based rate limiting

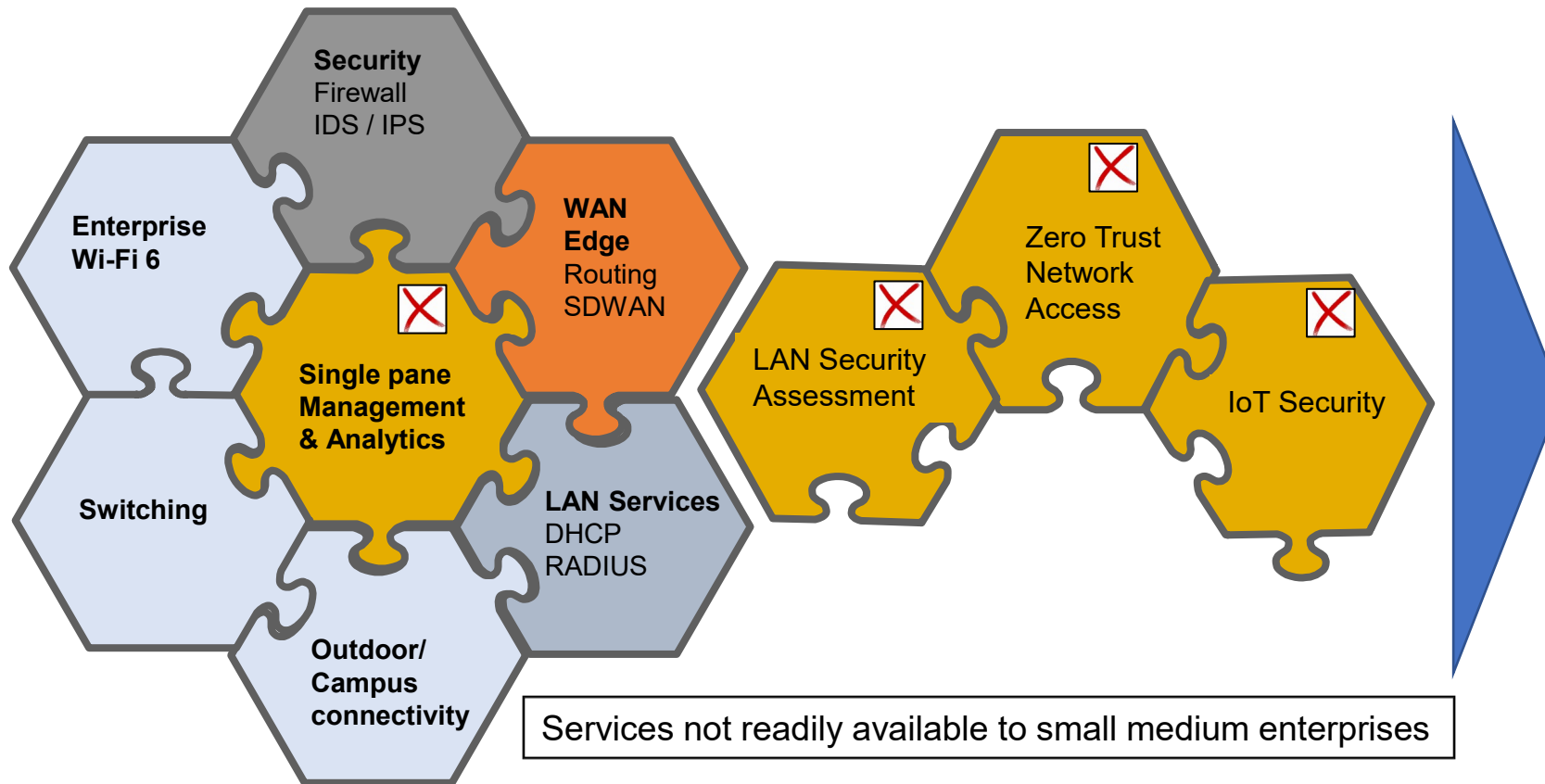


Radius/REST API/Simplified UI for flow creation



Why NSE?

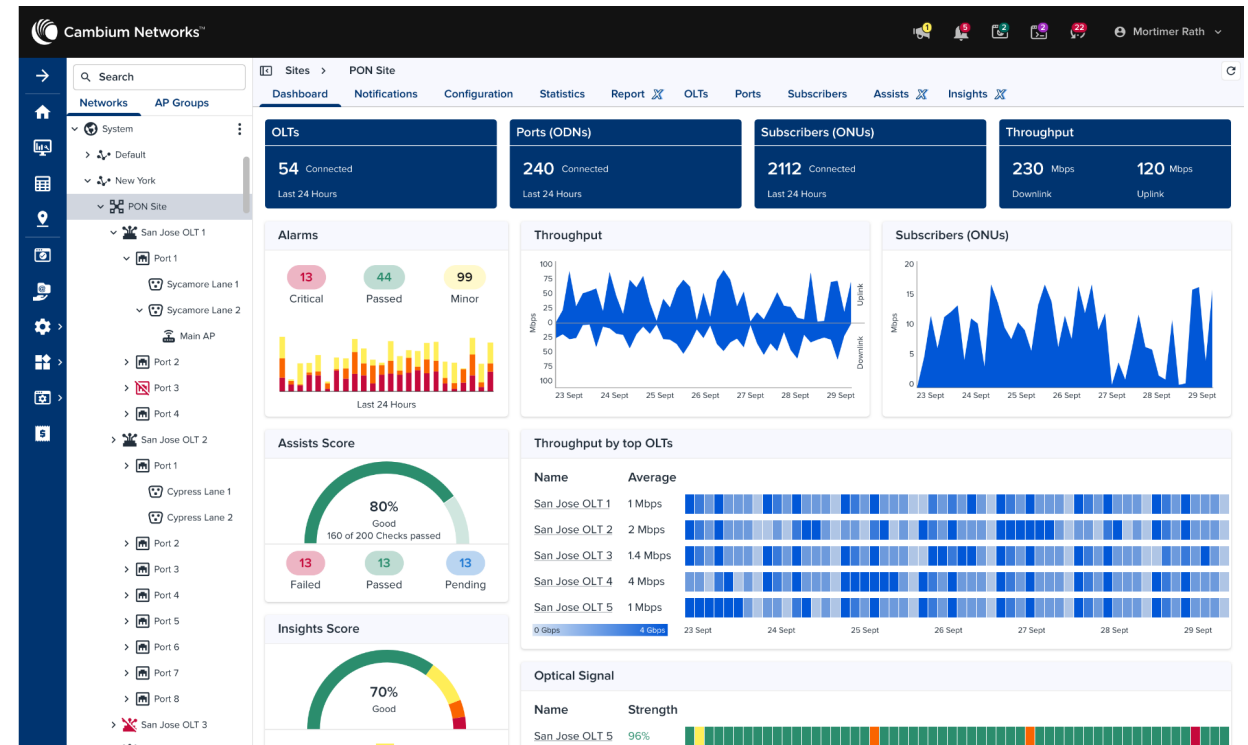
Services available to large enterprises because they have budget and dedicated IT/OT networking and security resources



Services not readily available to small medium enterprises

Cambium will deliver all these security services to small and medium enterprises at the right price point

- **Simplified configuration, management, alarms & statistics**
- **Incorporated into same structure of cnMaestro device management**
- **Go from fibre to wireless to Wi-Fi routers all within the same management pane of glass**



Network Service Edge (NSE)

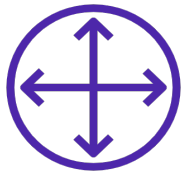
Converged WAN Edge, Security, and Network Service Delivery

Q4 2022



Converged WAN Edge, Security and Network Service Delivery

WAN EDGE



- Routing
- WAN Load-Balancing and failover
- Bandwidth Control
- WAN QoS
- SD-WAN

SECURITY



- Firewall
- **IoT Security**
- VPN with MFA
- **LAN security assessment**
- **Zero Trust Network Access (ZTNA)**
- IDS / IPS

NETWORK SERVICES



- DHCP
- RADIUS
- **Directory connectors**

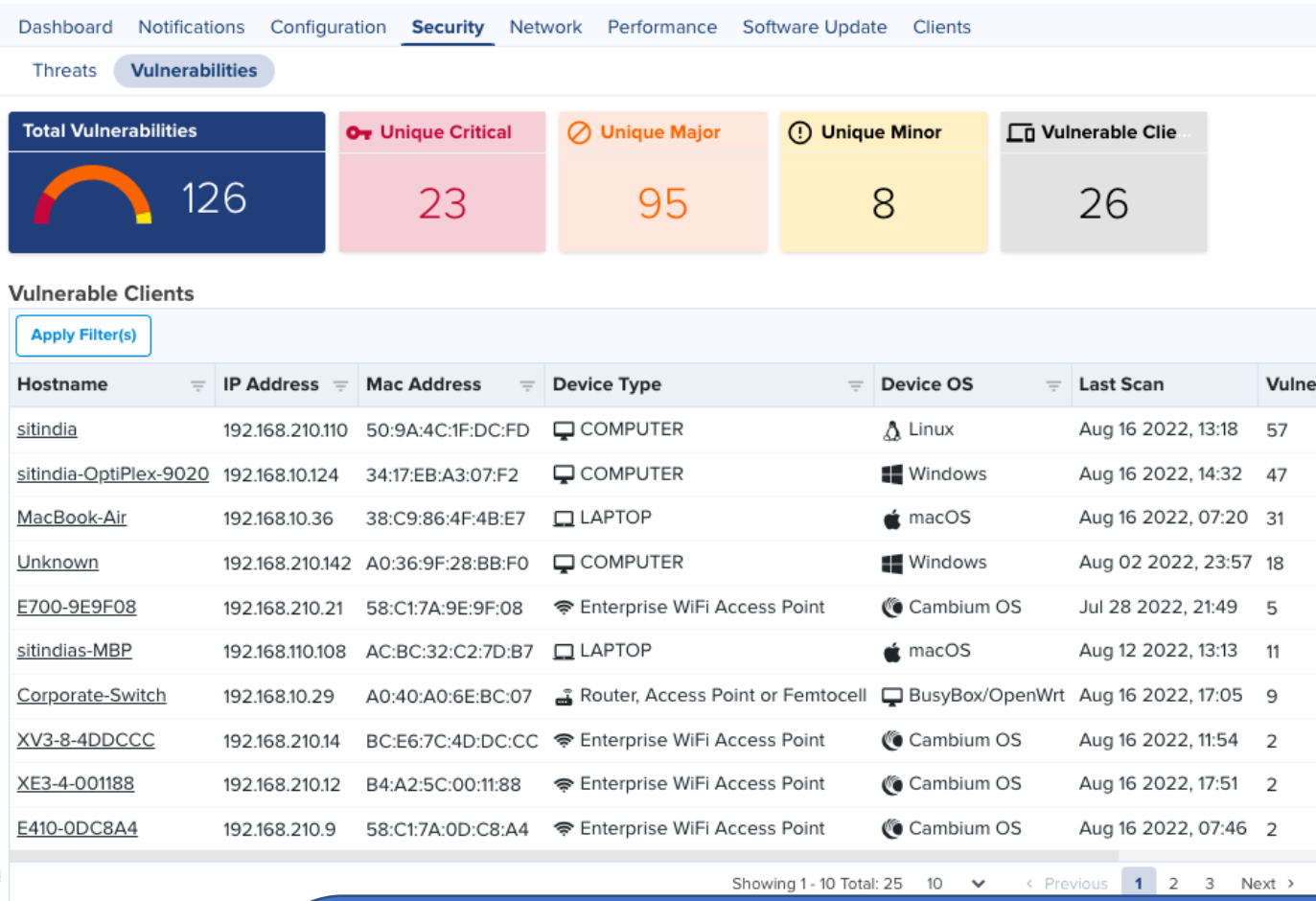
Synthesize sensors across Wi-Fi, Wired ports and WAN
Qualify service across the enterprise network
Clear the blind spot in IoT security



NSE 3000 Edge Appliance

Vulnerability Assessment

NSE 3000 offers vulnerability assessment for connected devices. Service runs periodic scans to detect CVE and a score with recommended remediation is provided.



