

ZYXEL

Your Networking Ally

Business Products Overview

30

Over 30 years
of networking expertise

1500+

1500+ passionate associates
worldwide

700,000

700,000 businesses work smarter
with Zyxel solutions

150

150 global markets served

100

100 million devices
creating global connections

Helping customers seamlessly connect and unlock their potential



TELCO & SERVICE PROVIDER

- DSL CPE (ROUTERS)
- WiFi SYSTEM
- MSAN / DSLAM
- FIBER ACCESS (GPON)
- CARRIER SWITCHES
- LTE/3G CPE



BUSINESS CONNECTIVITY

- NETWORK SECURITY (UTM)
- SWITCHING
- BUSINESS WIRELESS
- CLOUD NETWORKING
- LTE/3G CPE
- BUSINESS CPE



CONNECTED HOME

- ROUTERS
- WiFi SYSTEM (MESH)
- WiFi EXTENDERS
- SWITCHING
- POWERLINE
- CLOUD CAMERA
- NAS

Outstanding R&D Capabilities

Zyxel encompasses prolific R&D resources in almost all networking technologies, delivering a broad range of solutions from switching, WLAN, to Security Gateway, and to carrier-grade IADs.

Engineering & local-
touch support

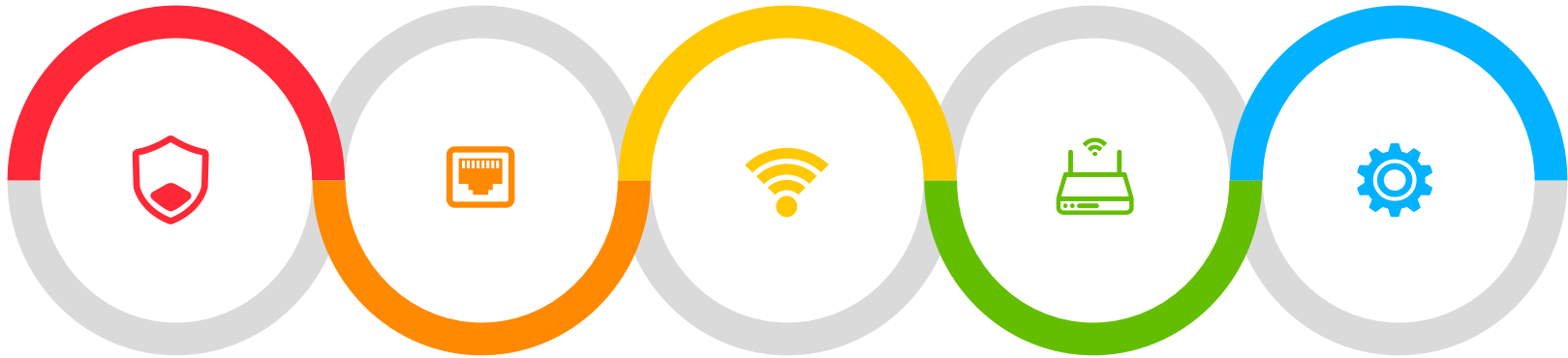
Global SW & HW engineers: 500+
Global technical support: 150+



Global R&D
Centres

Taiwan (headquarters),
Germany, US (bay area)

Comprehensive commercial portfolios



Security Appliances

Device that provide; UTM features as well as traditional firewall features.

LAN Switches

Unmanaged, Web managed and Fully managed switches.

Wireless LAN

Standalone Access Points to fully manageable wireless solutions.

Gateways

Small Business Gateways and Captive Portal solutions.

Network Management

Software / Cloud and protocol based solutions to help you manage your network.

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Your Networking Ally

Security

Cloud, USG & VPN Gateways



Zywall Portfolio

VPN Series



NSG Series



USG Series



ATP Series



Next Gen. VPN & Firewall Solution

Next Generation VPN Firewall Solution with Increased Performance.
Support for SD-WAN on selected models

Cloud Managed UTM Solution

UTM Solution that can be easily configured and centrally managed via Nebula.

On Premise UTM Solution

Fully loaded with 1 year of all the UTM features needed to protect against threats.

Advanced Threat Protection (ATP)

Powered by AI, ATP is able to identify, quarantine and analyse unknown threats, constantly updating its ability to prevent zero-day attacks.

USG Portfolio

USG40/40W

Performance Series



- **USG Interfaces**
3 x LAN/DMZ,
1 x WAN, 1 x OPT
- **SPI Firewall Throughput**
400 Mbps
- **UTM Throughput (AV, IDP)**
50 Mbps
- **VPN Throughput**
100 Mbps

USG60/60W

Performance Series



- **USG Interfaces**
4 x LAN/DMZ,
2 x WAN
- **SPI Firewall Throughput**
1,000 Mbps
- **UTM Throughput (AV, IDP)**
90 Mbps
- **VPN Throughput**
180 Mbps

USG110

Advances Series



- **USG Interfaces**
4 x LAN/DMZ,
2 x WAN, 1 x OPT
- **SPI Firewall Throughput**
1,600 Mbps
- **UTM Throughput (AV, IDP)**
450 Mbps
- **VPN Throughput**
400 Mbps

USG Portfolio

USG210

Advances Series



- **USG Interfaces**
4 x LAN/DMZ, 2 x WAN,
1 x OPT
- **SPI Firewall Throughput**
1,900 Mbps
- **UTM Throughput (AV, IDP)**
500 Mbps
- **VPN Throughput**
500 Mbps

USG310

Advances Series



- **USG Interfaces**
8 x GbE (configurable)
- **SPI Firewall Throughput**
5,000 Mbps
- **UTM Throughput (AV, IDP)**
550 Mbps
- **VPN Throughput**
650 Mbps

USG1100

Extreme Series



- **USG Interfaces**
8 x GbE (configurable)
- **SPI Firewall Throughput**
6,000 Mbps
- **UTM Throughput (AV, IDP)**
650 Mbps
- **VPN Throughput**
800 Mbps

USG Portfolio

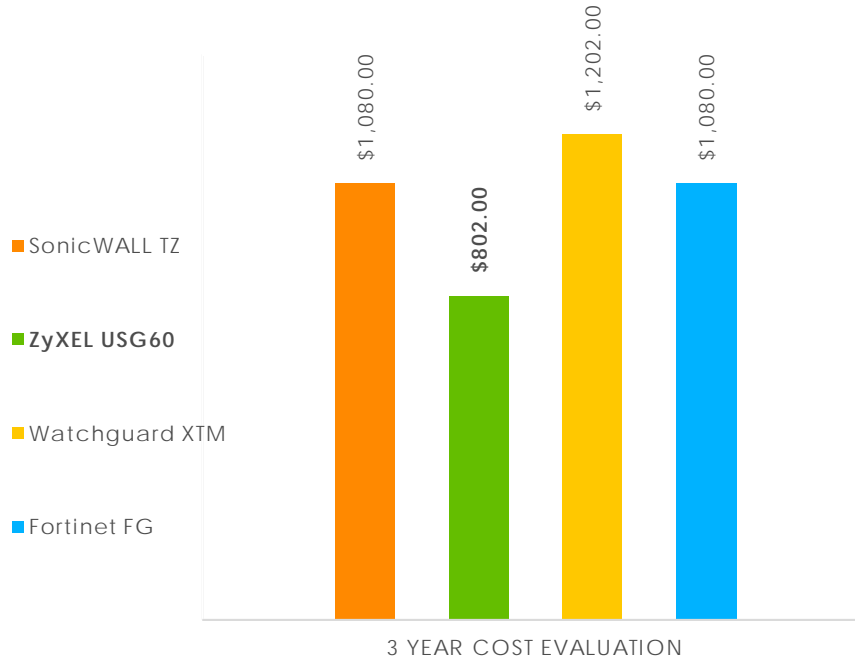
USG1900

Extreme Series



- **USG Interfaces**
8 x GbE (configurable)
- **SPI Firewall Throughput**
7,000 Mbps
- **UTM Throughput (AV, IDP)**
710 Mbps
- **VPN Throughput**
900 Mbps

Zyxel Wins – Best TCO Price / Performance

















Up to **49%**
more cost effective
(Best TCO in class)

Zyxel also offer
FREE firmware updates,
LIFETIME HARDWARE WARRANTY, and
FREE support with **NO** support contracts
for even MORE savings!

