

15 Oct 2020

Aruba India Tech Talk

Industry vertical focus:

**HOSPITALITY**

**aruba**

a Hewlett Packard  
Enterprise company

# The Dating Game

between

# Hospitality Technology



TC Lee



## About Me



Tee Chong (TC), Lee

Regional CSE for Hospitality, APJ

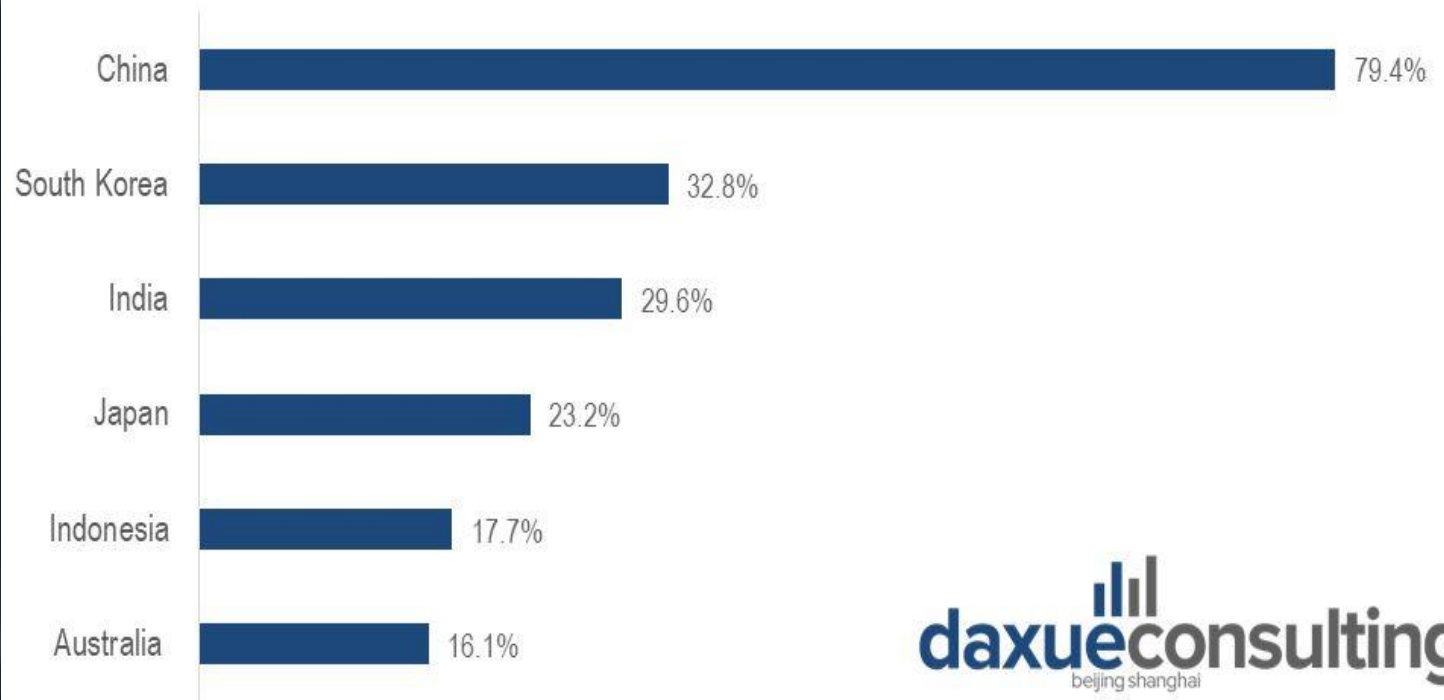
- Companies: Mediarling, ANTLabs, DMX, Colubris, HP, Ruckus, Aruba
- Total 25 years technology experience: voice & video, software development, web application development, network management and wireless LAN.
- 14 years in design, deployment and troubleshooting of wireless networks in various verticals: hospitality, service provider, education, transportation.
- Singapore IDA and CHTA workgroup on WiFi Best Practices.
- Conduct seminars, workshops, training and demos and Atmosphere Tech Playground.
- Hospitality Brands and partners engagement, training and education



# Agenda

- **Before COVID19**
- After COVID19
- The New Normal
- The Aruba Advantage

## Mobile Payment User Penetration in Asia-Pacific by Country in 2018



# Agenda

- Before COVID19
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# Agenda

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## WHAT ARE HOTELS LOOKING FOR

Cost reduction

Connectivity for all

Do more with less

Seamless onboarding

Deployment consistency

Compliance and oversight

Operational efficiencies

Contactless experience and operation



# NEXT GEN NETWORK

## Aruba Edge Services Platform

### Agenda

- Before COVID19
- After COVID19
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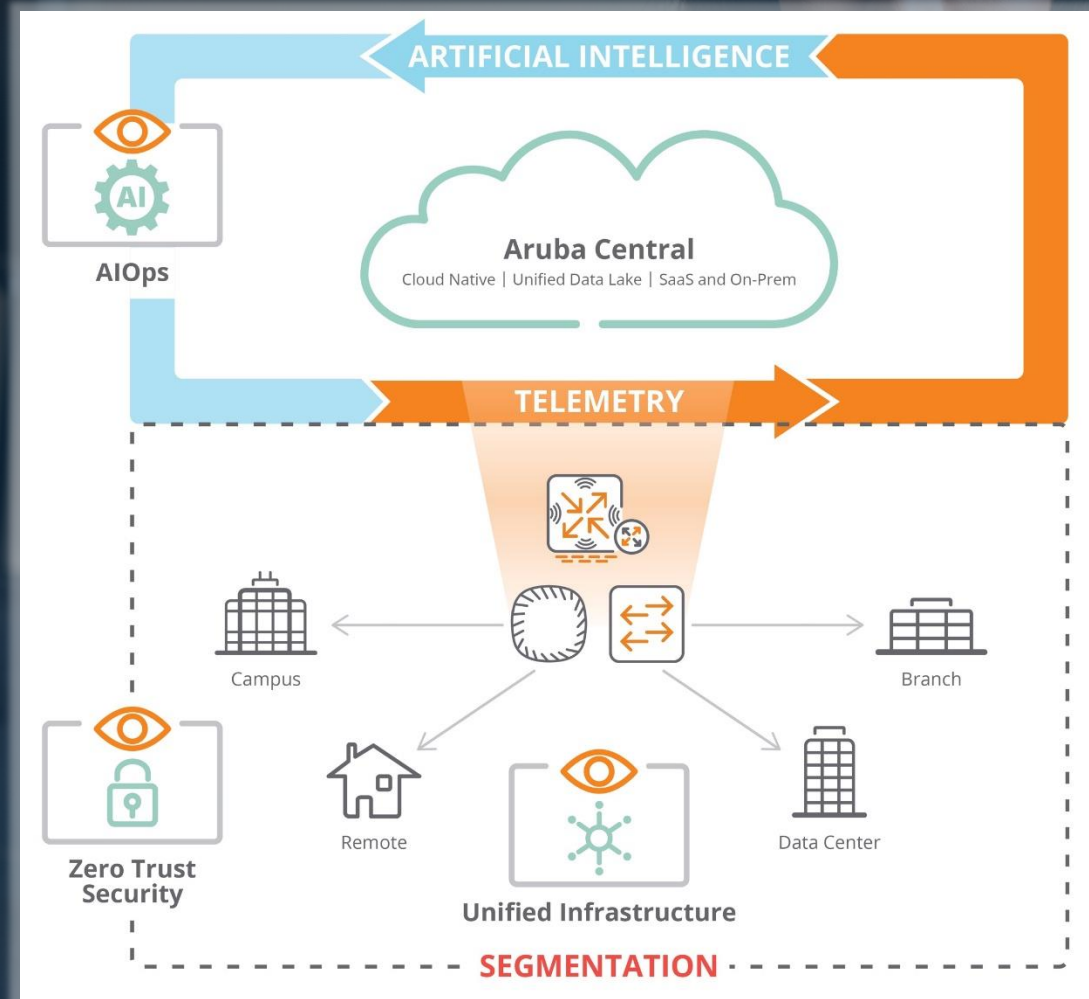
AIOps