All Vulnerabilities

Apply Filter(s)

Severity	Identifier	Service	Product	Product Version	Clients Impacted
Critical	CVE-2017-7679	http	Apache httpd	2.4.18	1
Critical	CVE-2015-5600	ssh	OpenSSH	6.9	1

CVE: Common Vulnerabilities and Exposures
CVSS: Common Vulnerability Scoring System
Vulnerabilities are analyzed by the National Institute of Standards and Technology (NIST) and then listed in NIST's National Vulnerability Database (NVD)

CVE-2014-2323 Detail

Current Description

SQL injection vulnerability in mod_mysql_vhost.c in lighttpd before 1.4.35 allows remote attackers to execute arbitrary SQL commands via the host name, related to request_check_hostname.

[View Analysis Description](#)

Severity CVSS Version 3.x CVSS Version 2.0

CVSS 3.x Severity and Metrics:

NIST: NVD **Base Score:** 9.8 **CRITICAL** **Vector:** CVSS:3.1/AV:N/AC:L/PR:N/UI:N/S:U/C:H/I:H/A:H

NVD Analysts use publicly available information to associate vector strings and CVSS scores. We also display any CVSS information provided within the CVE List from the CNA.

Note: NVD Analysts have published a CVSS score for this CVE based on publicly available information at the time of analysis. The CNA has not provided a score within the CVE List.

References to Advisories, Solutions, and Tools

By selecting these links, you will be leaving NIST webspace. We have provided these links to other web sites because they may have information that would be of interest to you. No inferences should be drawn on account of other sites being referenced, or not, from this page. There may be other web sites that are more appropriate for your purpose. NIST does not necessarily endorse the views expressed, or concur with the facts presented on these sites. Further, NIST does not endorse any commercial products that may be mentioned on these sites. Please address comments about this page to nvd@nist.gov.

Hyperlink	Resource
http://download.lighttpd.net/lighttpd/security/lighttpd_sa_2014_01.txt	Exploit Vendor Advisory
http://jvn.jp/en/jp/JVN37417423/index.html	Third Party Advisory
http://lists.opensuse.org/opensuse-security-announce/2014-03/msg00023.html	Mailing List Third Party Advisory
http://lists.opensuse.org/opensuse-security-announce/2014-03/msg00023.html	Mailing List Third Party Advisory

- Who is it for?
 - Initially single site SMB with ~100 employees (~500 devices; 1Gbps WAN)
 - Expanding to multi-site mid-size enterprises as the product line expands
- Why would they care?
 - They want Wi-Fi, Switching and WAN Edge from one vendor with one management console
 - They want ease of use, not requiring heavy tech expertise, option for opex purchase
- What are the key verticals and their primary concerns?
 - Hospitality: Price
 - Education: Content Filtering
 - Healthcare (Assisted Living & Clinics): OT/IOT security
 - Federal: Site-to-site VPN
 - Retail/Restaurants: Price

NSE Competition

	Watchguard	Meraki		Fortigate	Sonicwall	Sophos	Cambium
Model	FireboxT40	MX67	MX68	40F	TZ270	XGS87	NSE 3000
Form Factor	Desktop	Desktop	Desktop	Desktop	Desktop	Desktop	Desktop, Wall mount
Complete Branch	No	Yes	Yes	Yes	Dated Wi-Fi (11ac)	Dated Wi-Fi (11ac)	Yes
ZTNA	No	Cisco Duo	Cisco Duo	Integrated	SASE solution	Separate VM appliance	Roadmap
IoT Security	No	Limited	Limited	Yes (Additional license)	Limited	Limited	Integrated
Throughput (with threat protection)	300Mbps	600Mbps	600Mbps	990Mbps	1Gbps	700Mbps	900Mbps
Licenses	3 bundles	3 bundles	3 bundles	5 bundles	2 bundles	2 bundles + 6 licenses	1 – cnMaestro X SKU 1 – CC UPG SKU (for HW replacement)
HW (Street price)	\$904	\$510	\$725	\$444	\$412	\$445	\$460
1-year base lic (Street price)	\$480	\$225	\$225	\$365	\$410	\$165	\$160 (Includes HW replacement)
1-year Adv lic (Street price)	\$920	\$450	\$450	\$391	\$310	\$215	Not needed

Note: Measured thruput and Battle cards included in backup section

60 GHz Deployments Popping Up Everywhere

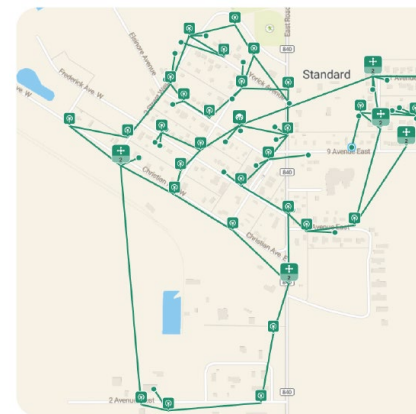


Verticals

- Service Providers (WISPs, Carriers, Fiber)
- Enterprise (MDUs, Logistics, Retail)
- Industrial (Oil/Gas, Freight Rail)
- Municipalities (Public Wi-Fi, City Services)

Solutions

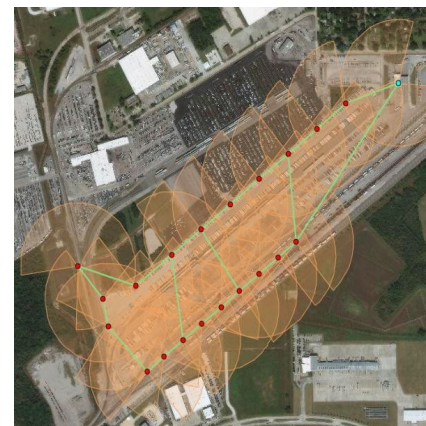
- Residential/Business Internet Access
- CCTV/Video Surveillance Backhaul
- Wi-Fi Backhaul
- Campus Area Networking



**Municipality
Alberta, Canada**



**Shopping Mall
Orange County, CA**



**Freight Railyard
Montreal, Canada**



**Service Provider
Perth, Australia**

We found the middle ground

3.6 Gbps (1.8 Gbps / 1.8 Gbps)

PTP or PMP Client

➤ 0.6 miles PTP / 0.3 miles PMP

2.5 Gigabit PoE In / PoE Out

➤ Powers an XV-2T or a Camera or a Relay Node

Simplicity – brackets, PoE and line cord are in the box

3-Year Warranty



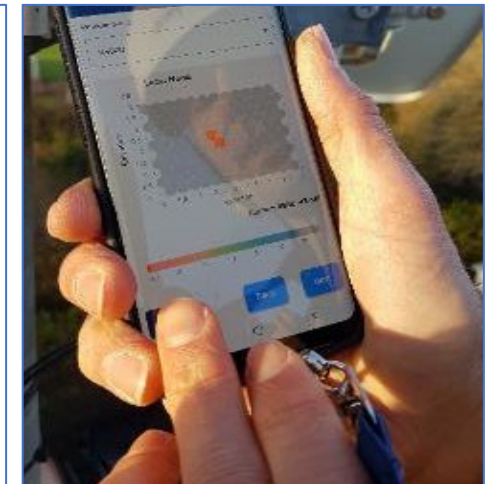
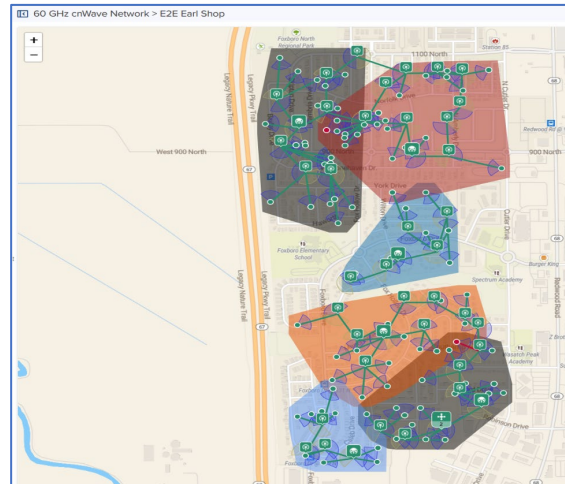
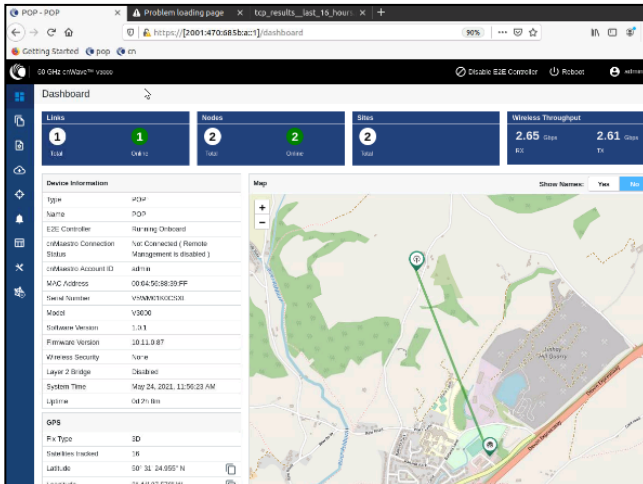
cnWave 60 GHz Client Node Selection Guide



V5000 DN	V1000	V2000	V3000 – Small Dish	V3000 – Large Dish
Capacity (each direction)	Up to 1Gbps ✓	Up to 1.8 Gbps ✓✓✓	Up to 1.8 Gbps ✓✓✓	Up to 1.8 Gbps ✓✓✓
PTP – Range*	Up to 150 m ✓	Up to 1.0 km ✓✓	Up to 1.5 km ✓✓	Up to 2.3 km ✓✓✓
PMP – Range*	Up to 150 m ✓	Up to 470 m ✓✓	Up to 670 m ✓✓	Up to 720 m ✓✓✓
Form Factor	Small ✓✓✓	Integrated Radome ✓✓	Dish ✓	Dish ✓
Ease of PTP Alignment	Simple ✓✓✓	Simple ✓✓✓	Use the alignment tube ✓	Use the alignment tube ✓
Built-in I/O	Single 1000BaseT ✓	2.5 GbE PoE In 2.5 GbE PoE Out ✓✓✓	1000BaseT PoE In 1000BaseT PoE Out SFP+ ✓✓✓	1000BaseT PoE In 1000BaseT PoE Out SFP+ ✓✓✓
List Price	✓✓✓	✓✓	✓	✓

* Recommended ranges are rules of thumb. (MCS9 99.9% at 32 mm/hour rain) LINKPlanner should be used to determine range, capacity and fade margin for your specific geographic location and connectivity requirements

- **5.2 Gbps PTP Channel Bonding Available Now on V3000**
- **V3000 Radome for improved reliability in snowy conditions**
- **Multi-POP deployments – inject capacity and resiliency as your network grows**
- **Quick Link One-step PTP Configuration Feature**
- **New Visualizations cnMaestro X – see fade margin, channel plan and more**
- **Visual Alignment – cnArcher Smartphone App**





Voneus Broadband

An aerial night view of a city, likely New York City, with a dense grid of buildings and streets. Overlaid on the city is a network of glowing yellow and green lines, suggesting a data or communication network. The sky is dark blue with some clouds.

THANK YOU!