Independent Expertise

Partnering with the best Unified Threat Management specialists

	 Anti-Virus	 Anti-Spam	 Content Filtering	 IDP	 App. Intelligence
					
	In-house	In-house	In-house	In-house	In-house
	In-house	In-house	In-house	In-house	In-house
	In-house	In-house	In-house	In-house	In-house

VPN Portfolio

NEW

VPN2S Performance Series



- **Interfaces**
3 x LAN, 1 x OPT,
1 x WAN
- **SPI Firewall Throughput**
1,500 Mbps
- **VPN Throughput**
35 Mbps
- **AP Controller**
N/A

USG20/20W-VPN Performance Series



- **Interfaces**
4 x LAN/DMZ
1 x WAN, 1 x SFP
- **SPI Firewall Throughput**
350 Mbps
- **VPN Throughput**
90 Mbps
- **AP Controller**
N/A

NEW

VPN50 Advanced Series



- **Interfaces**
4 x LAN/DMZ,
2 x WAN (1 x SFP, 1x GbE)
- **SPI Firewall Throughput**
800 Mbps
- **VPN Throughput**
150 Mbps
- **AP Controller**
4/36

VPN Portfolio

NEW

VPN100 Advanced Series



- **Interfaces**
4 x LAN/DMZ,
2 x WAN, 1 x SFP
- **SPI Firewall Throughput**
2,000 Mbps
- **VPN Throughput**
500 Mbps
- **AP Controller**
4/68

NEW

VPN300 Advanced Series



- **Interfaces**
7 x GbE (Configurable)
1 x SFP
- **SPI Firewall Throughput**
2,600 Mbps
- **VPN Throughput**
1,000 Mbps
- **AP Controller**
4/132

USG2200-VPN Advanced Series



- **Interfaces**
12 x GbE (configurable),
4x SFP(configurable), 2 x 10G Combo
- **SPI Firewall Throughput**
12,000 Mbps
- **VPN Throughput**
2,500 Mbps
- **AP Controller**
2/1024

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Your Networking Ally

ATP

Advanced Threat Protection

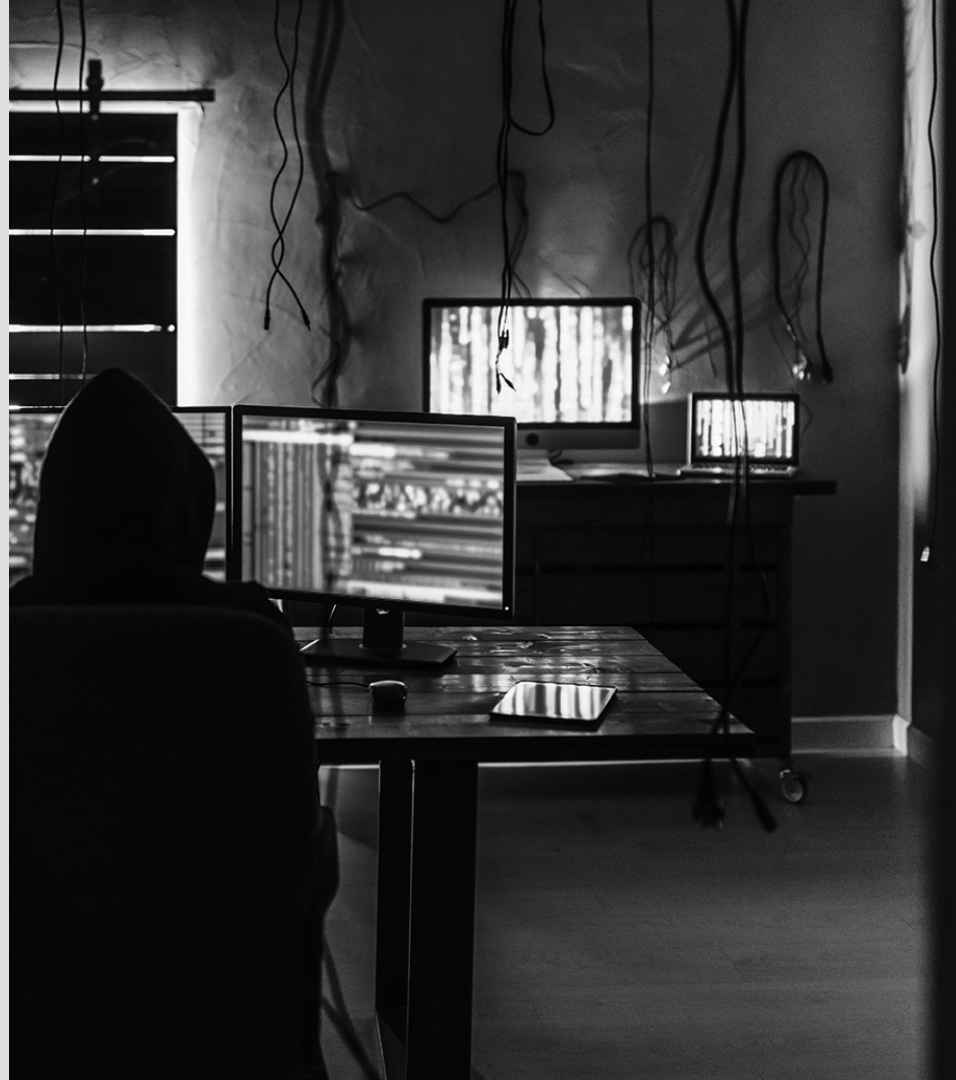




Going beyond the conventional.

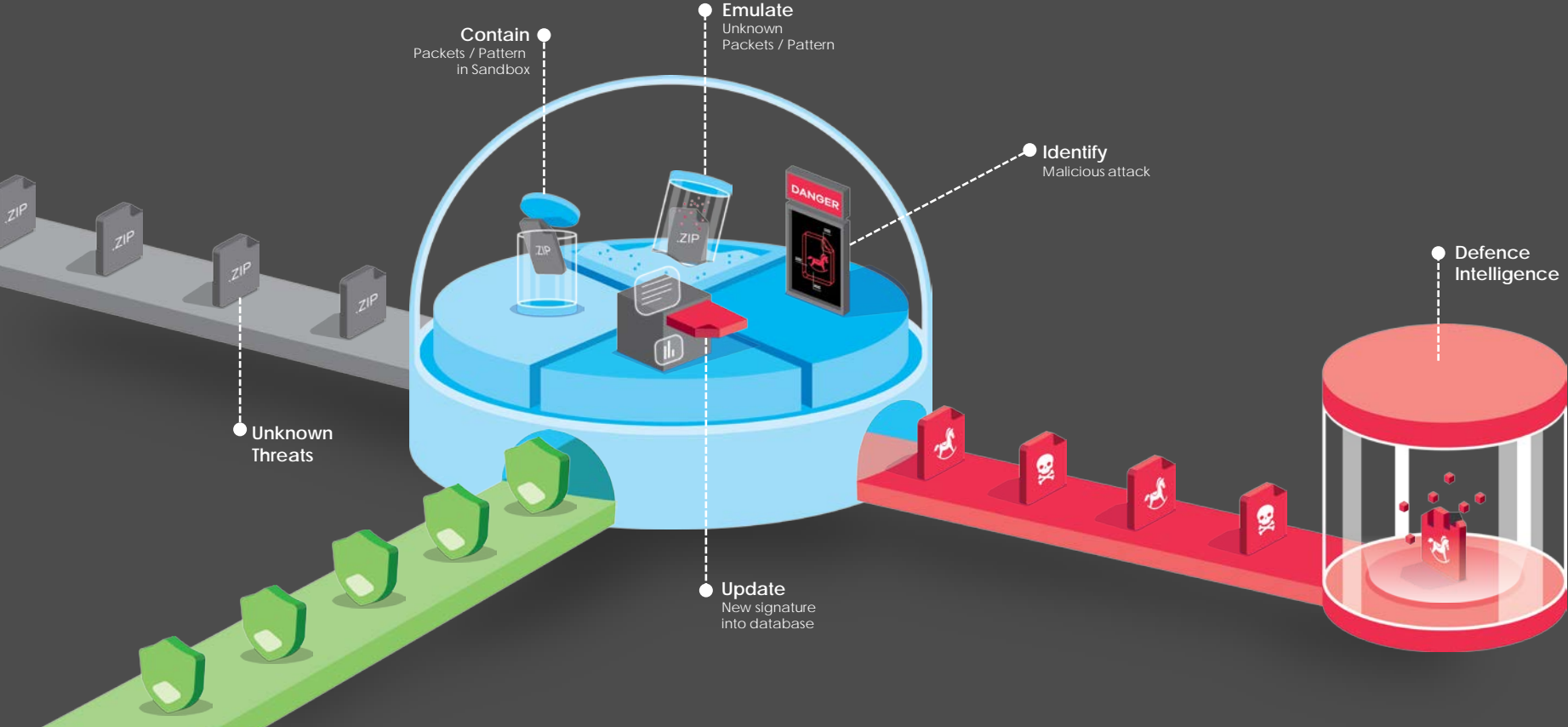
Conventional techniques used in Unified Threat Management (UTM) provide an essential barrier of protection, but rely on identifying known indicators of attack through signatures, heuristics or reputation methods.

Advanced Threat Prevention (ATP) goes beyond these methods by building on top of conventional techniques to provide protection against more sophisticated zero-day threats.