Zero Trust Security



Unified Infrastructure



# Agenda

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Unified Infrastructure

## NEXT GEN NETWORK

Aruba Edge Services Platform



# Agenda

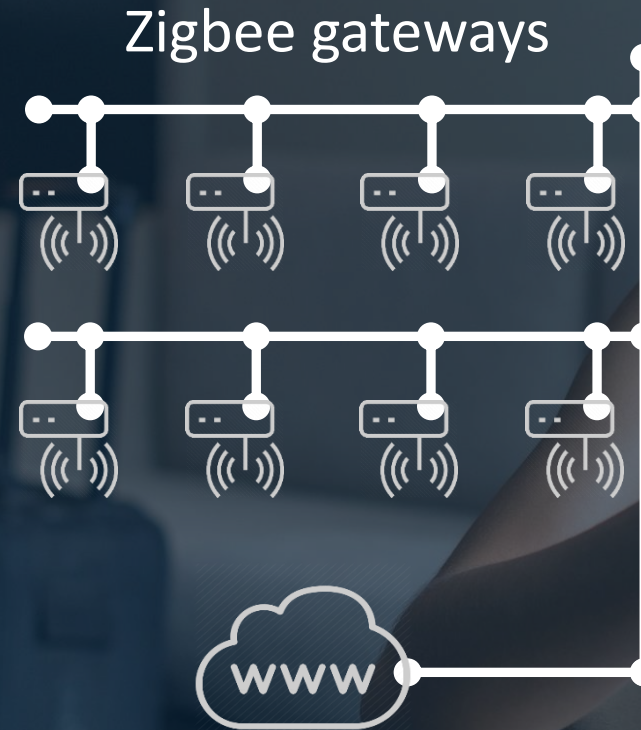
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Unified Infrastructure