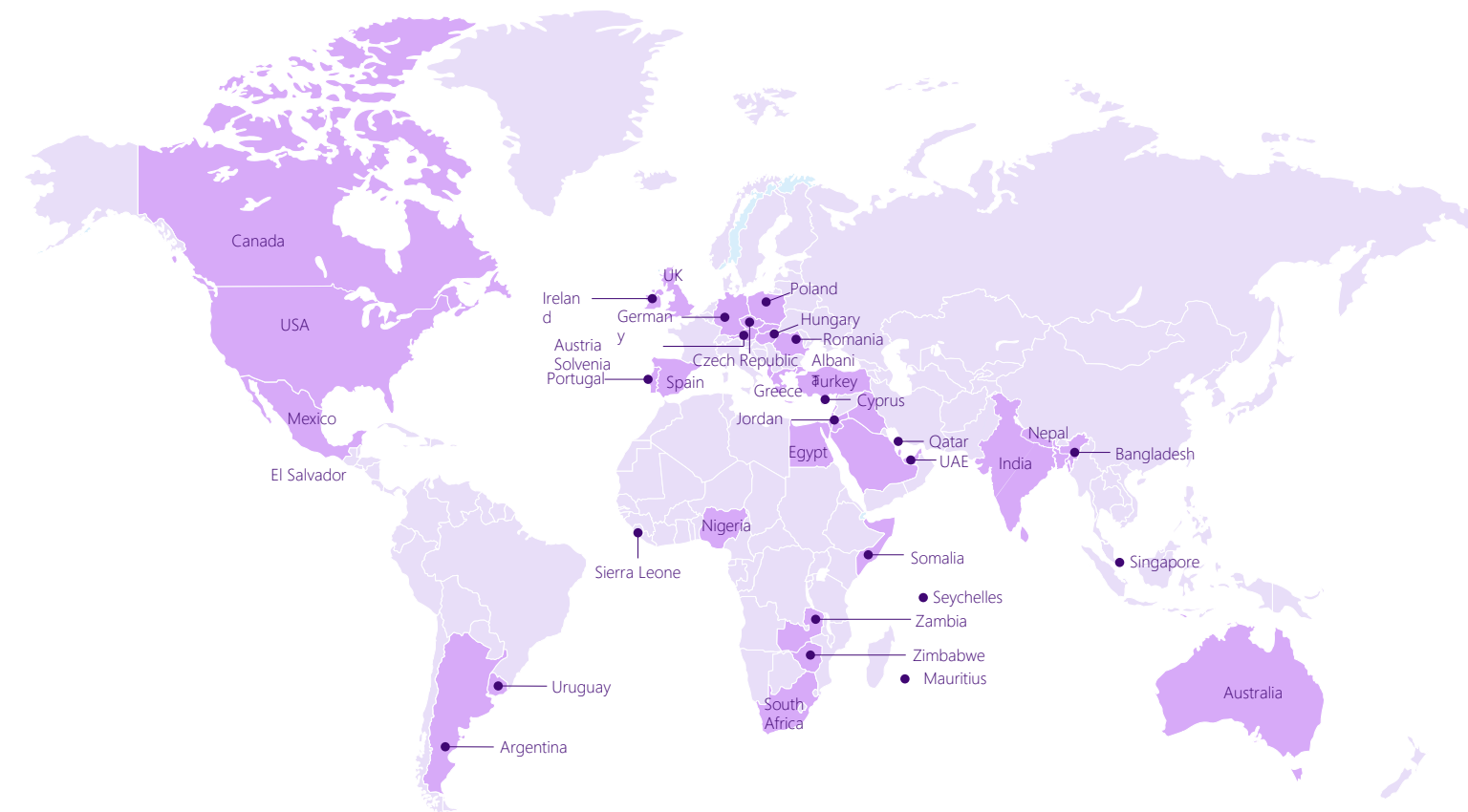
Cambium Networks™

Introducing IO by HFCL

Leading End-To-End Managed Wi-Fi Solution Provider

Andrew Westerman
VP International Sales

HFCL at a Glance



Customers in
30+
Countries



2
R&D Centers of Excellence
in India



3,392+
Employees



1,857+
Engineers

**Integrated
Manufacturing**

**Strong
R&D**

**Customized
Offerings**

**Cost-effective
Solutions**

**Tech
Agility**

Comprehensive Product Portfolio



WI-FI



Access Points & Cloud
Management



SWITCHING



L2 and L3 PoE and non-PoE
Switches



5G RAN & FWA



5G Small Cells*, Macro RUs*,
FWA CPEs*



OPTICAL FIBER



Optic Fiber, Optical Fiber
Cables, FTTX Accessories

* Coming Soon

Global Customers



HFCL Financials



One of the largest OFC suppliers in the world

The largest producer of Wi-Fi and UBR systems in India

Leading solution supplier to private & govt. Telcos in India

Now expanding rapidly into International markets

~\$600mn

Revenue FY22

~\$1bn

Order Book as on Dec 31, 2022

26.0%

Gross Margin

14.7%

EBITDA Margin

19.3%

RoCE

16.3%

Revenue

26.6%

EBITDA

21.4%

PAT

5 Year CAGR

FY22 Numbers

Introducing IO by HFCL



IO by HFCL – a brand name for HFCL's wireless & switching product portfolio

Entire product range certified for global regulatory requirements

Integrated end-to-end customizable solutions for various deployment scenarios

All products are designed and manufactured in India offering a geo-political comfort – No China based R+D or manufacturing



- 500k AP shipments in less than 3 years
- Largest producer of Wi-Fi products in India and one of the fastest growing Wi-Fi brands in the world
- Probably the largest WIFI vendor that most of you have never heard of.....
 - Wide portfolio of Wi-Fi 5/6 and shortly Wi-Fi 7 products
- Leading TIP OpenWiFi OEM Manufacturer – All APs in TIP or Non TIP format

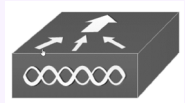
IO by HFCL Portfolio



Why Open Wi-Fi?



Typical Wi-Fi Solution



X

Proprietary APIs

X

Closed Implementation

X

Proprietary interface

X

Vendor HW Only

✓

Standard Air Interface

Certified by Wi-Fi Alliance



Open Wi-Fi Community



✓

Open APIs

Integrate once, works cross vendors

✓

Open-source core, Choice of Controllers

Contribute, secure, examine

✓

Interoperable “Open interface”

✓

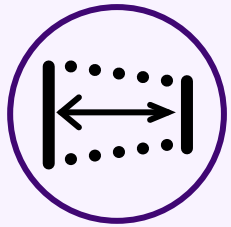
Choice of HW – multiple vendors/ Models

✓

Standard Air Interface

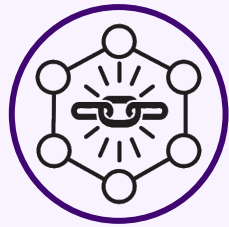
Certified by Wi-Fi Alliance

What makes us unique?



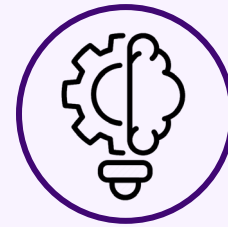
1.

Wide Range of
Wi-Fi & Switching
Products



2.

Robust
Supply Chain
with short lead times



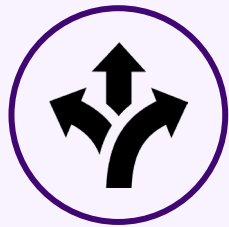
3.

Very Disruptive Pricing
Combined with High
Performance



4.

All APs available in
standard & OpenWi-Fi
formats



5.

Flexible On-prem &
Cloud Management
options



6.

Wi-Fi Alliance, FCC, CE,
Plenum & RoHS 3.0
certified products

Product Portfolio



Wi-Fi 6

2x2 INDOOR

ion4xi

- 1024 Simultaneous Clients; 32 SSIDs
- 2X2:2 MU-MIMO
- 27 dBm Tx Power
- 1.8 Gbps Peak Data Rate
- 4 dBi Integrated Omni antennas
- DB DC (Dual Band, Dual Concurrent) Operation in 2.4 and 5 GHz bands
- EasyMesh and Passpoint 2.0
- WPA3 Security
- Up to 1024 QAM
- Automatic Band Steering

Wi-Fi 6 WALL PLATE

ion4xi_WP

- 256 Simultaneous Clients; 16 SSIDs
- 2X2:2 MU-MIMO
- 23 dBm Tx Power
- 1.8 Gbps Peak Data Rate
- 4 dBi Integrated Omni antennas
- 4 x 1G & 1 x 2.5G Ports
- DB DC (Dual Band, Dual Concurrent) Operation in 2.4 and 5 GHz bands
- EasyMesh and Passpoint 3.0
- WPA3 Security
- Up to 1024 QAM
- TIP OpenWiFi compliant





Wi-Fi 6 2x2 OUTDOOR

ion4x / ion4xe / ion4x_2 / ion4x_3

- 1024 Simultaneous Clients; 32 SSIDs
- 2X2:2 MU-MIMO
- 27 dBm Tx Power
- 1.8 Gbps Peak Data Rate
- Integrated and External antenna options
- Rugged IP67 Enclosure
- DB DC (Dual Band, Dual Concurrent) Operation in 2.4 and 5 GHz bands
- EasyMesh and Passpoint 2.0
- WPA3 Security
- Up to 1024 QAM
- Automatic Band Steering



Wi-Fi 6

4x4 / 8x8 INDOOR

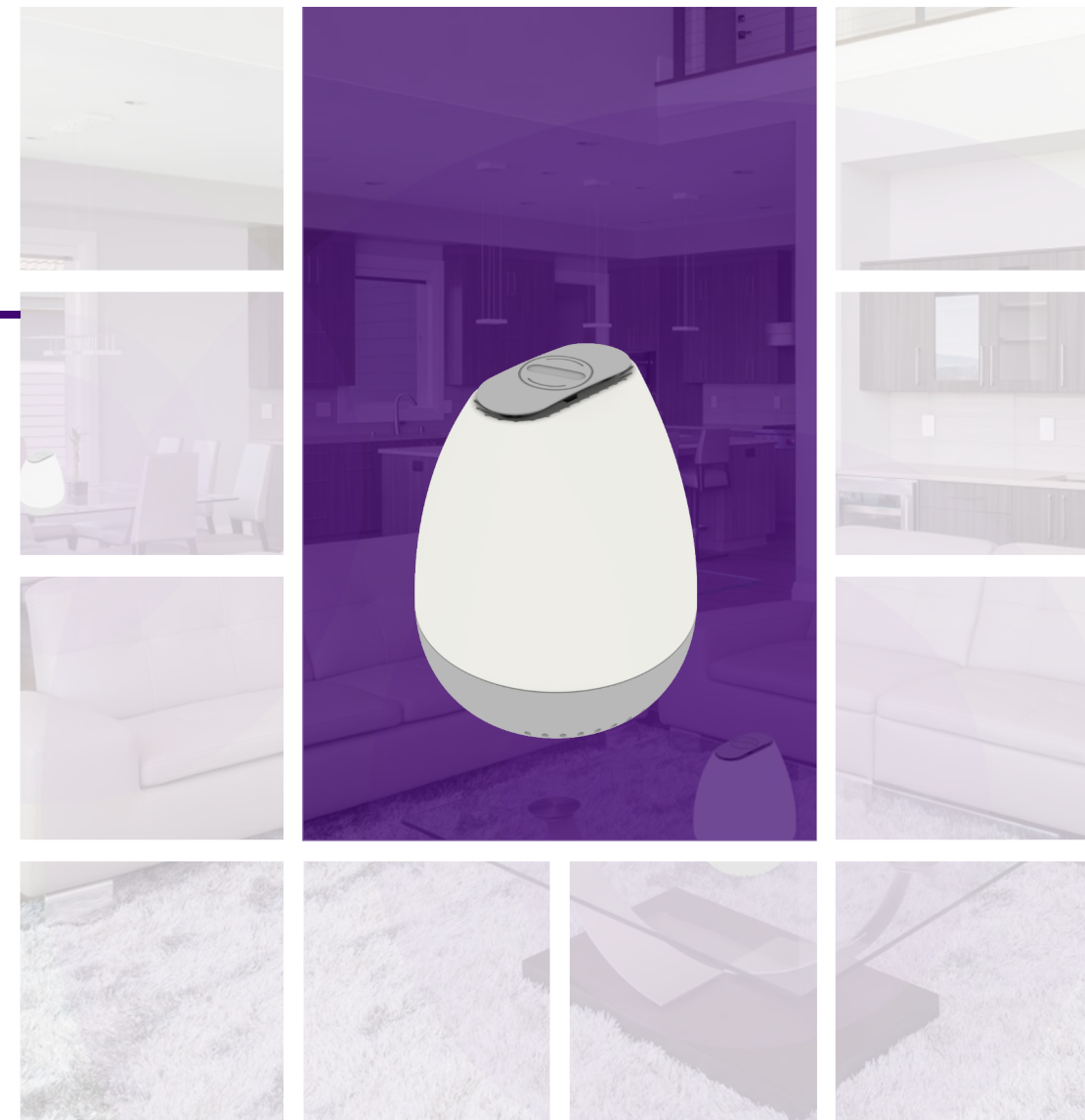
ion12xi_h2

- 1024 Simultaneous Clients; 32 SSIDs
- 4X4:4 and 8x8:8 MU-MIMO configuration
- 28 dBm Tx Power
- 6 Gbps Peak Data Rate
- 6 dBi Integrated Omni antennas
- DB DC (Dual Band, Dual Concurrent) Operation in 2.4 and 5 GHz bands
- Band steering, channel bonding support
- EasyMesh, Passpoint 3.0 & Plenum certified
- WPA3 Security
- Up to 1024 QAM
- Advanced Parental Control
- DC and PoE powering options