Conquer unknown security threats

through smart cloud intelligence.

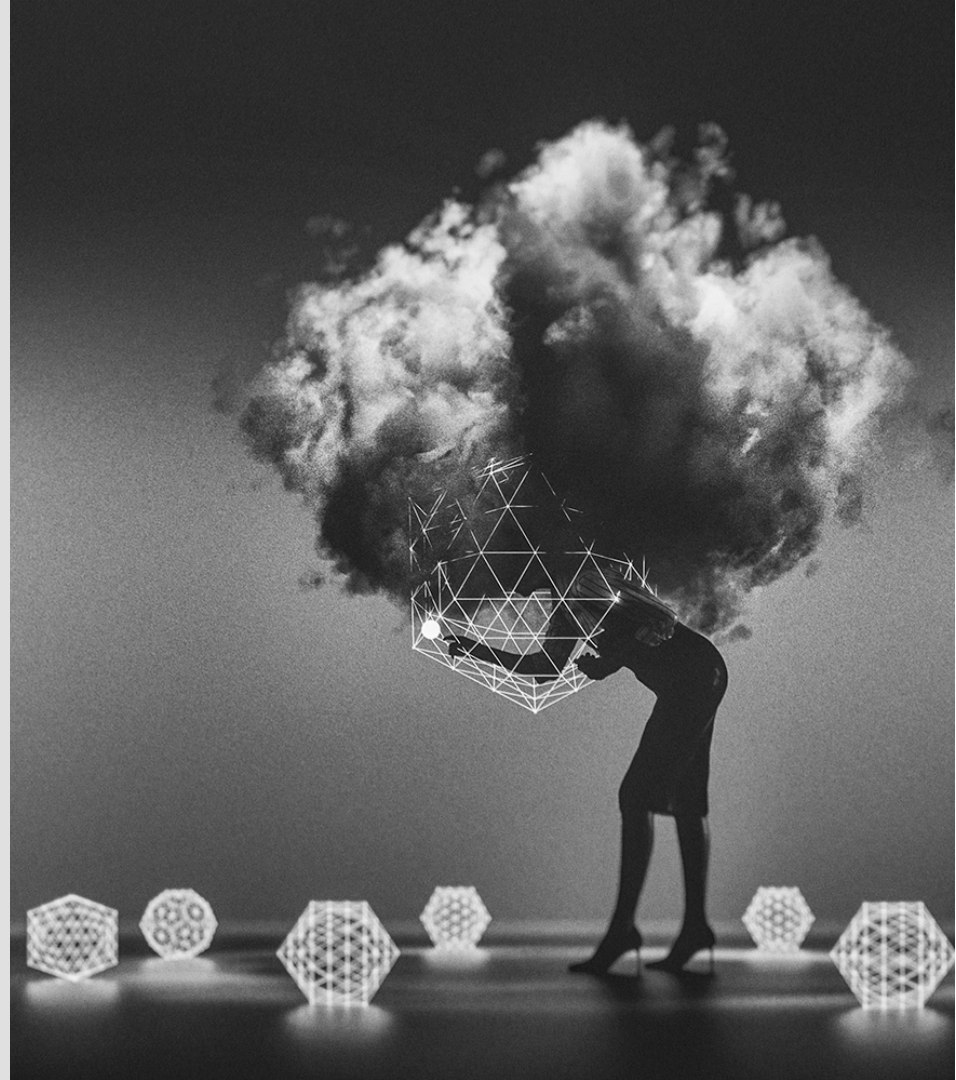




Global security ecosystem.

With real-time cloud-and-device intelligence synchronization, each threat detected on an individual ATP gateways extracted and shared via our cloud network.

This ensures that all Zyxel ATP firewalls globally are constantly updated, proactively assuring the ongoing security of all customers' network environments.





Industry Leading.

The ATP Product Line leverages from LastLine a market leader in "Security Effectiveness" against Breach Detection Rates and Reliability for Sandbox Solutions for Enterprises.



ATP Portfolio

NEW

ATP200

Includes 1 year Gold Security Pack



- **ATP Interfaces**
4 x LAN
2 x WAN, 1 x SFP
- **SPI Firewall Throughput**
2,000 Mbps
- **UTM Throughput (AV, IDP)**
450 Mbps
- **VPN Throughput**
400 Mbps

NEW

ATP500

Includes 1 year Gold Security Pack



- **ATP Interfaces**
7 x GbE (Configurable)
1 x SFP
- **SPI Firewall Throughput**
2,600 Mbps
- **UTM Throughput (AV, IDP)**
700 Mbps
- **VPN Throughput**
900 Mbps

NEW

ATP800

Includes 1 year Gold Security Pack



- **ATP Interfaces**
12 x GbE (Configurable)
2 x SFP
- **SPI Firewall Throughput**
8,000 Mbps
- **UTM Throughput (AV, IDP)**
1,200 Mbps
- **VPN Throughput**
1,500 Mbps

ATP Service License

Gold Security Pack

Sandboxing	●
Web Security (Content/Botnet Filter)	●
Application Security (App Patrol & Email Security)	●
Malware Blocker Anti-Malware	●
Malware Blocker Cloud Query	●
Malware Blocker Cloud Threat Database	●
Intrusion Prevention (IDP)	●
Geo Enforcer (GeoIP)	●
Managed AP Service (Wireless Controller)	18 (ATP200),34 (ATP500), 130 (ATP800)
SecuReporter	●

- ATP Devices are bundled with 1-year of Gold Security Pack license by default (non-transferable)
- Starting on the 2nd year, users can choose to renew Gold Security Pack for either 1YR or 2YR (transferable)

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ATP vs USG

Comparison



Key Feature Comparison

	USG	ATP
App Patrol	●	●
IDP/ADP	●	●
IPSec VPN	●	●
Anti-Malware (signatures)	●	●
Anti-Malware (cloud machine learning)		●
Content Filtering	●	●
Geo Enforcer	●	●
Anti-Spam	●	●
Botnet Filter		●
Sandboxing		●
Zero day IP/URL Reputation		●*

* Available in 2019 H1

		USG	ATP
	IDP Throughput	USG210: 660 Mbps	ATP500: 1,700 Mbps, more than 2.5x
	UTM Throughput	USG1900: 700 Mbps	ATP500 over 800 Mbps
VPN	IPSec VPN	●	●
	SSL VPN	Scalable	Fixed
Connectivity	AP Controller	●	●
	HA Pro	●	●*
Hospitality	Hotspot Management	●	
	Facebook WiFi	●	
	Concurrent Device Upgrade	●	

* Excludes ATP200 – This model does not support HA

Nebula Orchestrator SD-WAN Supported Hardware

VPN50

Includes 1 Year
Nebula Orchestrator SD-WAN & Security Services



- **SD-WAN Interfaces**
4 x LAN/DMZ (1 Configurable)
1 x WAN, 1 x SFP
- **SPI Firewall Throughput**
800 Mbps
- **VPN Throughput**
150 Mbps

VPN100

Includes 1 Year
Nebula Orchestrator SD-WAN & Security Services



- **SD-WAN Interfaces**
4 x LAN/DMZ (1 Configurable)
2 x WAN, 1 x SFP
- **SPI Firewall Throughput**
2,000 Mbps
- **VPN Throughput**
500 Mbps

VPN300

Includes 1 Year
Nebula Orchestrator SD-WAN & Security Services



- **SD-WAN Interfaces**
7 x GbE (Configurable)
1 x SFP
- **SPI Firewall Throughput**
2,600 Mbps
- **VPN Throughput**
1,000 Mbps

Nebula Orchestrator - SD-WAN



Zero Touch Provisioning (ZTP)

Deploy new branch gateway in minutes, reduces operational time and expense.



Dynamic Path Selection

Real-time monitor path quality and automatically route mission critical applications to best-quality transmission path.



WAN Optimization

Optimize WAN traffic to improve WAN performance between branch offices and corporate headquarters.



Content Filtering

Cloud-based database of over 140 billion URLs that are continuously analysed and tracked for both HTTP and HTTPS.



Application Intelligence

Identify more than 3000 protocols and applications. Prioritize application by behaviour and user expectation.



Dynamic Mesh VPN

Allows gateways to establish dynamic direct VPN tunnels when traffic flow requests are made to reduce bottlenecks in network.

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Switching

The backbone of any
network





Understanding Zyxel Switch Naming

Starting with:

ES = All ports support up-to 100Mbps

GS = All ports support up-to 1Gbps

XS = All ports support up-to 10Gbps (this includes Multi-Gig switches)

XGS = All Traditional Ports are 1Gbps with dedicated 10G Uplinks

MGS = Metro Switch (Carrier Switch)

Ending with:

P or HP = PoE+ Switch (Historically P = PoE and HP = PoE+)

F = Fibre (version) Switch



Switch Combo Ports

Combo port is an Ethernet port and an SFP port that share the same port number.