## NEXT GEN NETWORK

Aruba Edge Services Platform



IOT network

Multiple networks



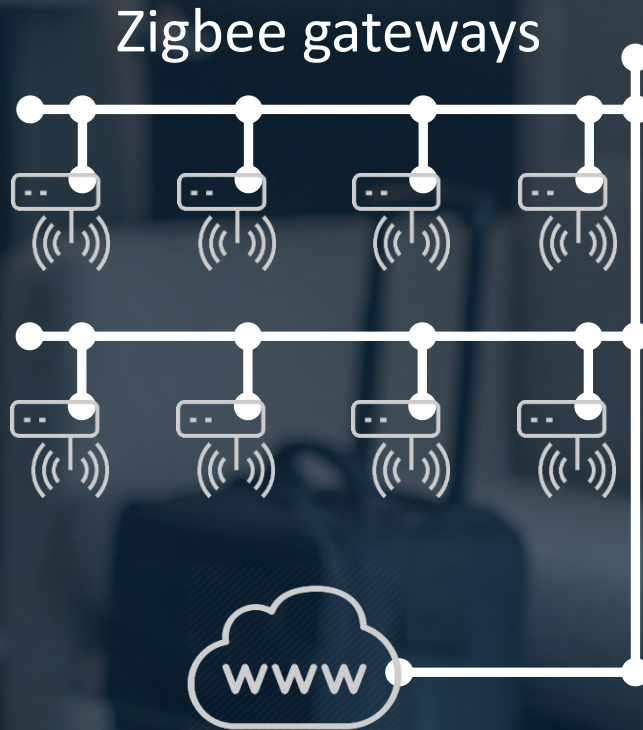


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IOT network



Guest network

Multiple networks

## NEXT GEN NETWORK

Aruba Edge Services Platform

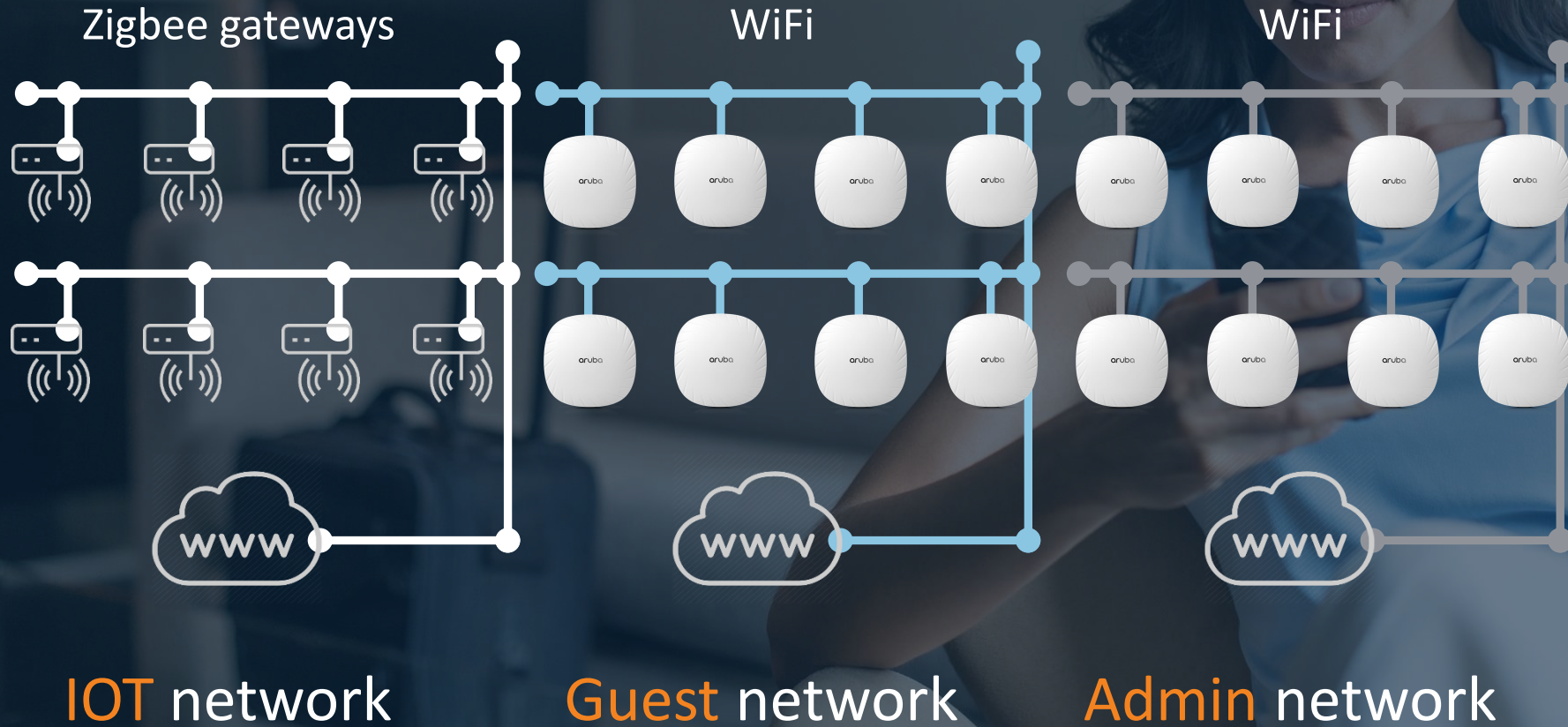


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## Unified Infrastructure



## NEXT GEN NETWORK

Aruba Edge Services Platform

IOT network

Guest network

Admin network

**Multiple** networks



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Unified Infrastructure

## NEXT GEN NETWORK

Aruba Edge Services Platform

# Convergence



### Consolidate

- Switchports, cables, access devices

A graphic with a white background and a black border. It features an icon of a pair of scissors cutting through a yellow dollar bill. To the right of the icon, the text 'COST REDUCTION' is written in a bold, sans-serif font. Below this, the number '60%' is displayed in a very large, bold, black font.



# Agenda

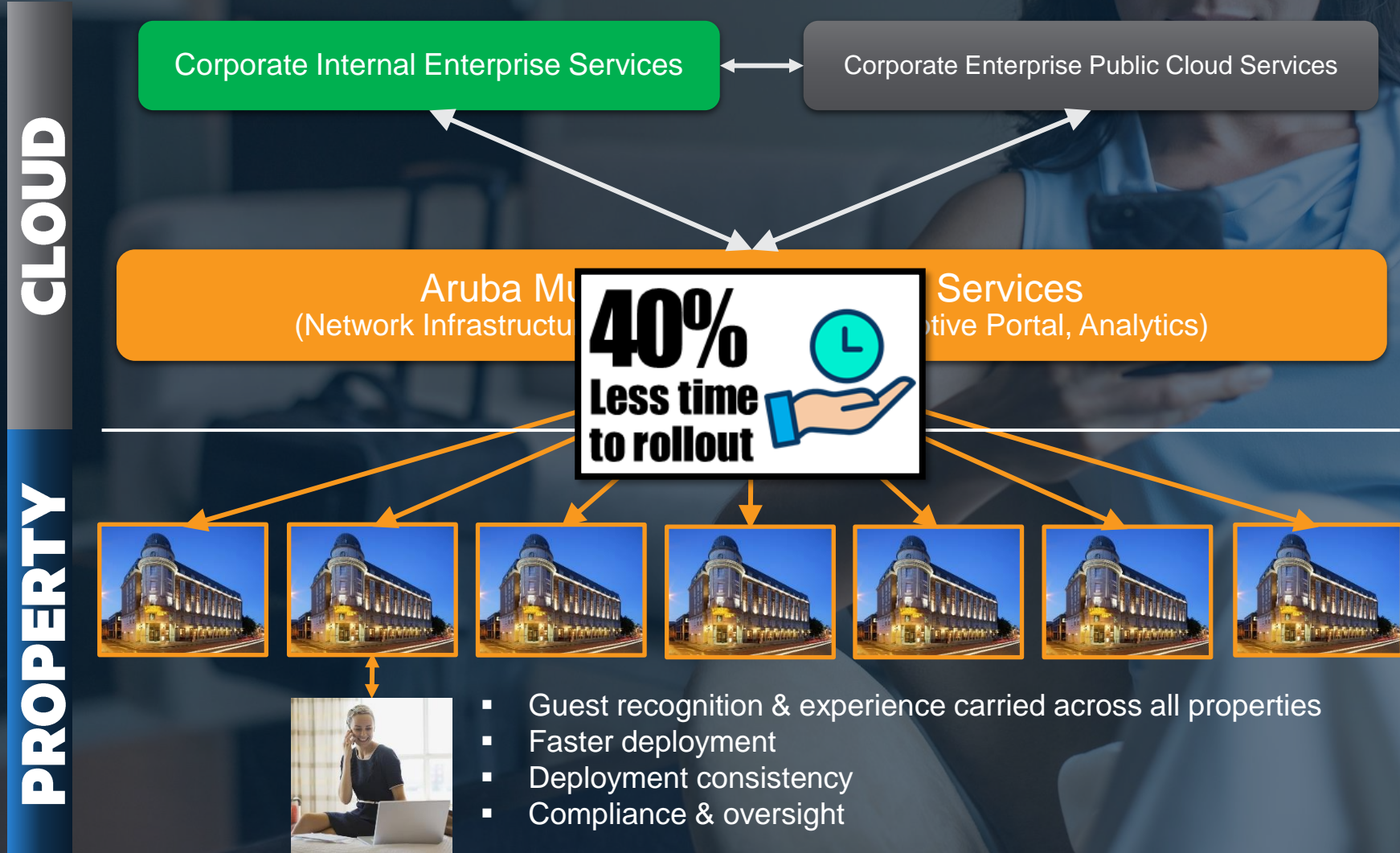
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Unified Infrastructure