Wi-Fi 6 HOME MESH ROUTER

ion4xi_HMR

- 256 Simultaneous Clients; 16 SSIDs
- 2X2:2 MU-MIMO
- 23 dBm Tx Power
- 3 Gbps Peak Data Rate
- 5 dBi Integrated Omni antennas
- DB DC (Dual Band, Dual Concurrent) Operation in 2.4 and 5 GHz bands
- EasyMesh and Passpoint 3.0
- WPA3 Security
- Up to 1024 QAM
- Advanced Parental Control
- Manage with mobile app (end user) or cloud controller (ISP/TSP)



Wi-Fi 7 (coming soon)

4x4 TRI-RADIO INDOOR*



ion12bi

- 1536 Simultaneous Clients; 48 SSIDs
- 4X4:4 MU-MIMO
- 29 dBm Tx Power
- 11 Gbps Peak Data Rate
- 6 dBi Integrated Omni antennas
- TB DC (Tri-Band, Dual Concurrent) Operation in 2.4, 5 & 6 GHz bands
- Band steering, channel bonding support
- EasyMesh, Passpoint 3.0 & Plenum certified
- WPA3 Security
- Up to 4096 QAM
- In-built BLE radio for advanced location-based services

* Coming Soon

Unified Cloud Network Management Solution (UcNMS)



In-built functionality
of both WLC & EMS

User-friendly customizable
dashboard for a single
window view of entire
network

Robust & scalable application
for managing Access Points,
UBRs and Switches

Available in both cloud based
or server-based options

~Adaptive user interface
enables admin to access
through laptop, tablet &
phone

Provides one stop solution for
all network management &
configuration needs

Unified Cloud Network Management Solution (UcNMS) (Lite)



Appropriate for Small Scale
Dedicated UcNMS Instance,
with In-built functionality of
both WLC & EMS

User-friendly customizable
dashboard for a single
window view of entire
network

Manage up to 1,000 network
elements

Can be configured on laptop/
desktop/ virtual machine with
basic system configuration
required – 8-core CPU, 16 GB
RAM, 1 TB hard drive

~Adaptive user interface
enables admin to access
through laptop, tablet &
phone

Provides a one-stop solution
with periodic software
updates for all network
management & and
configuration needs

Case Studies

Jio – India's Largest Mobile Operator



Reliance Jio Infocomm Limited, doing business as Jio, is an Indian telecommunications company and a subsidiary of Jio Platforms, headquartered in Navi Mumbai, Maharashtra, India. It operates a national LTE network with coverage across all 22 telecom circles.

Area Covered
Pan India

User per Day
Millions

Solution

- Access Points
- WLAN Controllers

Solution Overview

** Seamless Mobile Data offload (MDO) on Wi-Fi network to reduce the amount of data being carried on the cellular bands to enhance user experience. 75K APs currently installed.

Centurion Cricket Stadium – South Africa (TIP Open WIFI)



- High profile cricket stadium in Gauteng, South Africa
- South Africa hosting Australia 15th September – T20 cricket international
- 100% IO By HFCL outdoor Aps
- Cloud based controller from Wavespot
- Many other TIP Open WIFI projects coming in Africa



Engineers India Limited (Engineering & Consulting)



Engineers India Limited (EIL) is an Indian public sector engineering consultancy and technology licensing company. It was set up in 1965 with the mandate of providing indigenous technology solutions across hydrocarbon projects. Over the years, it has also diversified into synergic sectors like non-ferrous metallurgy, infrastructure, water and waste-water management and fertilizers.

Area Covered
Approx 9700
Square Meters

User per Day
~1700

Solution

- Access Point: 100 (Wi-Fi 6)
- WLAN Controller (On-Premises Hardware controller 2 (1+1 hot standby)
- AAA: 1
- DHCP: 1
- Syslog: 1
- 24 Port Distribution Switch: 4
- 8 Port Access Switch: 28

Solution Overview

- ** 2 separate SSID having different VLANs. 1 for employees, 1 for guests.
- ** Employees get authenticated through MAC ACL.
- ** Guests get authenticated through OTP-based captive portal.

State Bank of India – Belapur (Banking)



State Bank of India (SBI) is an Indian multinational public sector bank and financial services statutory body headquartered in Mumbai, Maharashtra. SBI is the 49th largest bank in the world by total assets and ranked 221st in the *Fortune Global 500* list of the world's biggest corporations of 2020, being the only Indian bank on the list.

Area Covered
Approx 500
Square Meters

User per Day
~800

Solution

- Access Point: 165 (Wi-Fi 6)
- WLAN Controller Cloud Controller
- AAA: 1
- SMS Gateway: 1
- DHCP: 1
- Firewall: 1

Solution Overview

- ** Solution Implemented with 2 factor authentication
- ** Up on connecting with SSID, User will get approved by the sponsor
- ** Once approved user will get OTP for 2nd level of authentication

Indian Institute of Technology - Bhubaneswar (Education)



Indian Institute of Technology Bhubaneswar (IIT Bhubaneswar) is a public technical university established by the government of India in 2008, located at Bhubaneswar, Odisha, India. Admission is for bachelor's, master's programs via JEE Advanced and Graduate Aptitude Test in Engineering, respectively. The permanent campus at Argul, Khordha District was inaugurated by the current prime minister of India, Narendra Modi on 24 December 2018. The area of research are science, engineering and humanities.

Area Covered
Approx 300
Square Meters

User per Day
~1000

Solution

- Access Point: 200 (Wi-Fi 6) (Standalone)
- Hardware (on-premise) controller to be provided in future as per requirement from IIT Bhubaneswar

Solution Overview

- ** 2 separate SSID having different VLAN's. 1 for employees and 1 for students
- ** Employees get authenticated through MAC ACL.
- ** Guests get authenticated through WPA2 -PSK

AIIMS – Delhi (Medicine & Healthcare)



All India Institutes of Medical Sciences (AIIMS) is a group of autonomous government public medical universities of higher education under the jurisdiction of Ministry of Health and Family Welfare , Government of India. These institutes have been declared by an Act of Parliament as Institutes of National Importance. AIIMS New Delhi, the forerunner institute, was established in 1956. Since then, 24 more institutes were announced. As of January 2023, twenty institutes are operating and four more are expected to become operational until 2025.

Area Covered
Approx 3000
Square Meters

User per Day
~1500

Solution

- Access Point: 100 (Wi-Fi 6) (Standalone)
- Hardware (on-premise) controller to be provided in future as per requirement from AIIMS Delhi

Solution Overview

- ** Single SSID for employee as well as guest
- ** Authentication using WPA2 -PSK

Tamil Nadu Art & Science College (Education)



College of Arts and Sciences or **School of Arts and Sciences** is most commonly an individual institution or a unit within a university that focuses on instruction of the liberal arts and pure sciences, although they frequently include programs and faculty in fine arts, social sciences, and other disciplines such as humanities.

Area Covered
Approx 2000
Square Meters

User per Day
~1000

Solution

- Access Point: 220 (Wi-Fi 5)
- WLAN Controller: Cloud Controller

Solution Overview

- ** 2 separate SSID having different VLANs. 1 for employees, 1 for Students.
- ** Employees get authenticated through MAC ACL.
- ** Guests get authenticated through WPA2-PSK

Airport Authority of India – Hyderabad (Aviation)



Airports Authority of India, or AAI, is a public sector enterprise under the ownership of the Ministry of Civil Aviation, Government of India. It is responsible for creating, upgrading, maintaining, and managing civil aviation infrastructure in India. It provides Communication Navigation Surveillance/Air Traffic Management (CNS/ATM) services over the Indian airspace and adjoining oceanic areas. AAI currently manages a total of 137 airports, including 34 international airports, 10 Customs Airports, 81 domestic airports, and 23 Civil enclaves at Defense airfields.

Area Covered
Approx 14,000
Square Meter

User per Day
~1500

Solution

- Access Point: 85 (Wi-Fi 6)
- WLAN Controller: Cloud Controller

Solution Overview

- ** Single SSID for guests as well as employees
- ** Authentication using WPA2-PSK

Summary



- New Brand entering the market for the first time outside of India
- 100% India based R+D and manufacturing
- No reliance on China for manufacturing, components, SW or R+D
- All WIFI APs available in either standard format or TIP Open WIFI format
- Very disruptive pricing
 - UBNT level pricing but much higher performance HW
- Available from Purdicom stock for immediate delivery
- UK-based sales and pre-sales support in place
- UK Controller in place
- Cloud based or on premises options (Perpetual + FOC options)
- Free of charge ION 4xi WIFI 6 APs being given away today to the first 20 customers to visit the stand this afternoon

Thank you





PURDICOM PARTNER DAY 2023

- John Tarlton
- John.t@siklu.com
- 07769 116555

Siklu

Company Snapshot

- Siklu is the global leader in the mmWave frequency bands

mmWaves TAM



Internet
Access



Smart
Cities



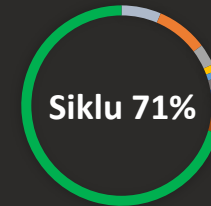
Security
Solutions



Mobile
5G

\$7B^{*} + in 2027 with 37% CAGR
Multiple High Growth Verticals

US Deployments



#1 in US E-band installations
as of 2022**

Portfolio



E-band
PtP



V-band
PtP



V-band
PtMP



V-band
Mesh



Network
Tools

Widest mmWave Portfolio

Customers & Partners



SoftBank



signify

AXIS
COMMUNICATIONS



Tier 1s in all Market Verticals

50+

Countries

300K+

Deployed

350+

Smart Cities

40

Patents



Founded:

2008

Employees:

150+; Headquarters in Israel;
Global Presence

* Source: ResearchAndMarkets, 2020

** Source: FCC

The Network Infrastructure Dilemma

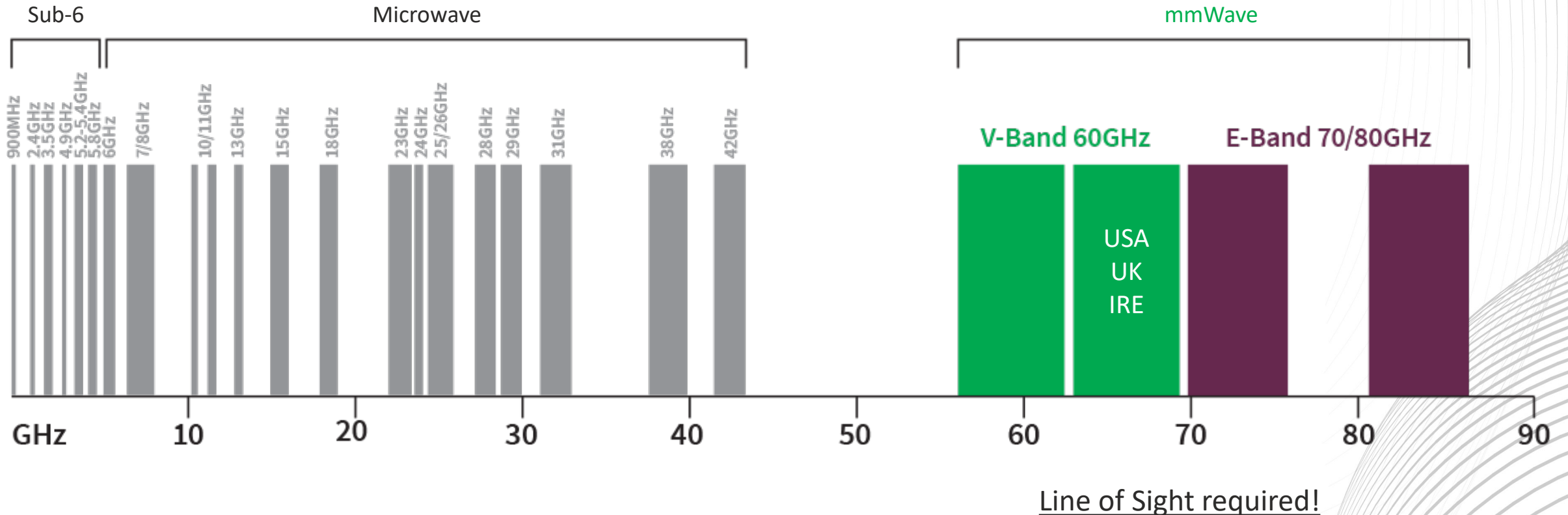
- Fibre is great if it's available...If not it is expensive, complicated and time consuming to deploy





mmWave Introduction

- The Fixed Wireless Spectrum



Siklu Solutions

- Point-to-Point / Point-to-Multipoint / Mesh communication in E-band and V-band spectrum

EtherHaul™ Kilo Series



**Roof Top
Core Network**

Point-to-Point

- Up to 10Gbps full duplex capacity
- Up to ~5Km, or up to ~15Km with ExtendMM™ technology
- Different Antenna sizes

EtherHaul™ Hundred Series



**Roof Top / Street-level
Access Network**

Point-to-Point

- Internal Switch with Dual PoE-Out for Camera and Wi-Fi AP
- Up to 1Gbps aggregated capacity
- Up to ~2Km

MultiHaul™ PtMP Series



**Street-level
Access Network**

Point-to-Multi-Point

- Auto alignment with no setup, using beamforming technology
- Up to 1.8 Gbps aggregated capacity
- Connectivity of 8 devices
- Up to ~300m

MultiHaul™ TG MESH Series



**Roof Top / Street-level
Core / Access Network**

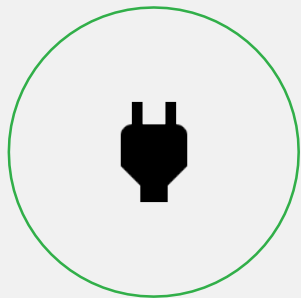
Smart Mesh

- Auto alignment with no setup, using beamforming technology
- Up to 16 Gbps aggregated capacity
- Complex Self-Organizing (SON) with wireless connectivity
- Up to ~450m, or 1.5Km with LR



Billion \$ Enterprise Connectivity Opportunity

- 1000's of live projects already deployed with Siklu globally



Energy

Utilities,
power plants,
wind farms.



Transportation

Sea and Air ports,
marinas



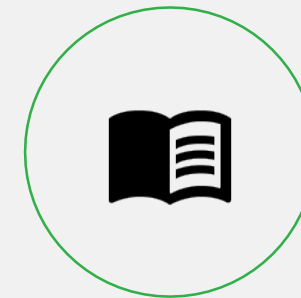
Retail

Shopping centres,
retail parks



Healthcare

Hospitals, critical
infrastructure



Education

University and
College
campuses,
student housing

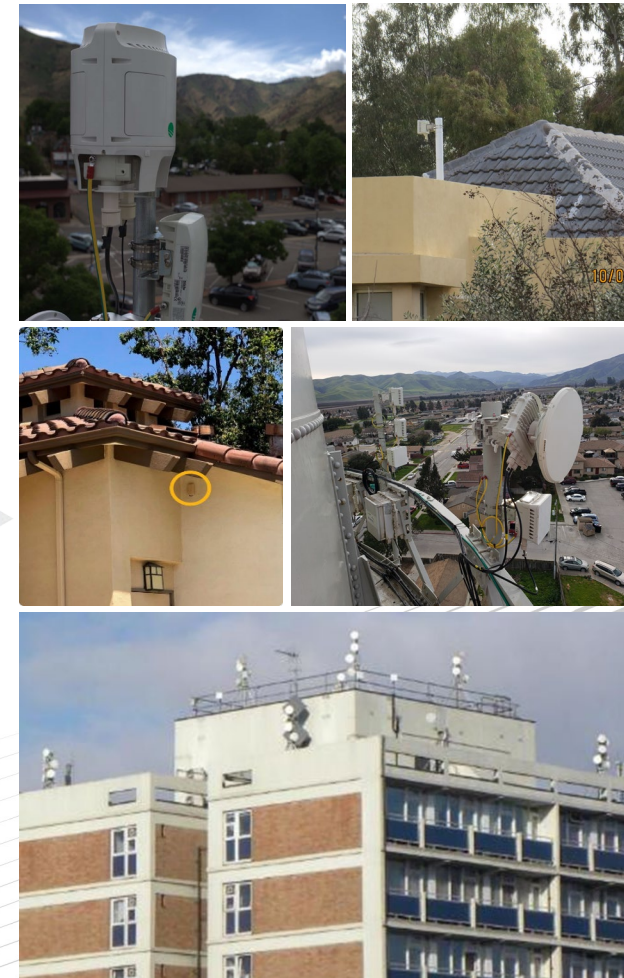
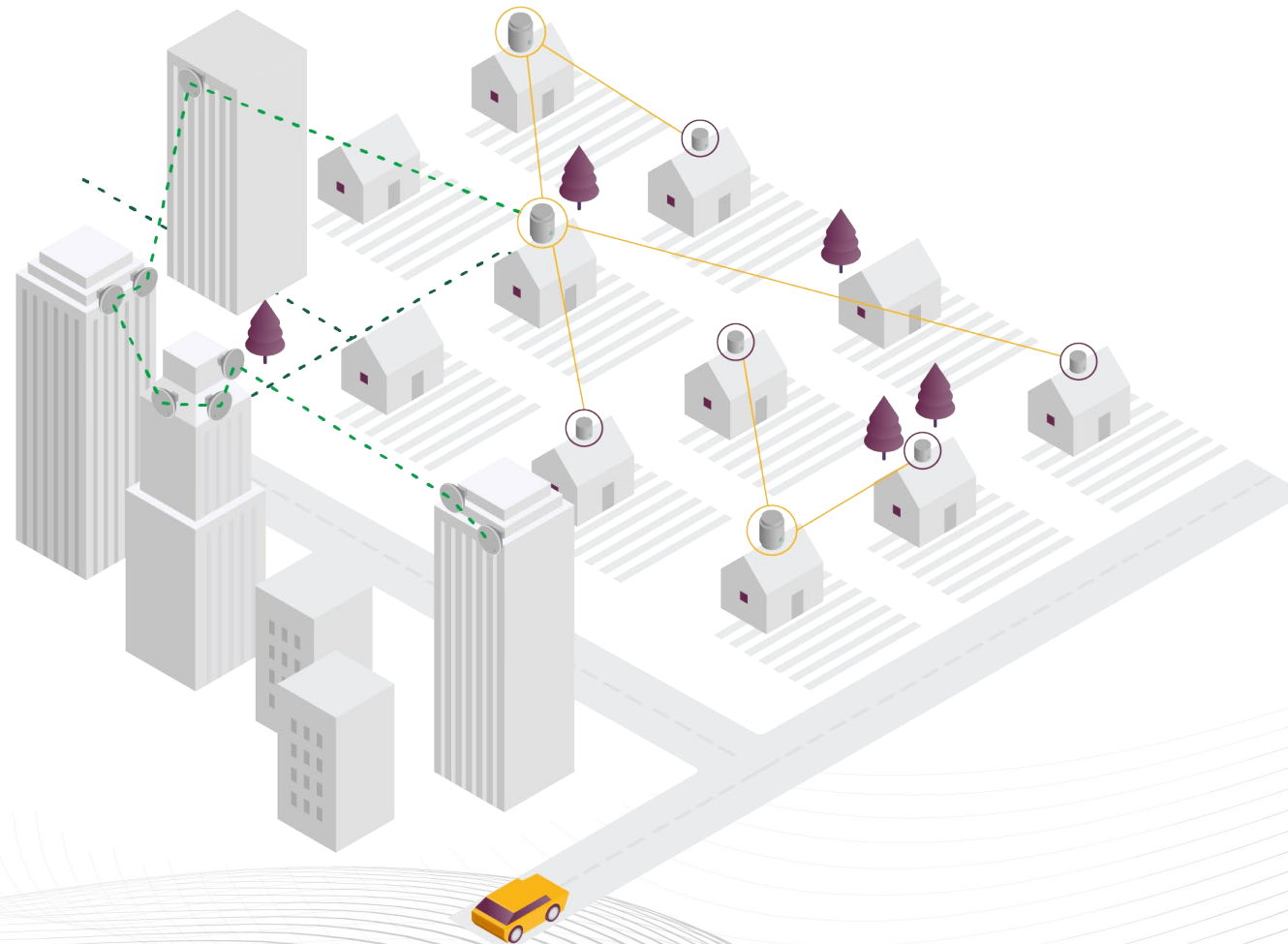


Travel & Hosp.

Events, Festivals, holiday
parks

Example: Business/Residential Internet Access (Rooftop)

- Alternative to Fibre deployment (FTTH) → Faster deployment, Reduced CAPEX/OPEX → Faster ROI



--- Fibre

EH 10Gbps PtP

MH TG Mesh Node 360°

MH TG Terminal

PtMP



**“Anything under 5km
no longer requires fibre.”**

"For many years I have pointed out to my network engineers that we do not need to run fiber for anything 5 km or less. The performance of the Siklu radios in this project proves that assertion, by installing them between our main breakout and main high sites.

The engineers all ended up getting back to me and agreeing with me that anything under 5km no longer requires fiber to be pulled into that area."

Wesley McQuillan - CEO, TCS Wi-Fi



Siklu's Value Proposition

**We Offer the Means to
Transition to mmWave &
Replace Fibre.**

mmWave-Powered Neutral Host Networks: Unbeatable Time to Market and ROI



Neutral Host Networks are the cost-efficient way to differentiate yourself in the market & future-proof your network's capacity and coverage

NHN x mmWave: Key Benefits

- ✓ Easily add new 'tenants'
- ✓ Reduce expenses linked to redesigns and infrastructure changes
- ✓ Support gigabit-speed connectivity for smart city, IoT and Public WiFi (*and more..*)



**UP TO 60
CONNECTIONS**

“60GHz PtMP is the most cost effective, fastest and most reliable way to connect operator small cell technology”



Andrew Hyde
Chief Technical Officer at Ontix

2022 // Westminster

5G Public Access Wi-Fi and Neutral Host Networking



5G Public Access Wi-Fi and Neutral Host Networking

Introduction

As of 2018, London's local authority districts have had a huge push on 5G smart city innovation.