This provides the flexibility to have a single switch that can be used to serve both requirements regardless of medium (Ethernet or SFP).





Fiber Ports SFP and SFP+

For Fiber ports you will often see SFP or SFP+:

- **SFP** means the port is able to go up-to 1Gbps (1G)
- **SFP+** means the port is able to go up-to 10Gbps (10G)



Each Fiber ports requires an SFP or SFP+ module. The module used is determined by the requirement. Most often this distance.





Switch Stacking

Switch stacking allows a set of switches to act as a single switch. For Zyxel switches this is done only on selected models and is achieved by using the 10G Fibre ports. A Direct Attached Cable (DAC) is also available to simplify the install.



When Stacking is in place the physical stack allows for greater resilience / less point of failures in larger networks.

If the main reason to physically stack switches is to gain central control, then you should also consider looking at switches that support Nebula / NebulaFlex as an alternative.





Power over Ethernet (PoE)

PoE is based on a IEEE 802.3 standard and allows a switch to power a devices use the same standard for example: IP Camera's, Wireless Access Points and Desktop VoIP phones.

Devices are usually given a Classification to determine how much power they will need from a single PoE port.



CLASS:

PoE	= CLASS 3	15.4w	802.3af
PoE+	= CLASS 4	30w	802.3at
PoE++	=	60w	802.3bt (Also known as Ultra PoE)



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Your Networking Ally

Switching

Portfolio



PRO-USER / SB

SB / SMB / Specific requirement for 10G Copper

GS1200

SOHO WEB MANAGED



Models:
5 / 5HP / 8 / 8HP

Largest PoE+ Budget:
60w

- Key Features:
- Fanless, noiseless design
 - Simplified VLAN & Basic port config.
 - Small and Compact

GS1900 Series

SMART MANAGED



Models:
8 / 8HP / 10HP / 16 / 24 / 24HP / 48 / 48HP

Largest PoE+ Budget:
170w

- Key Features:
- Supports STP/RSTP/MSTP/LACP
 - Fanless models
 - SFP uplinks on select models

XS1920

SMART MANAGED



Models:
XS1920-12

Largest PoE+ Budget:
N/A

- Key Features:
- 10x 10G (copper)
 - 2 x Combo (10GbE / SFP+)
 - Supports STP/RSTP/MSTP/LACP
 - L2 Multicast IGMP



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Nebula and NebulaFlex Switches

SMB / Partner / MSP (Small and large installs)

Partner / MSP (Small and large install)

NEW

GS1920v2 Series

NEBULAFLEX / SMART MANAGED



Models:
8HP / 24 / 24HP / 48 / 48HP

Largest PoE+ Budget:
375w

Key Features:

- 8 Port Fanless 130w PoE+ (internal PSU)
- Dual mode Smart Managed or Nebula
- Zero touch deployment
- Centrally management platform (Nebula)
- Supports STP/RSTP/MSTP/LACP
- L2 Multicast IGMP*

NEW

XGS1930 Series

NEBULAFLEX / SMART MANAGED



Models:
28 / 28HP / 52 / 52HP

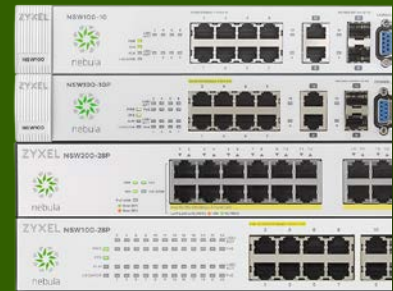
Largest PoE+ Budget:
375w

Key Features:

- 4 x 10G Uplink Ports
- Dual mode Smart Managed or Nebula
- Zero touch deployment
- Centrally management platform (Nebula)
- Supports STP/RSTP/MSTP/LACP
- L2 Multicast IGMP*

NSW Series

CLOUD MANAGED
(1YR PRO PACK)



Models:
10 / 10HP / 24 / 24HP / 24HP (10G)

Largest PoE+ Budget:
375w

Key Features:

- Zero touch deployment
- Centrally management platform (Nebula)
- Includes 1year of Nebula Pro Pack
- Virtual Stacking via Nebula
- Supports STP/RSTP & LACP
- L2 Multicast IGMP



Your Networking Ally

Fully Managed Switches

Partner / MSP / Project / System Integrators (edge network)

Partner / Project / System Integrators (small core or large edge network)

GS2210 Series

LAYER 2 (L2)



Models:
8 / 8HP / 24 / 24HP / 48 / 48HP

Largest PoE+ Budget:
375w

- Key Features:**
- Web / CLI / Console Managed Access
 - Supports STP/RSTP/MSTP/LACP
 - L2 Multicast IGMP

XGS2210 Series

LAYER 2 (L2)



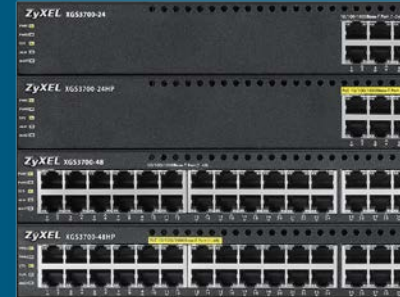
Models:
28 / 28HP / 52 / 52HP

Largest PoE+ Budget:
375w

- Key Features:**
- 4 x 10G Uplink Ports
 - Physical Stacking (2x)
 - Static Routing
 - Web / CLI / Console Managed Access
 - Supports STP/RSTP/MSTP/LACP

XGS3700 Series

LIGHT LAYER 3 (LL3) or L2+



Models:
24 / 24HP / 48 / 48HP

Largest PoE+ Budget:
1000w

- Key Features:**
- 4 x 10G Uplink Ports
 - Physical Stacking (8x)
 - Static Routing & Policy-based routing
 - VLAN Stacking (Q-in-Q) - 802.1ad
 - Supports STP/RSTP/MSTP/VRRP/LACP & ECMP



Your Networking Ally

Fully Managed Switches

Partner / MSP / Project / System Integrators (Larger capacity network edge or core or smaller Distribution / Aggregation)

Partner / MSP / Project / System Integrators (core / Distribution)

XS3700 Series

LIGHT LAYER 3 (LL3) or L2+



Models:

XS3700-24F

Key Features:

- 8 x 10GbE
- 4 x Combo (10GbE/SFP+)
- 12 x SFP+
- Static Routing & Policy-based routing
- VLAN Stacking (Q-in-Q) - 802.1ad
- Supports STP/RSTP/MSTP/VRRP/LACP & ECMP

XS3800 Series

LIGHT LAYER 3 (LL3) or L2+

NEW



Models:

XS3800-28F (Multi-Gigabit 100M/1G/2.5G/5G/10G)

Key Features:

- 8 x Combo (10GbE/SFP+)
- 16 x SFP+
- 4 x RJ45 (Multi-Gigabit)
- Physical Stacking (4x)*
- Static Routing & Policy-based routing
- Supports STP/RSTP/MSTP/LACP/VRRP & ECMP

XGS4600 Series

LAYER 3



Models:

32 / 32F / 52F

Key Features:

- 4 x 10G Uplink Ports
- Physical Stacking (4x)
- VLAN Stacking (Q-in-Q) - 802.1ad
- Advanced security with multilayer (L2/L3/L4)
- Supports STP/RSTP/MSTP/LACP/VRRP & ECMP
- Supports OSPF (Dynamic Routing)
- Supports RIP v1 and v2