## NEXT GEN NETWORK

Aruba Edge Services Platform



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## Unified Infrastructure

Network as a **Sensor**: Timeline of guest behavior on property



- Targeted marketing
- Contact tracing
- Social distancing compliance



Location services

Sequence	Activity	Day	Time	Dwell	Sensor
1	Arrival In Valet	1	6:00 pm	2:00	Wi-Fi
2	Front Desk	1	6:02 pm	6:00	BLE Beacon
3	Guest Room	1	6:10 pm	40:00	Wi-Fi, Zigbee
4	Restaurant	1	7:00 pm	60:00	BLE Beacon
5	Guest Room	1	8:15 pm	10:15:00	Wi-Fi, Zigbee
6	Fitness Room	2	6:30 am	1:10:00	Wi-Fi
7	Guest Room	2	8:30 am	40:00	Wi-Fi, Zigbee
8	Restaurant	2	9:15 am	60:00	BLE Beacon
9	Gift Shop	2	10:30 am	15:00	BLE Beacon
10	Guest Room	2	10:50 am	30:00	Wi-Fi, Zigbee
11	Departure	2	11:30 am		Wi-Fi



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## Unified Infrastructure

Network as a **Sensor**: Timeline of guest behavior on property

# NEXT GEN NETWORK

## Aruba Edge Services Platform



Location services

contact-tracing-poc.onlosant.com/assets/contacts

aruba Explore Floors Assets Live Map Guidelines Location: Singapore EBC Justin

### Asset Contacts

Search

Asset: A0E6F8514D0B Max Distance: 2 meters Date: 09/11/2020 12:00 AM to 10/01/2020 11:59 PM

Search

Results

Start	Duration (min...)	Device in Cont...	Contact Type	Avg Distance (...)	Min Distance (...)	Max Distance (...)
Fri Sep 11 2020 ...	77	A0E6F85A3958	HUMAN_TO_HU...	1.13	0.16	1.80
Fri Sep 11 2020 ...	19	A0E6F85A44E5	HUMAN_TO_HU...	0.93	0.56	1.57
Fri Sep 11 2020 ...	2	A0E6F85A44E5	HUMAN_TO_HU...	1.34	0.89	1.79
Fri Sep 11 2020 ...	55	A0E6F85A461B	HUMAN_TO_HU...	0.74	0.26	1.95
Fri Sep 11 2020 ...	99	CC78ABC6D096	HUMAN_TO_OB...	1.62	0.70	1.94
Fri Sep 11 2020 ...	32	A0E6F85A461B	HUMAN_TO_HU...	0.73	0.19	1.92
Fri Sep 11 2020 ...	2	A0E6F85A461B	HUMAN_TO_HU...	0.90	0.56	1.24

Map



# NEXT GEN NETWORK

## Aruba Edge Services Platform

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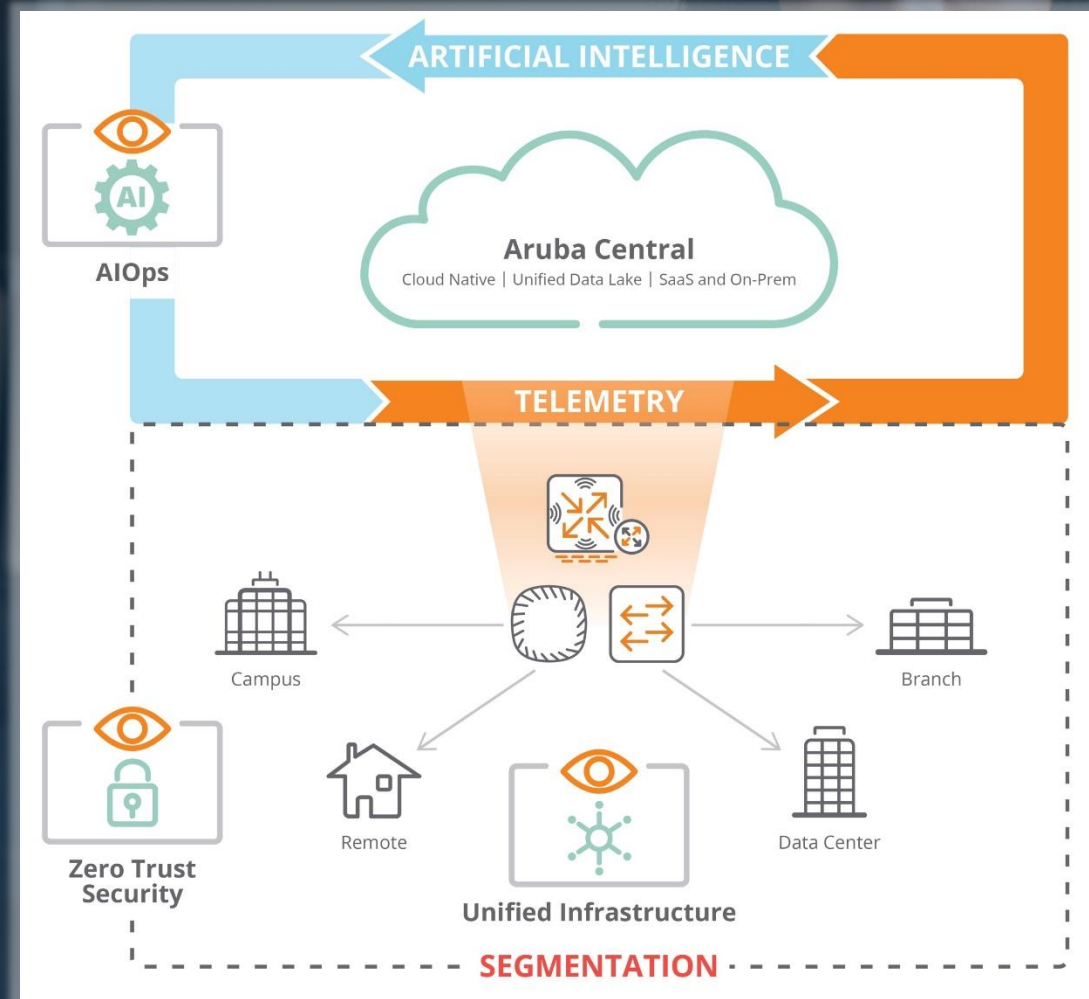
AIOps