With IOT ever growing and more applications requiring connectivity.

All 32 London boroughs have been looking for ways to connect their highstreets and residents to fast reliable 5G connectivity.



5G Public Access Wi-Fi and Neutral Host Networking

Challenge

- implement a single, city-wide network that can provide enough capacity and scale-up
- a wireless solution with fibre-like performance without up-front trenching costs and a short deployment time
- Fast, full duplex gigabit service with extremely high reliability and low latency

5G Public Access Wi-Fi and Neutral Host Networking

Solution

- ✓ A wireless solution was the only option to address the challenges and after failures with other vendor solutions Siklu became the clear choice.
- ✓ Terragraph enabled rapid deployment of a secure, reliable and cost-effective solution that could handle the multiple applications required
- ✓ Small form factor ensured that the highstreets historic aesthetics were not impacted and the huge scalability of Siklu Terragraph ensures the network can grow in line with demand



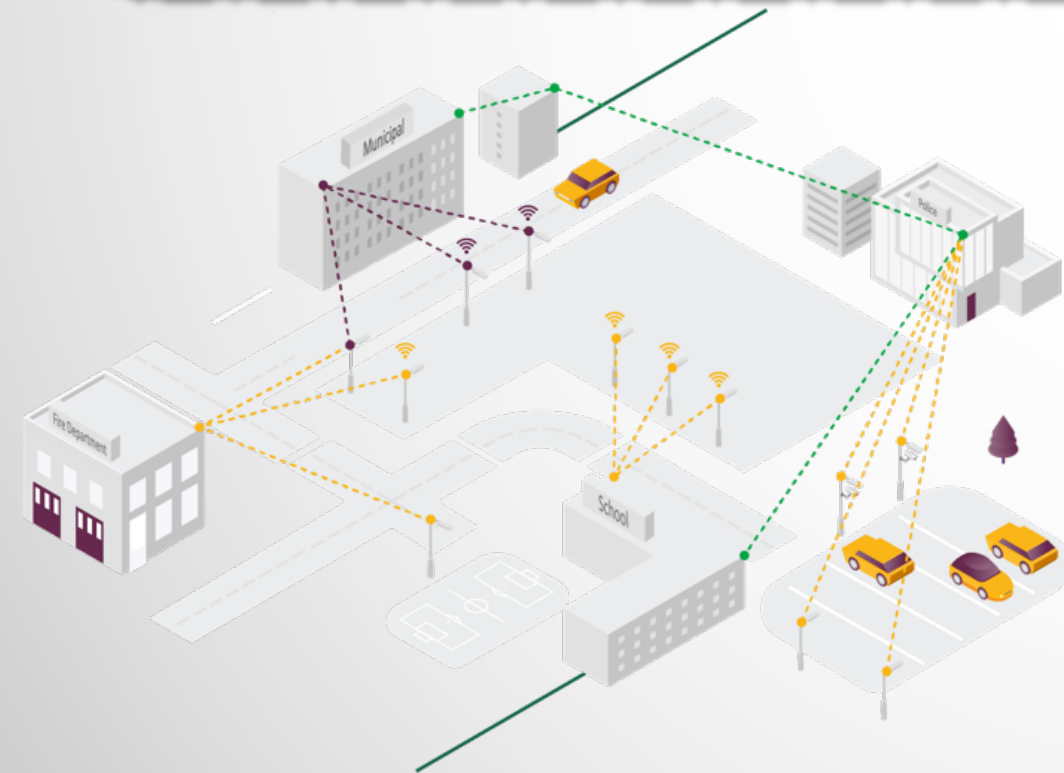
5G Public Access Wi-Fi and Neutral Host Networking

Results

- ✓ Multiple London boroughs have now adopted this solution with even more in discussion
- ✓ City has **future proofed its network** infrastructure for years to come and will be able to add new devices as and when required
- ✓ Network infrastructure is now in place for **additional revenue streams** as they arise

Who are NHN most suitable for?

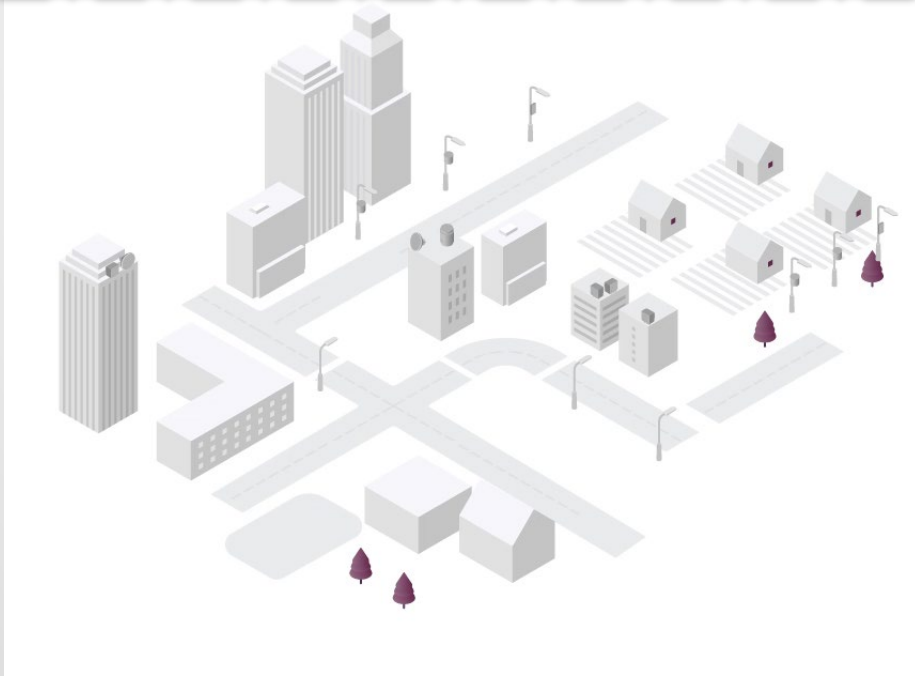
SMART CITY PROJECTS



- ✓ Your **internal buy-in** to secure the project
- ✓ Security, smart parking, smart lighting, and other smart IoT applications enabled with **NHN**
- ✓ Additional **revenue streams**

Who are NHN most suitable for?

TRADITIONAL ISPs



- ✓ Leverage your **existing infrastructure**
- ✓ Additional **revenue streams**
- ✓ Leverage your **council relationships**

The Optimal Choice

mmWAVE

Siklu mmWave Fixed 5G Solutions

 AES256 Secure

 Multi-Gigabit Capacity

 Cost-Effective

 Low Latency

 Widest Spectrum

 Reliable & Interference-Free

 Fast Time-to-Market

Fiber

 Secure

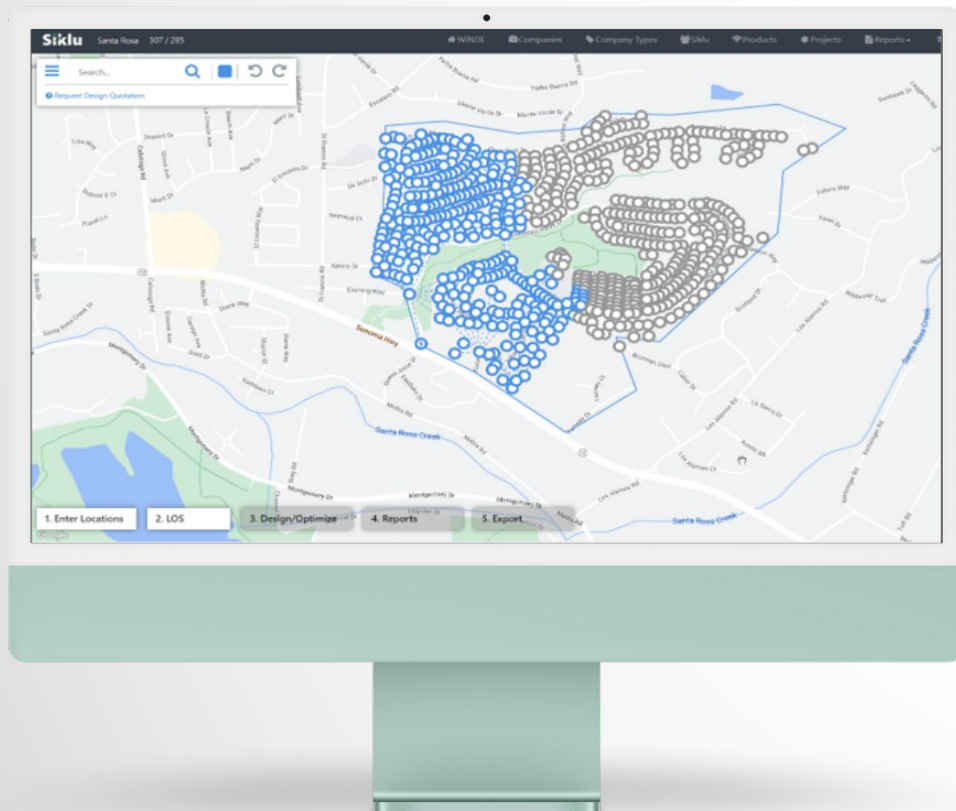
 Multi-Gigabit Capacity

 Very Expensive

 Low Latency

 Reliable & Interference-Free

 Slow Time-to-Market



Complementary Network Design and Project Consultation on us.

- ✓ Any location across the U.K.
- ✓ Complementary Mock Design
- ✓ ROI & TCO Proof Calculation

John Tarlton, UK & I Sales Director

John.t@siklu.com

What's to come?





EH-8020FX

- With XPIC for 20Gbps
- Applications
 - 20Gbps link
 - 2ft or 1ft antenna
- Builds on EH-8010 success
 - Best in Class RF
 - Seamless, straight forward fiber extension for any deployment needs
 - Start with 1 radio (10Gbps), upgrade to 2 (20Gbps)
 - 2* SFP+, SFP for 10G SM/MM/copper
- XPIC port
 - For 20G link migration



Summary



Siklu is the **leader** in mmWave solutions covering **HW, SW, System and Applications**



mmWaves is the only proven and viable solution to enable the **scale of the modern Smart City**



Key Applications are **Internet Access, Smart Cities, Video Security, Neutral host networking and Cellular Backhaul**



Total potential market for Smart Cities is estimated at over **\$20B by 2025**



The background of the slide is an aerial photograph of New York City, showing a dense urban landscape with numerous skyscrapers and buildings. Overlaid on this image are several thin, white, wavy lines that originate from the left and right edges and curve towards the center, creating a sense of connectivity or a network. The text "Thank you" is centered in the middle of the image, overlaid on these lines.

Thank you

RUCKUS



Thank you!



Supply Chain

Who is RUCKUS





Adaptive Resilience

Who is **RUCKUS?**

We build and deliver
purpose-driven networks
that perform in the
world's most challenging
environments



Who is **RUCKUS?**

With our partners, we
empower customers to
deliver a differentiated
level of connectivity
and rock-solid user
experiences



What sets **RUCKUS** apart?

An unbeaten track record
of working better than
anyone else in the
challenging environments
of the industries and
organizations we serve

What sets **RUCKUS** apart?