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Your Networking Ally

PoE

Power over Ethernet



Unmanaged and Web Managed Switch Portfolio by PoE Budget

60w

GS1200 5HP



60w

GS1200 8HP



75w

GS1100 8HP

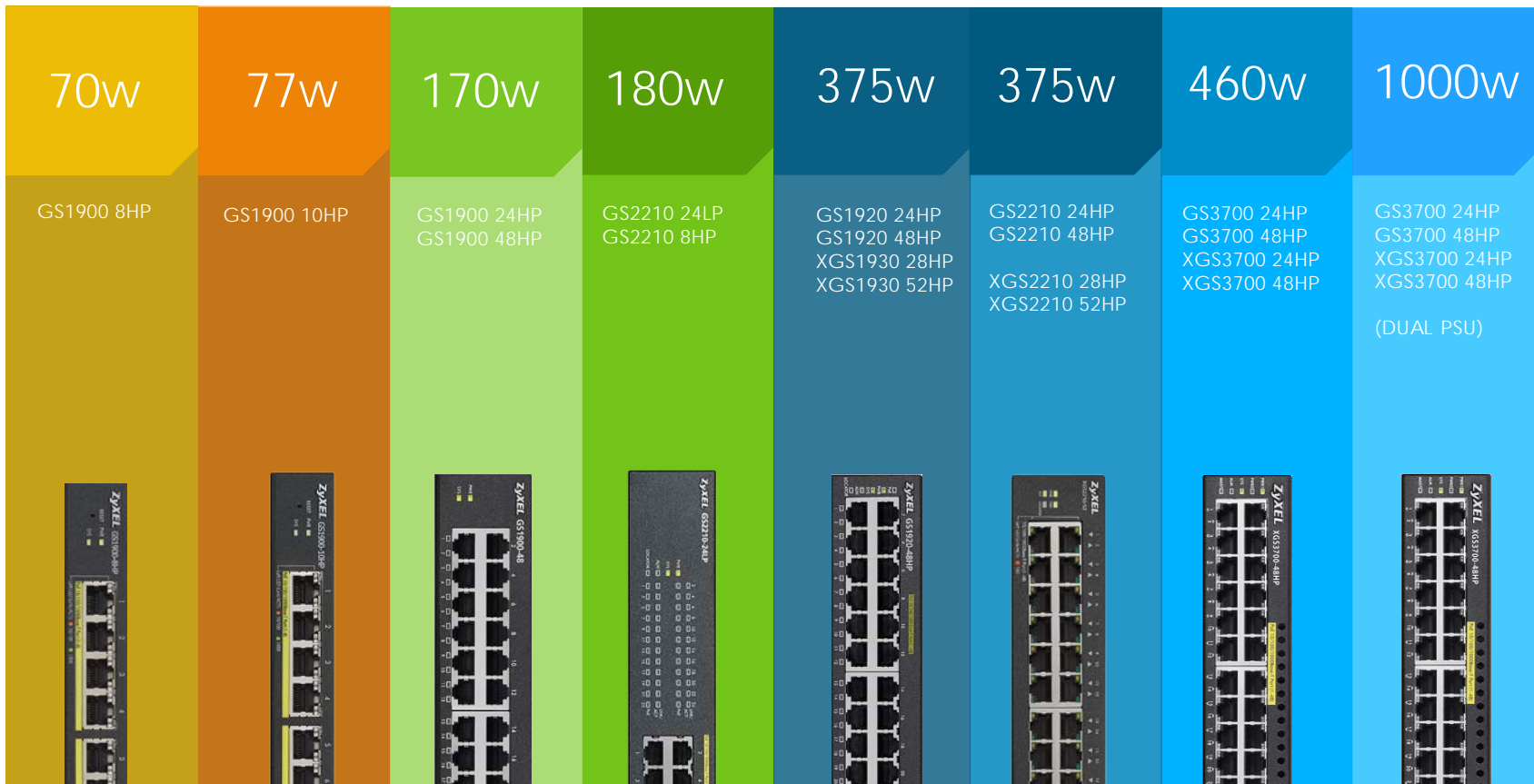


130w

GS1100 10HP



Smart Managed and Fully Managed Switch Portfolio by PoE Budget – More Power Power More



PoE Classification vs Zyxel's Smart Power mode



Intelligently Monitor PoE

Detects power required from device and allocate power from entire budget. Power up MORE devices than the competition.



PoE control on Each Port

Reserves the actual required power for powered devices per port and allows you to prioritise power like you would in classification mode.



Eco Power & Scheduling

Minimizes the waste of unused power. Allows the use of scheduling PoE to power on and off individual ports from within the Switch GUI itself.



Allocated PoE

WAC6502D-S



Classification (802.3at Class 4)

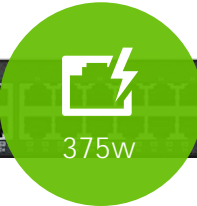


ZyXel Consumption Mode



MAX

20 x WAC6502D-S



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10G Switching



SMART MANAGED

XS1920-12



10 x 10GbE
2 x Combo

LAYER 2 (L2)

XGS2210-28/52/28HP/52HP



4 x 10G SFP+

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Your Networking Ally

10G Switching

LIGHT LAYER 3 (LL3)

XGS3700-24/48/24HP/48HP



4 x 10Gb SFP+



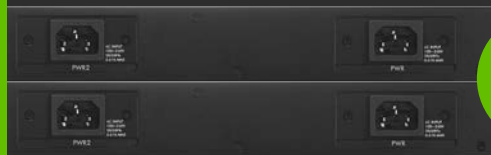
Optional Hot-Swap
dual power inputs

LAYER 3 (L3) NEW!

XGS4600-32/32F



4 x 10Gb SFP+



Dedicated
dual power inputs

The Brand New GS1920v2 Series

Inherit all features of current GS1920, and introduce new concepts



- **New look**
Carbon-like front panel
- **New size**
8-port fanless PoE model
- **Hybrid design**
Both Standalone & Nebula Cloud Switch in one
- **Compact PoE model**
Easier installation with 270mm depth

Hybrid Switch At-A-Glance



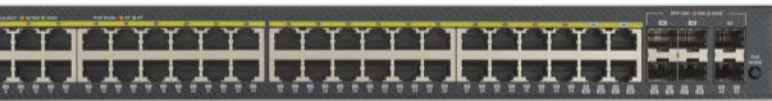
Supports NebulaFlex™ Technology to shift between standalone and License Free Nebula cloud management flexibly



Nebula Cloud: Nebula allows simple deployment with agile network management

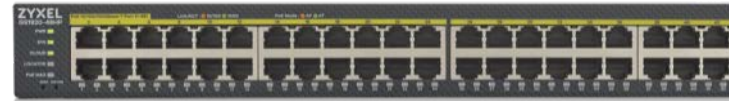


Standalone: Easy management and setup with web-based GUI



GS1920v2 SERIES

SMART MANAGED



Fiber uplinks

- Up to 6 fiber uplinks for 48-port models
- Up to 4 fiber uplinks for 24-port models
- Up to 2 fiber uplinks for 8HP model



Smart fan and fanless designs offer whisper-silent operation



Easy to power more devices

- Support 802.3at PoE+ offering 30w per port
- Default consumption mode
- PoE power usage indicators (8HP)

Go Cloud Or Standalone?

Change your mind anytime by using Hybrid switch!

Nebula Cloud

Go to Nebula Control Center (NCC) or use Nebula App to register GS1920v2. You can manage, configure and monitor it anytime, anywhere.

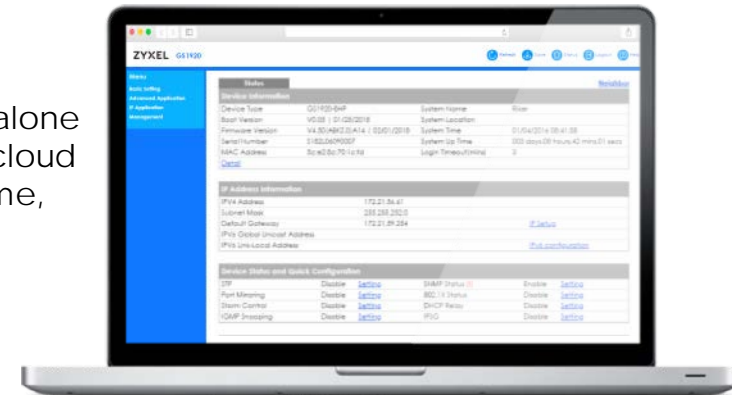


NebulaFlex

Easily convert between standalone and our License Free Nebula cloud management platform, anytime, with a few simple clicks!

Standalone

Unregister GS1920v2 from NCC, it will reset to default setting automatically and reboot in standalone mode.



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Your Networking Ally

Wireless

Create smarter, more efficient
ways to connect and collaborate.



NAP
Series



NAP102
NAP202
NAP303
NAP353

NWA1100
Series



NWA1100-NH*
NWA1123-AC v2
NWA1123-AC PRO
NWA1123-AC HD

HYBRID

NWA5120
Series



NWA5123-AC
NWA5123-AC HD

NEW AP Q1

NWA5300
Series



NWA5301-NJ

WAC5300
Series



WAC5302D-S

WAC6100
Series



WAC6103D-1

WAC6300
Series



WAC6303D-S

NEW Q1

WAC6500
Series



WAC6502D-E
WAC6553D-E

WAC6500
Series (smart)



WAC6502D-S
WAC6503D-S

STANDALONE

HARDWARE CONTROLLER (NXC/USG/UAG/VPN)

NEBULA

NEBULA (FREE)

* Does not support NebulaFlex

Nebula Professional Pack

Centralized Management with added functionality

All the benefits of Nebula with additional features and functions to help with larger deployments or larger management teams.

Nebula

Centralized Management

Easy to use central management that suites typical configuration / deployments without the need to install software or a controller.

Standalone

Single / Per Device Management

Easy to use configuration that can be applied locally to each Wireless Access Point via a web browser.

Controller

On Premises Centralized Management

Hardware controller either dedicated or utilizing the USG's controller. This method allow really refined configuration for more complex installations.