Zero Trust Security



Unified Infrastructure



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Zero Trust Security

## NEXT GEN NETWORK

Aruba Edge Services Platform





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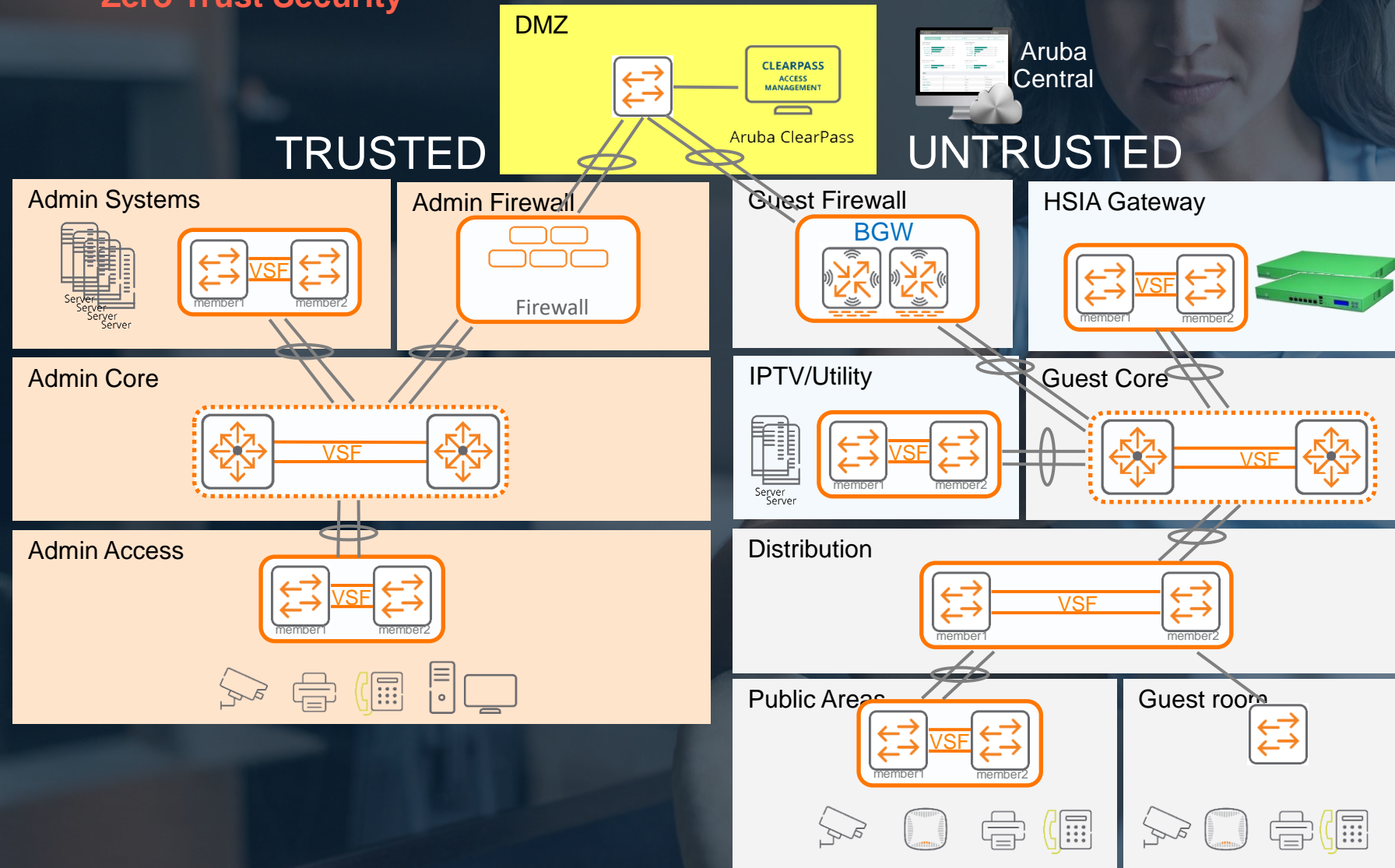
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## Zero Trust Security

# NEXT GEN NETWORK

## Aruba Edge Services Platform



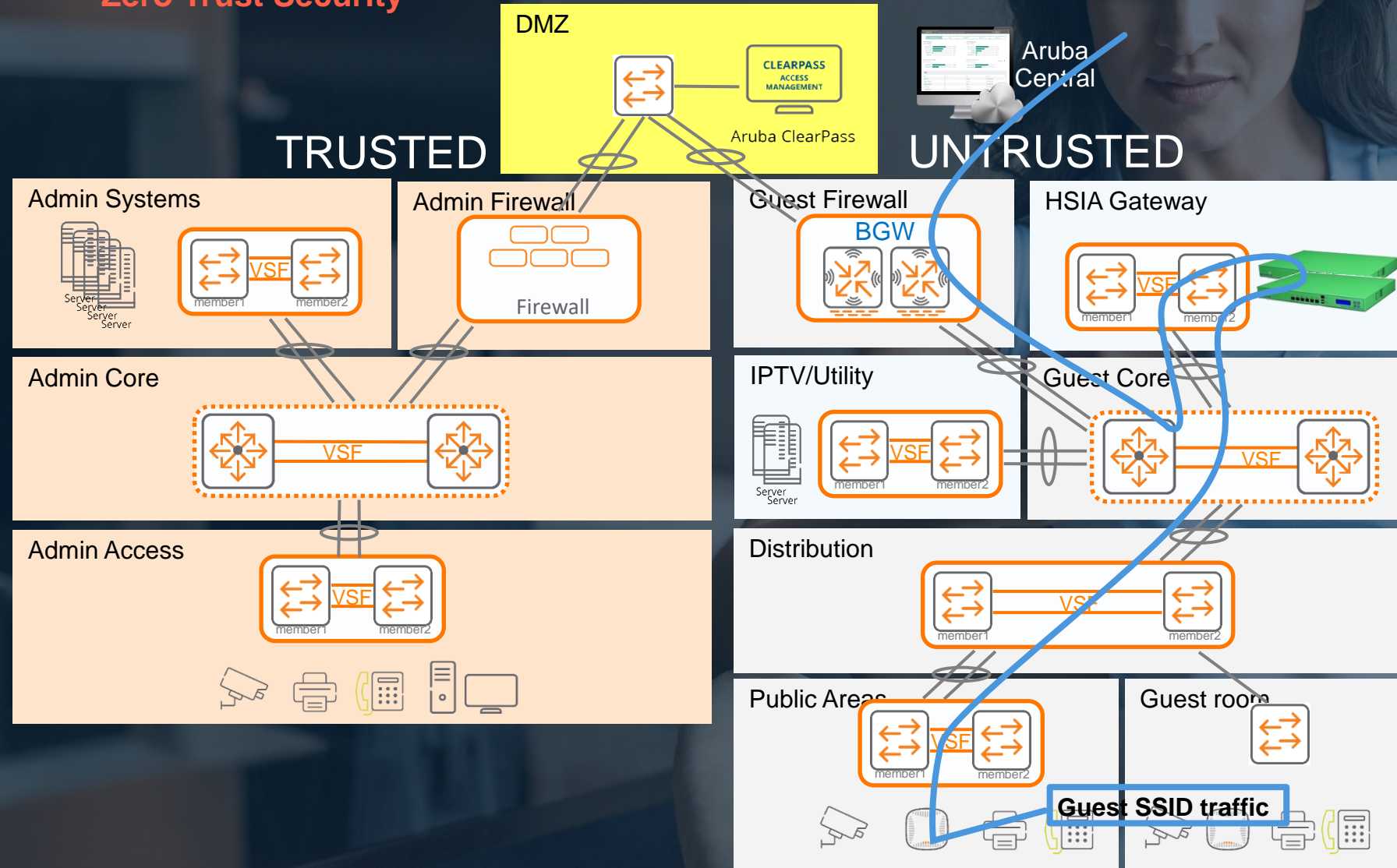
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### Zero Trust Security