No one else:

- Makes it easier for users to connect and stay connected
- Has the capabilities of the RUCKUS technology stack
- Offers a more resilient and adaptive network

Hospitality



Education



Large
Venues



MDU &
Mixed Use



Manufacturing
& Logistics



When “good enough” networking just isn’t,
the world’s most-demanding organizations
turn to RUCKUS

RUCKUS Technology Leadership



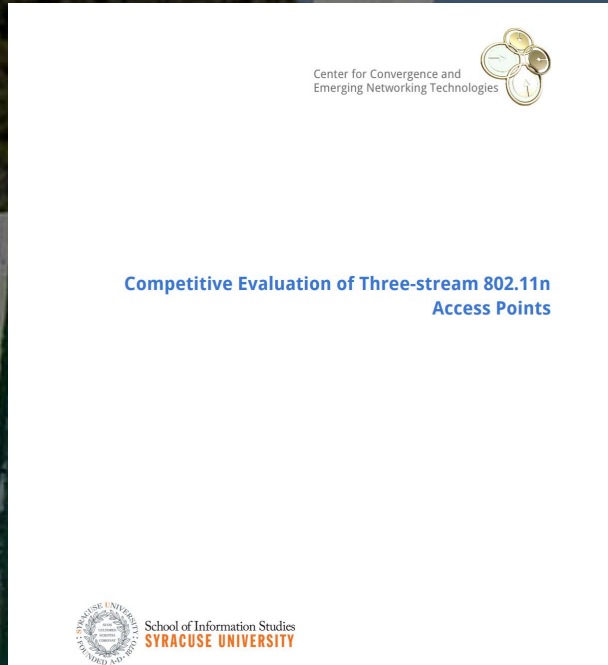
Unbeatable performance

Zero Trust Enterprise

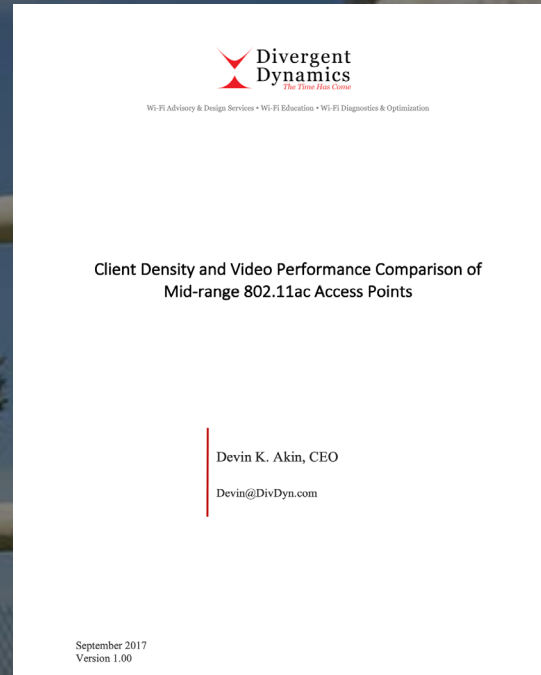
AI

Convergence

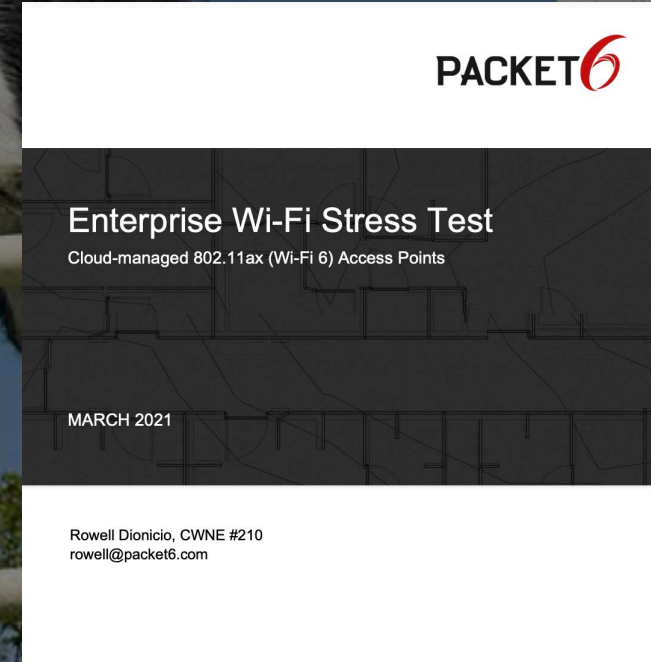
We Raise the Bar!



2012



2017



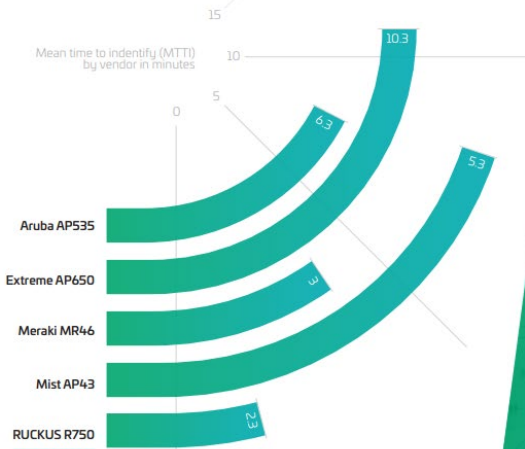
2021



RUCKUS AI Beat Them All!

Lowest Mean Time to Identification

Troubleshooting with network analytics tools



Mean time to identify

Mean time to identify (MTTI) is the time a network administrator needs to determine the root cause of a network issue or incident. A shorter average MTTI reduces the troubleshooting burden on IT while improving user experience by allowing IT to more effectively limit incident duration and impact.

- **67%** Reduction in mean time to resolution
- **40%** Reduction in time prioritizing & triaging
- **20%** Fewer helpdesk tickets
- **60%** Savings of SME IT time
- **50%** Reduction in new IT hire training
- **80%** Reduction in customer churn



Our Channel Vision

Our Objective



“To create and offer the BEST experience in the industry for our PARTNERS,”

Thomas Schwab

2023 Channel Priorities

Planned Go-Live by Q1, 2024



Ease of Doing Business

- Deal Reg
- Renewals
- Partner Portal
- Recertifications



Focus on High Impact

- QBR / Business Alignment
- Installed base initiatives
- New Account Penetration
- Promotions



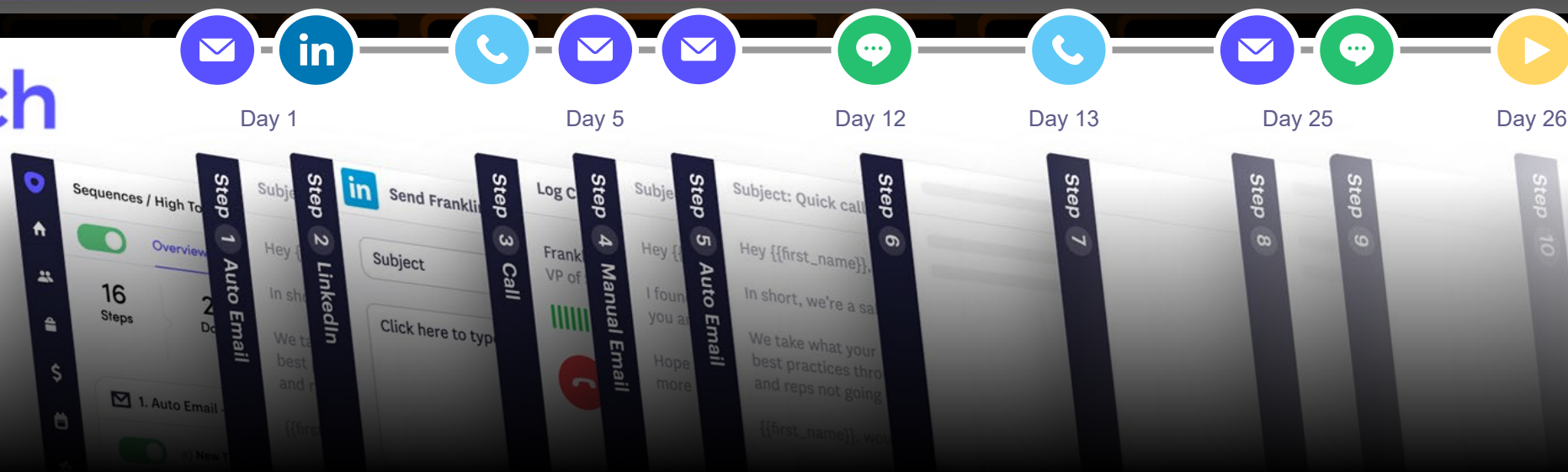
Partnership Value

- Levels and specializations
- Rewards Program
- Training
- Communication

Customer Acquisition Engine



Build your own pipeline coverage, with ease.



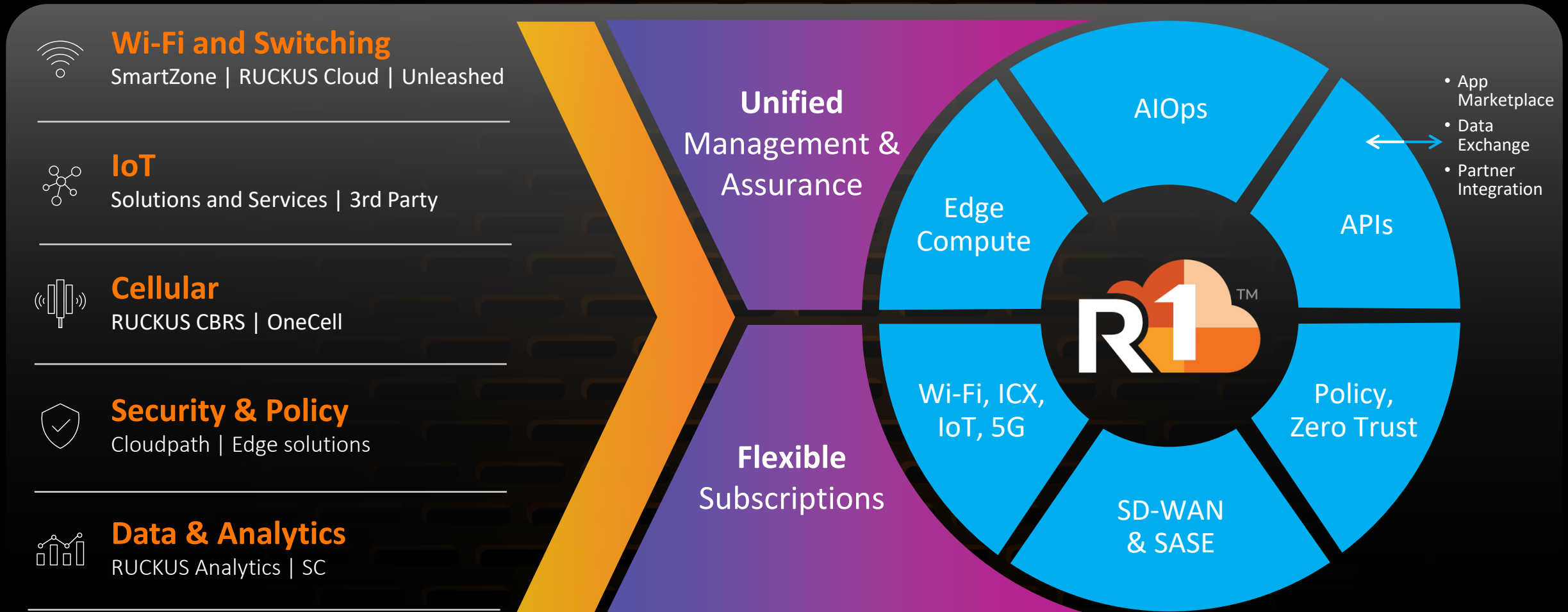
What is New



It's About Time!