APFlex NWA5000 / WAC6100 / WAC6300 / WAC6500

OPTIONAL WITH LICENSE

NebulaFlex NWA1123AC v2 / NWA1123AC PRO / NWA1123AC HD

NAP

LICENCE FREE



Wireless designed for the ultimate user experience

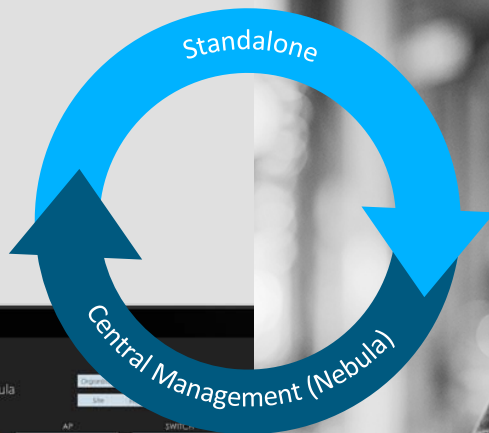
Refined, tuned and robust hardware
is key in creating the ultimate user
experience.

All Nebula Access Points are backed
by a Life Time Warranty*.



NebulaFlex

Easily switch between standalone and our License Free Nebula cloud management platform, anytime, with a few simple clicks!



NWA1123-AC v2
AC Wave1 SU-MIMO



2x2 1.16 Gbps



64*



802.11ac

NWA1123-AC PRO
AC Wave1 SU-MIMO



3x3 1.75 Gbps



256*



802.11ac

NWA1123-AC HD
AC Wave2 MU-MIMO



2x2 3x3 1.6 Gbps



256*



802.11ac wave2

NWA1300-AC
AC Wave1 SMART Antenna



Coming Soon



2x2 1.2 Gbps



128*



802.11ac Smart

*1: maximum concurrent supported devices (stations)

ZYXEL

Your Networking Ally



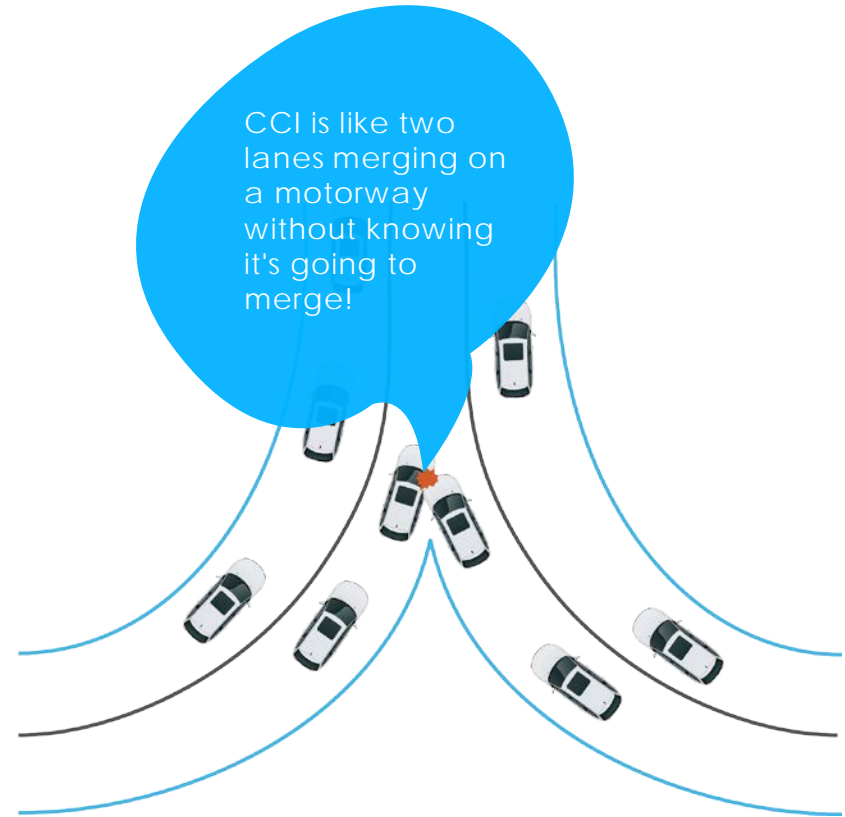
Smart Antenna

Award winning Technology

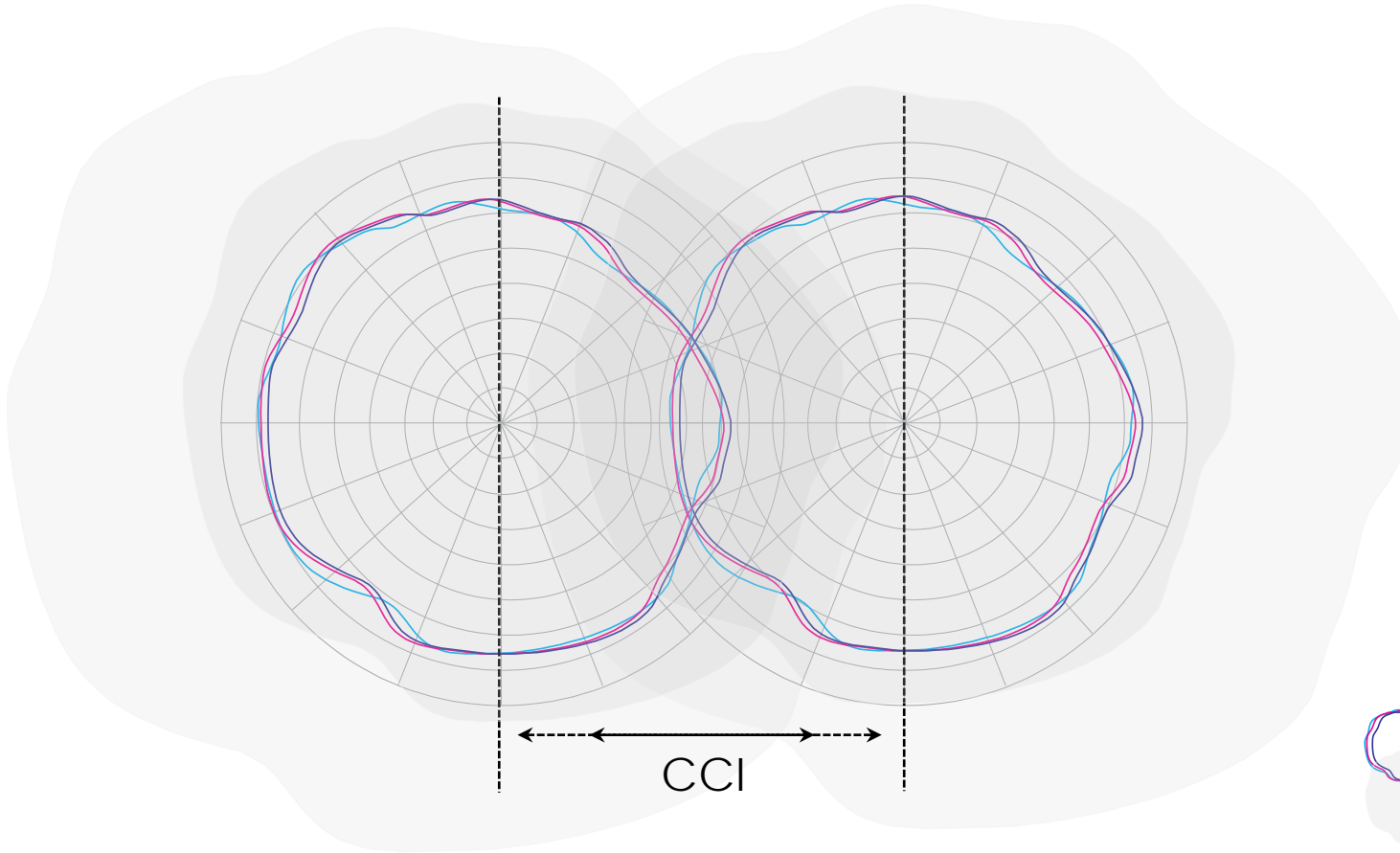


What is Co-Channel Interference (CCI)?

Co-channel interference occurs between two access points (APs) that are on the same frequency channel. The reason why this should be considered when deploying Wi-Fi is that co-channel interference can severely affect the performance of your wireless LAN (WLAN) so much so that the effects can make the service unusable.



Traditional methods of dealing with Co-Channel Interference (CCI)



Turn Down the Power?

Traditional methods of dealing with Co-Channel Interference (CCI) issues, is to turn down the power.

Unfortunately, this causes dead spots due to less coverage area and no overlap, along with giving lower throughputs.

Also it doesn't completely remove the Co-Channel Interference (CCI) issues.