# NEXT GEN NETWORK

## Aruba Edge Services Platform



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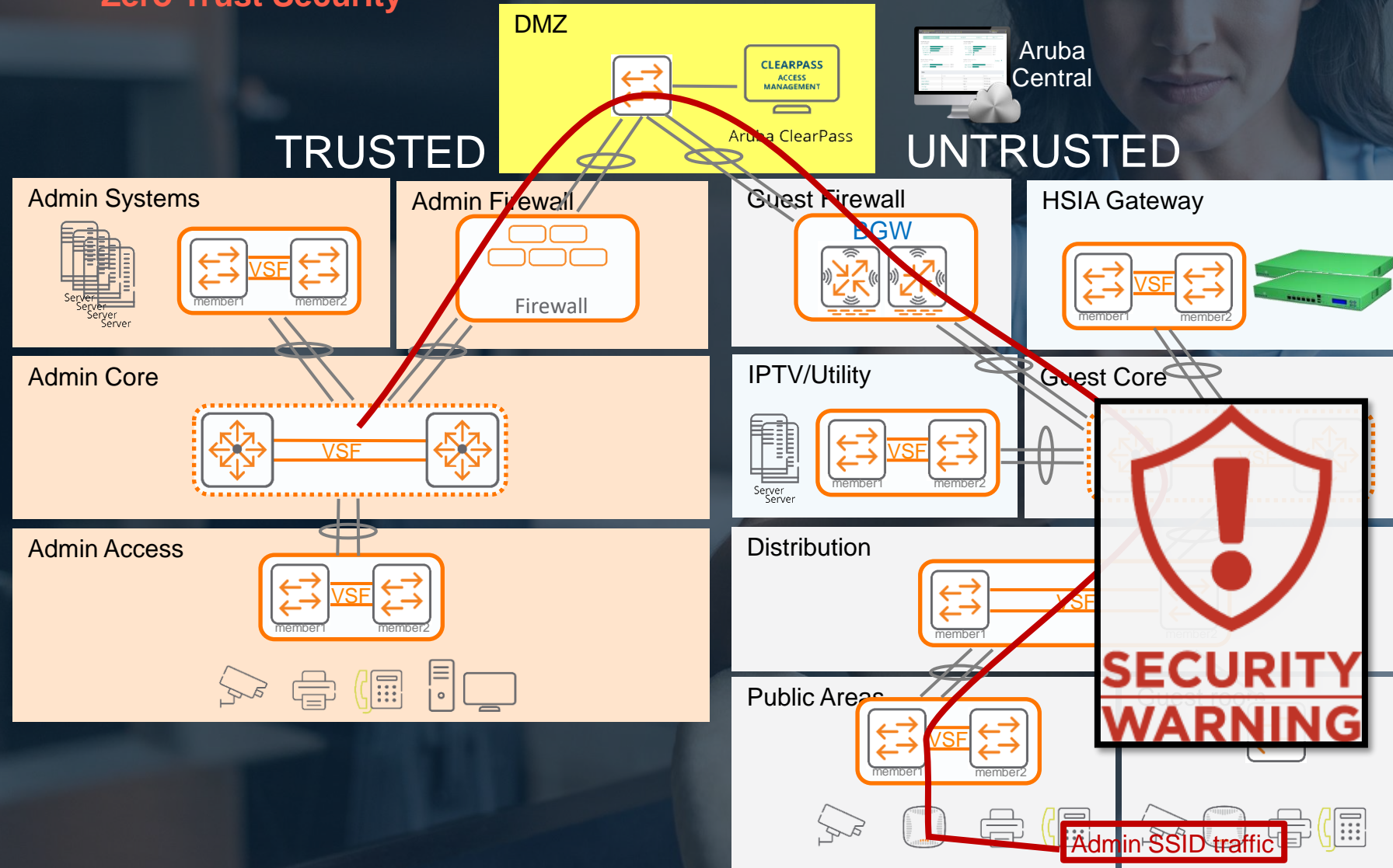
## ▪ The Aruba Advantage