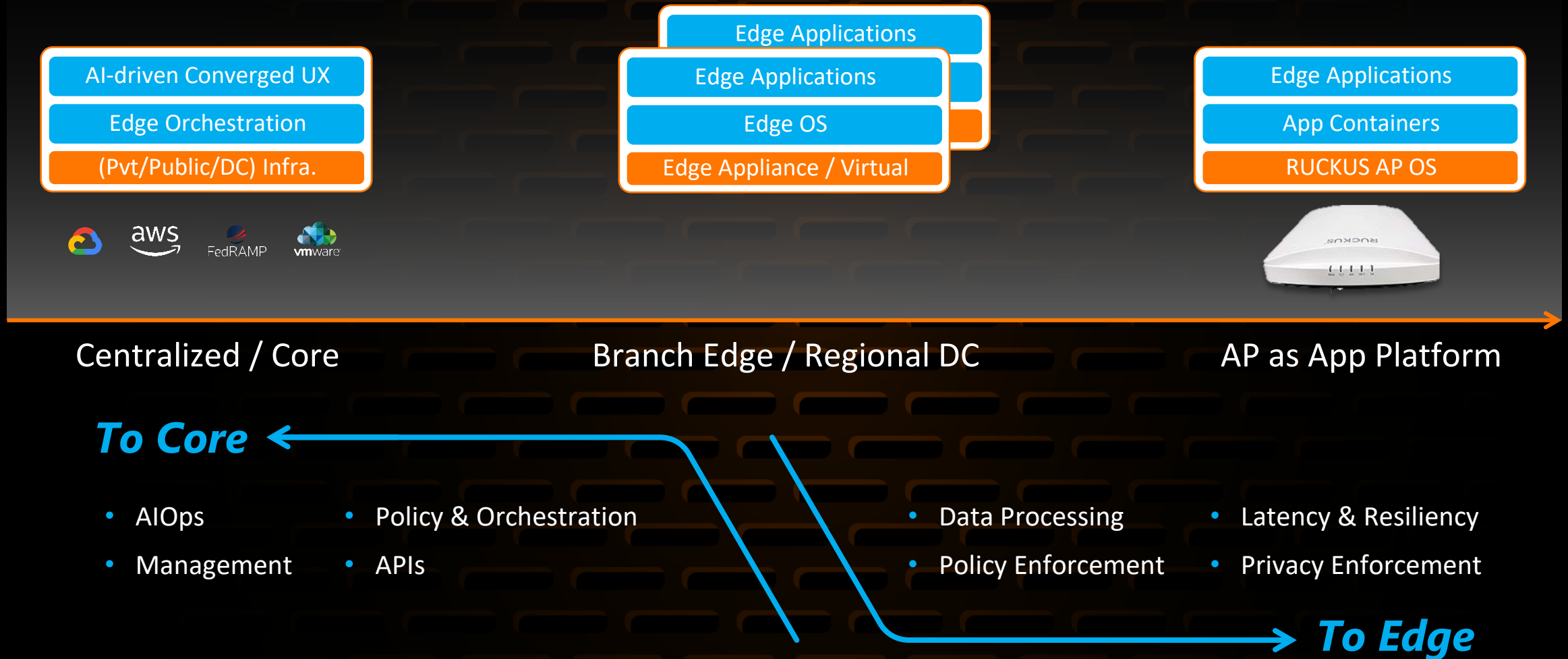
RUCKUS One

AI-driven, Converged Network Assurance,
Service Delivery & Business Intelligence

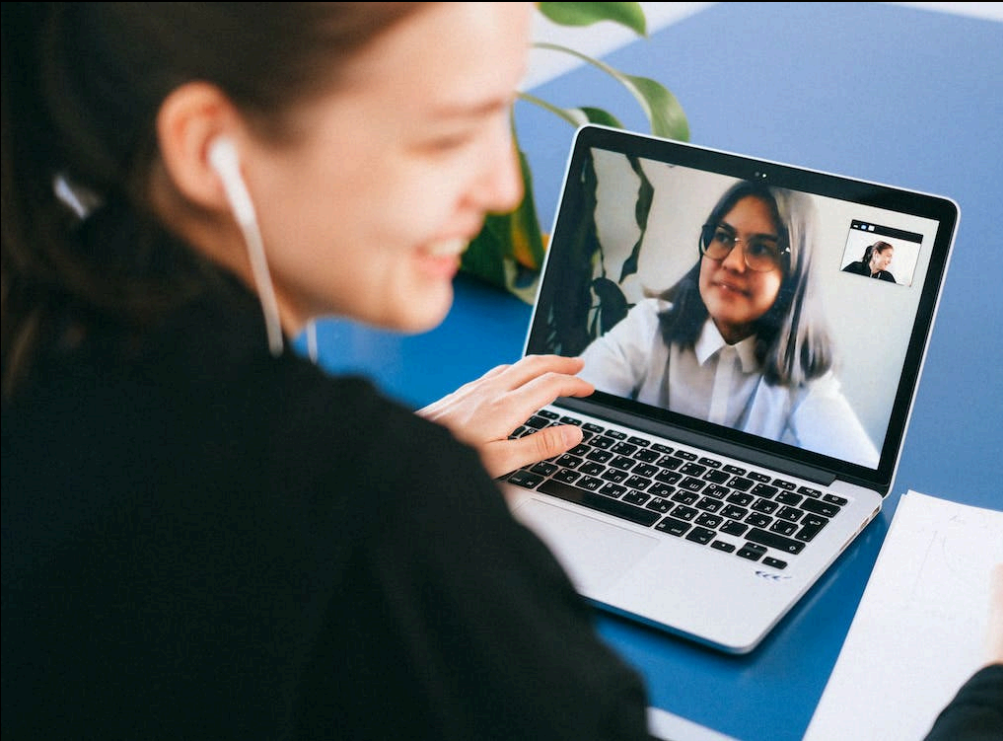


PRIVATE | PUBLIC | HYBRID | FEDERAL | MANAGED CLOUD

Innovating at the Edge



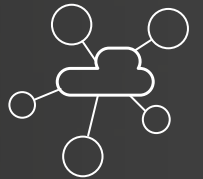
Innovating at the Edge



Every network needs a
perimeter gateway

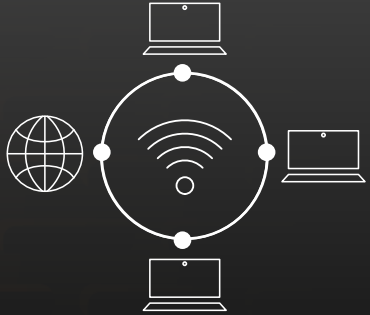


RUCKUS WAN
GATEWAY



Introducing the New ICX 8000 Product Family

Designed from the ground up for “New World” Wireless first & IoT campus networks

Scalability	Capacity / Performance	Power Delivery	Unified Wired/Wireless/IoT	Broad Connectivity Options
				

Introducing the R770

High Density, High Throughput, Low Latency Tri-band Wi-Fi 7 Indoor AP with 10Gbps Backhaul

WIFI 7 Is
Here



IoT Insights

COMMScope
RUCKUS IOT Insights

User
administrator



17:09:20
Europe/London

OPERATION

Dashboard

Devices

Event Log

Floorplan

SERVICES

Service Panel

ADMIN

System Log

Configuration

IoT Insights

version 2.0.0.100

Developed by RUCKUS
IoT Solutions Engineering

COMMScope
RUCKUS IOT Insights

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version 2.0.2.07

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IoT Solutions Engineering

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IoT Insights

version 2.0.2.07

Developed by RUCKUS
IoT Solutions Engineering

Building Management

Realm: Ruckus UK

Site: RKSUK01

Building: 101LB

Floor: 1

Location: Office

Since: 2022-12-04

TEMPERATURE Readings

28 °C

Peak

27 °C

Average

18 °C

Low

Alarm High : 26

Alarm Low : 18

temperature Measurement



HUMIDITY Readings

39 %

Peak

27 %

Average

23 %

Low

Alarm High : 50

Alarm Low : 30

humidity Measurement



CO2 Readings

2500 ppb

Peak

956 ppb

Average

500 ppb

Low

Alarm High : 1501

Alarm Low : 800

co2 Measurement



Next 24 Hours

Predicted Trend

Trend Delta

27 °C → 0 °C

The temperature will remain level for the next 24 hours

Next 24 Hours

Predicted Trend

Trend Delta

27 % → 0 %

The humidity will remain level for the next 24 hours

Next 24 Hours

Predicted Trend

Trend Delta

1014 ppb ↑ 58 ppb

The co2 will rise by 58 ppb over the next 24 hours

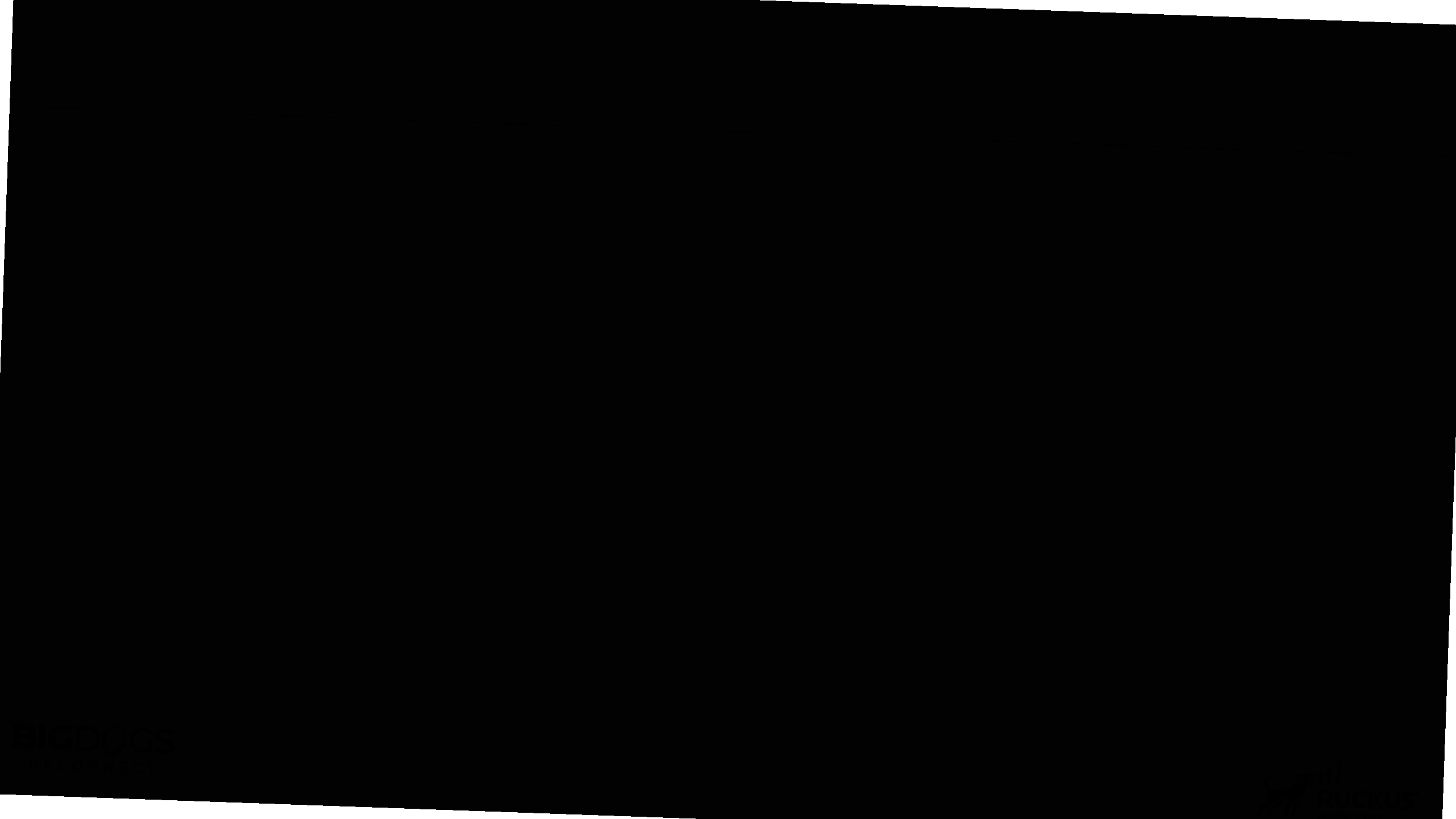
Asks

Get to
know R1
&
Push for
POC's

Engaged
the
RUCKUS
Team

Let's sell
the
RUCKUS
Story

**THANK
YOU**



THANK YOU FOR YOUR TIME TODAY