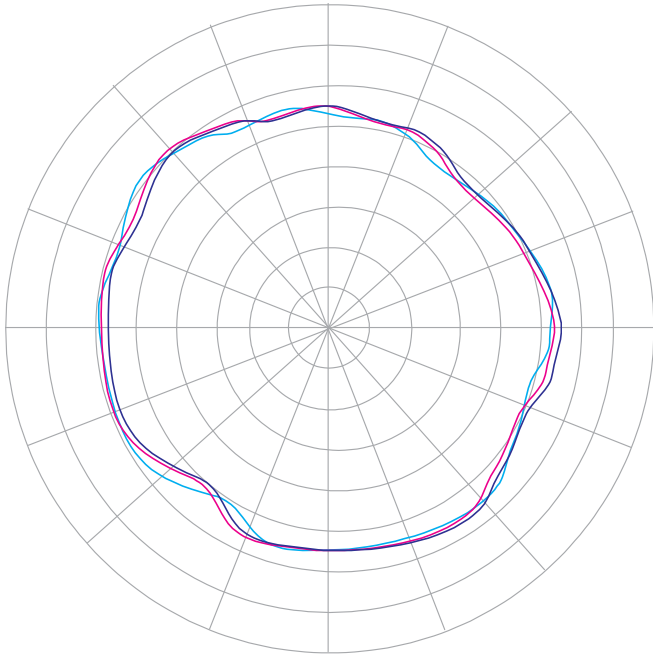


Coverage Area

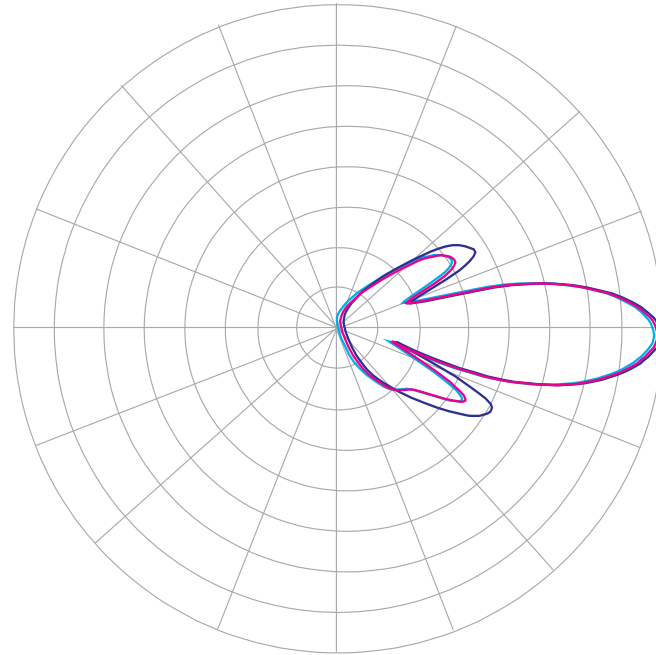
Interference Area

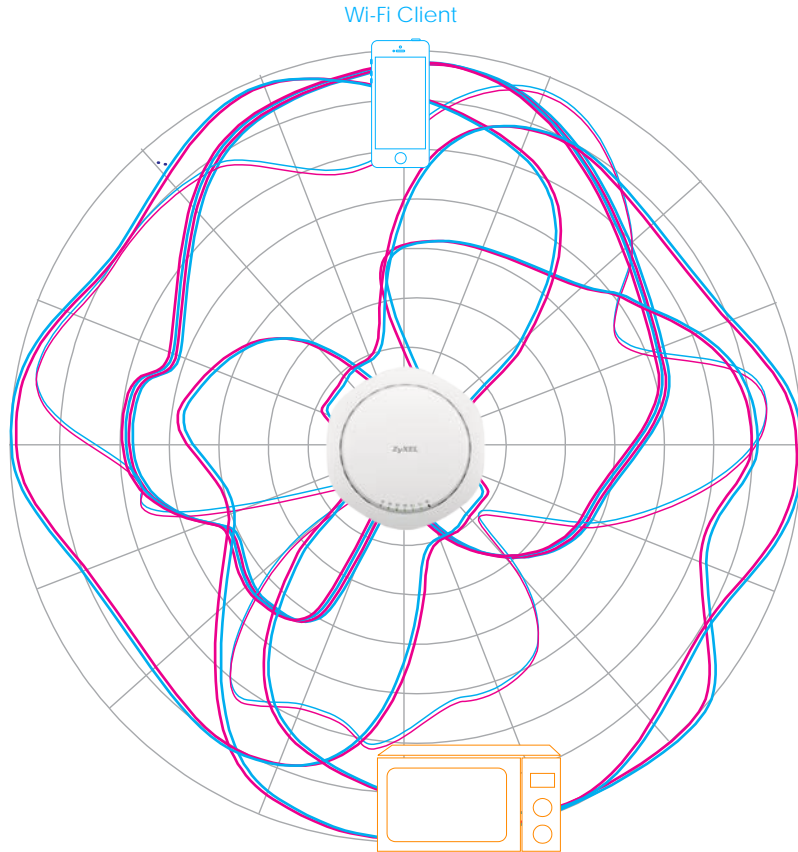
What is a Smart Antenna and how does it work?

conventional Omni-directional antenna



90o directional antenna





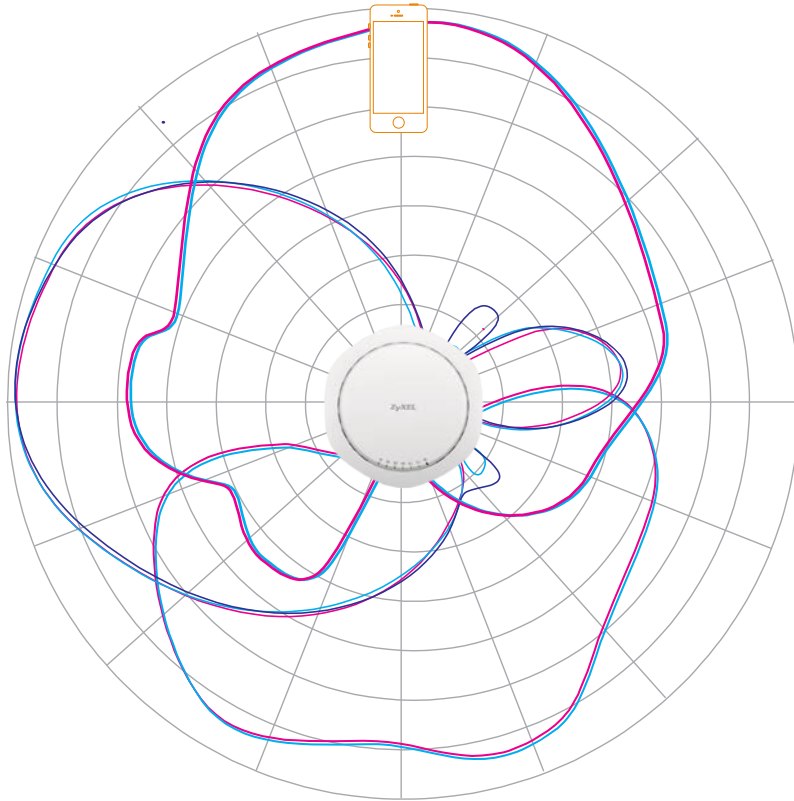
Adjacent / Co channel or Non Wi-Fi Interference

Smart Antenna

Scans for clients and interference.

Intelligent algorithm selects from over **700** optimized antenna patterns. This cycle takes less than 100ms.

Optimal beam combination is shaped for each client (station).



Smart Antenna

The cycle is repeated if necessary to dynamically shape different patterns in response to changing environments.

For example:
client (station) moves or
interference is detected.