### Zero Trust Security

# NEXT GEN NETWORK

## Aruba Edge Services Platform

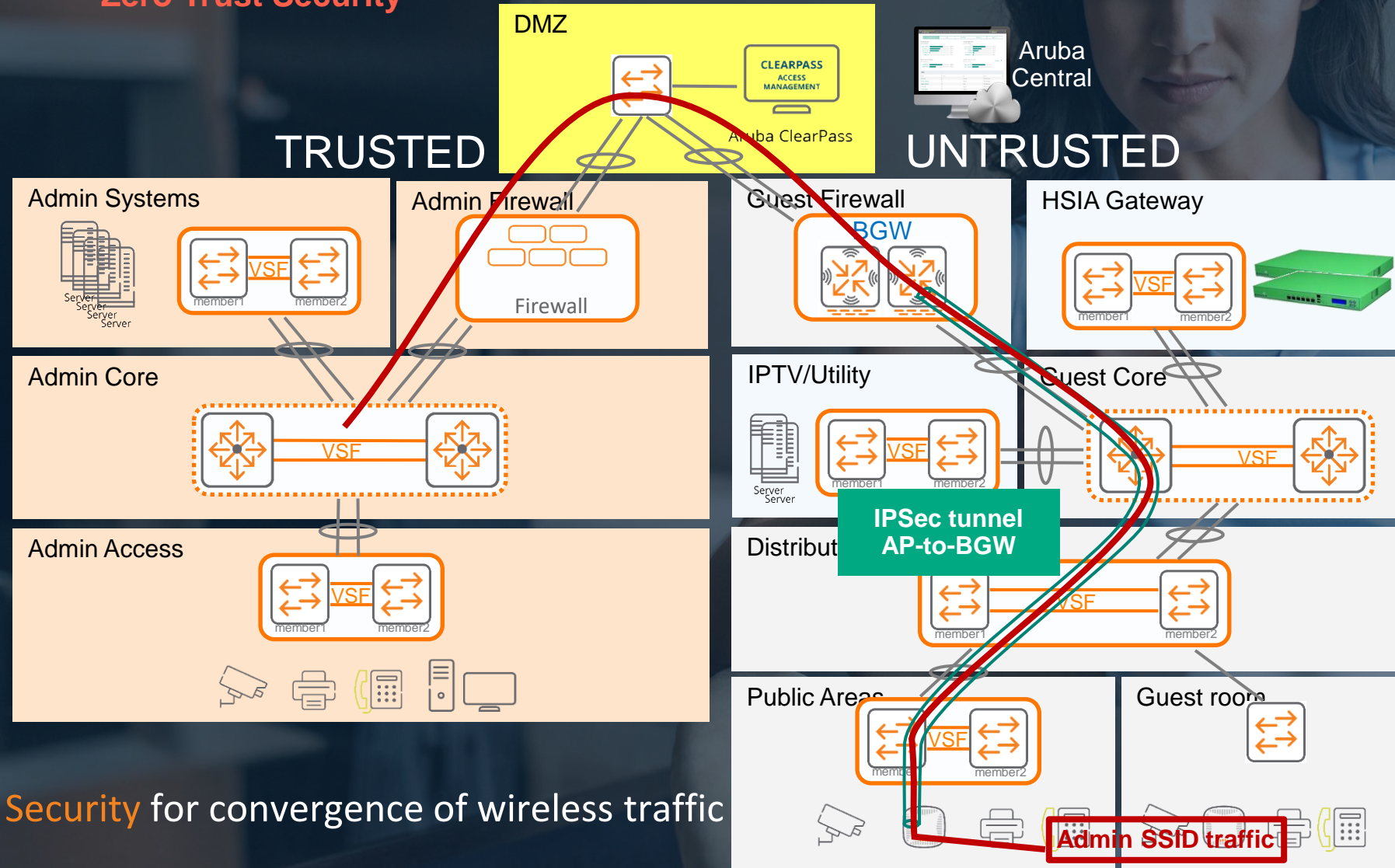


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## Zero Trust Security



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Zero Trust Security

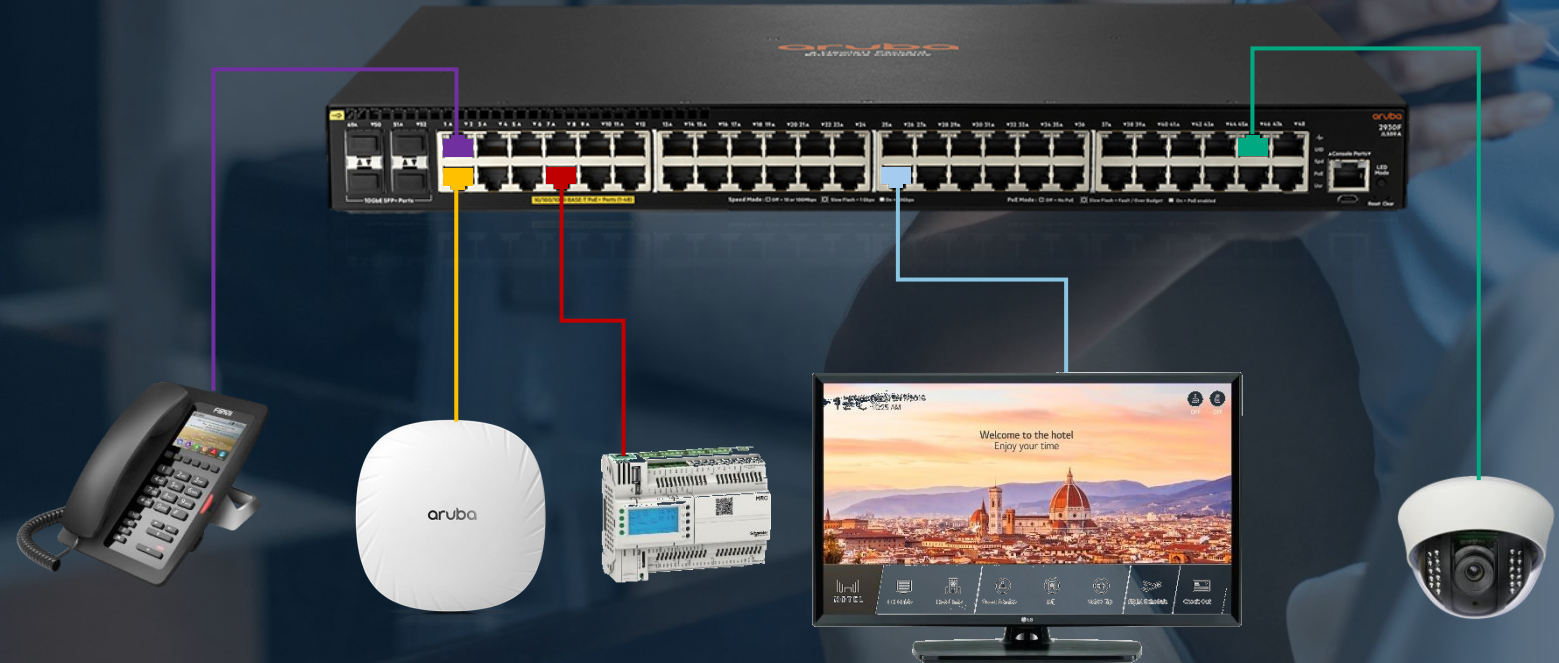
## NEXT GEN NETWORK

Aruba Edge Services Platform

## Colorless Ports

Manual configuration  
of ACLs, VLANs, QoS

Automated config save time,  
improve ops & security



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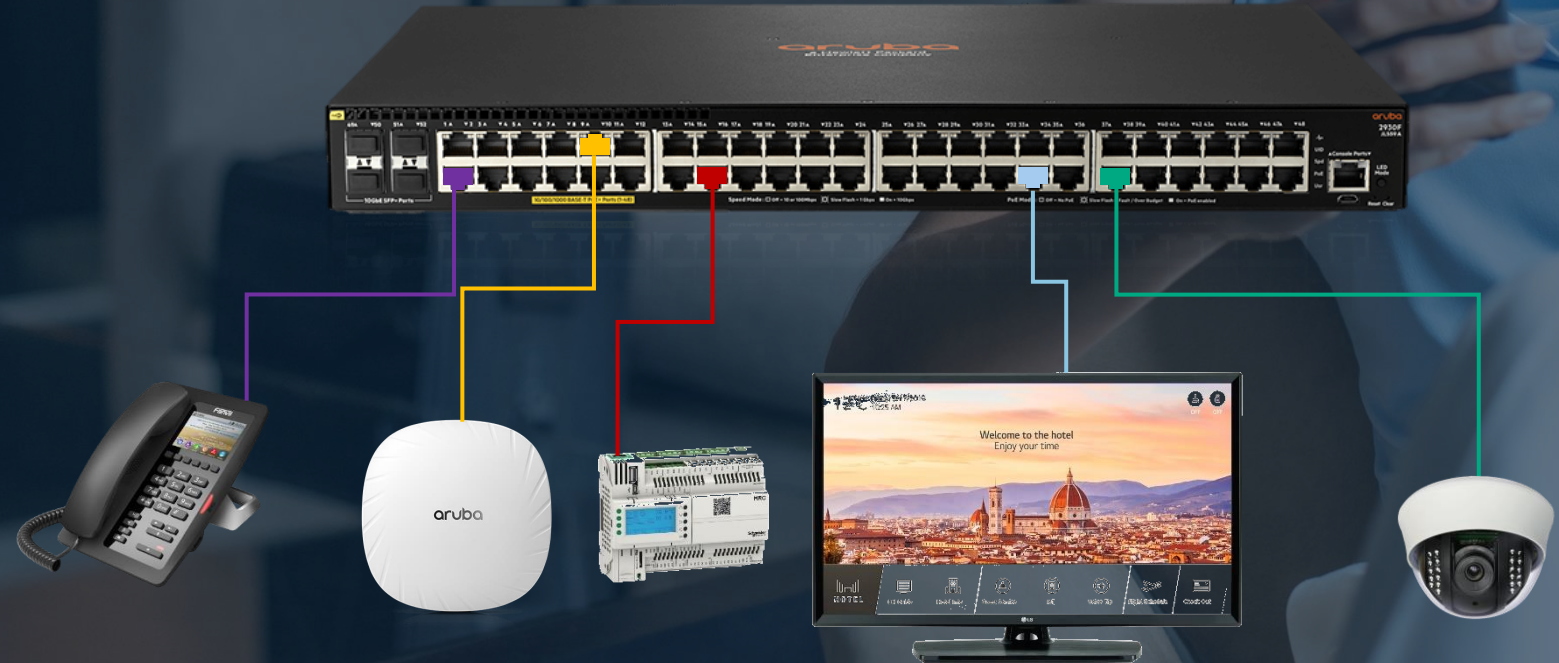
## Zero Trust Security

# Colorless Ports

- **Simplify** switch config
- **Eliminate** human errors
- **Improve** network security
- **Accelerate** rollout