ZYXEL

Your Networking Ally

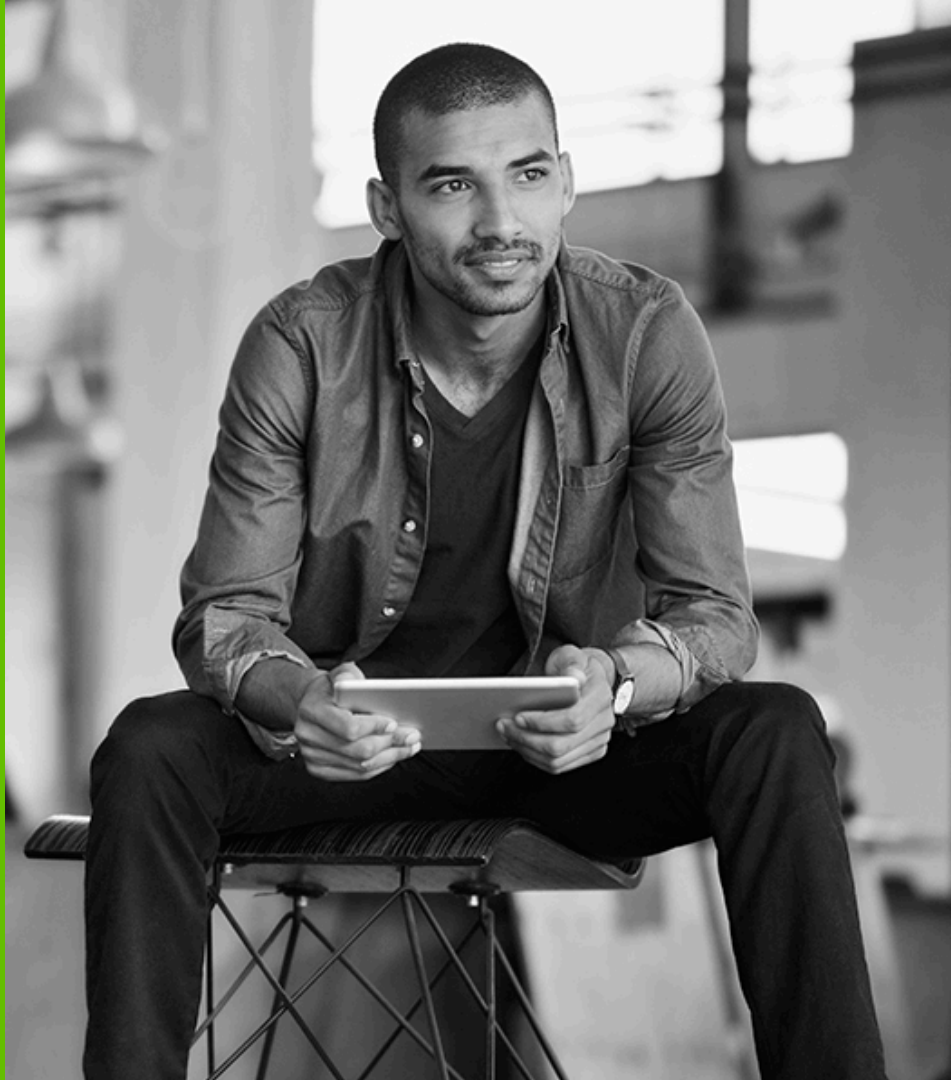


Research

The Networking Group,
University of Brescia (Italy).





Performance analysis of 802.11ac Access Points:
"The Power of Smart Antenna Technology"

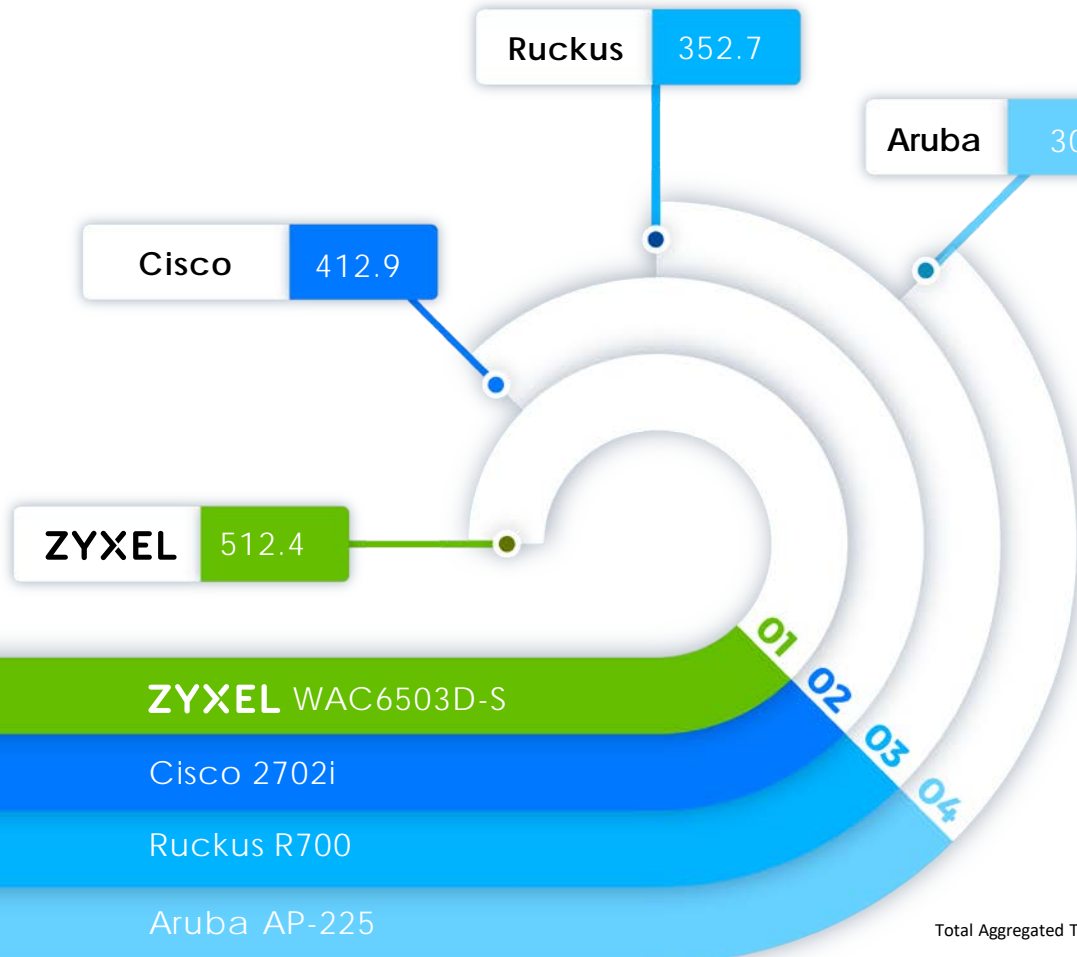
<http://netweb.ing.unibs.it/ntw/>



The devices put under test:



 Your Networking Ally	WAC6503D-S	802.11ac	3 x 3 : 3	Dual Radio	Smart Antenna
	AP-225	802.11ac	3 x 3 : 3	Dual Radio	Non-smart Antenna
	R700	802.11ac	3 x 3 : 3	Dual Radio	Smart Antenna
	2702i	802.11ac	3 x 4 : 3	Dual Radio	Non-Smart Antenna



Zyxel outperforms competitors by

70%

in eliminating co-channel interference.

ZYXEL WAC6503D-S

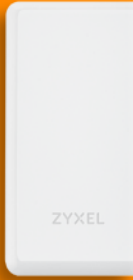
Cisco 2702i

Ruckus R700

Aruba AP-225

Total Aggregated Throughput (Mbps)

NWA1300-AC
Wave1 SU-MIMO




2x2 1.2 Gbps



128*

NAP303
Wave1 SU-MIMO




3x3 1.75 Gbps



256*

WAC5302D-S
Wave1 SU-MIMO




2x2 1.2 Gbps



128*

WAC6303D-S
Wave2 MU-MIMO




2x2 3x3 1.6 Gbps



256*

WAC6502D-S
Wave1 SU-MIMO




2x2 1.16 Gbps



256*

WAC6503D-S
Wave1 SU-MIMO




3x3 1.75 Gbps



256*

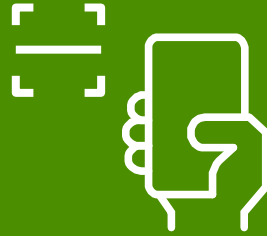
NEBULA (FREE)

NEBULA

HARDWARE CONTROLLER (NXC/USG/VPN)



Plug-in Nebula
Device/s



Login & Register Device/s
Via NCC or APP



Assign, Configure
and Monitor

Setup without unboxing!

Register your device via NCC or via the APP by either entering the serial number and MAC address or by scanning the QR code (available on selected models) and configure the device without even unboxing it!

...It's that simple!



Manage all your clients and sites in one place!

Don't just settle for managing a single site. Nebula has been designed to support Multi-tenant (Organizations) as well as individual sites all in a single pane of glass.

...It's that simple!



Multi-tier Management SITE View.



Organisation/Multi-Site administration.



Overview status of devices on individual sites within an organisation.



Search for Devices.



Real-time application traffic summary.*

*: Requires NSG (Gateway) device on a site to provide Application statistics.

ZYXEL

Your Networking Ally



Partner Program



ZAP! Partner Program

	Bronze	Silver	Gold
Extra Discount*	0%	16%	20%
Deal Registration	•	•	•
Free Webinars	•	•	•
Free Tech Support	•	•	•
Lease Financing**	•	•	•
Dedicated Account Manager	•	•	•
NFR/Demo Discount		•	•
Lead Referral			•
Sales Engineer Access			•
Advanced Replacement			•
Qualifying Sales / ½ Year Period		\$6K	\$12K





Partner Site

<http://vars.zyxel.com/>



ZYXEL

Your Networking Ally



888.792.7463

WWW.TARGETD.COM