# NEXT GEN NETWORK

## Aruba Edge Services Platform



# NEXT GEN NETWORK

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AIOps

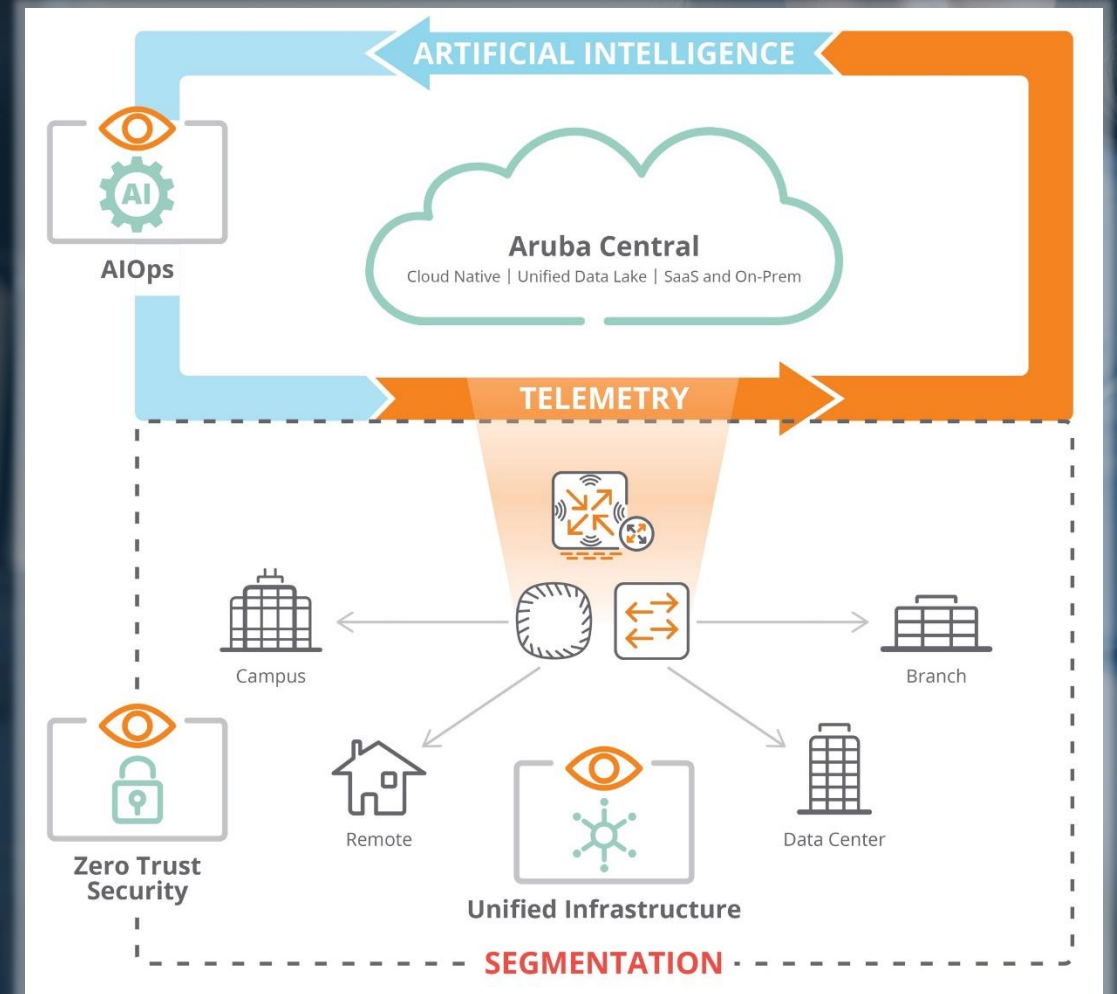


Zero Trust Security



Unified Infrastructure

## Aruba Edge Services Platform



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AIOps

# NEXT GEN NETWORK

Aruba Edge Services Platform

## AI Insights

INSIGHTS (4)

STATUS	INSIGHT	CATEGORY	IMPACT
<span style="color: red;">■</span>	High Number DNS Connection Failures	Connectivity	166232 lost requests

7 days DNS Loss Trend

IMPACTED ACCESS POINTS - DNS LOSS (5)

AP NAME	AP MAC	LOST DNS QUE...	LOST (%)	DENIED DNS Q...	DENIED (%)	SUCCESSFUL D...	SUCCESS (%)	TOTAL QUERIES
bby01055a093	bc:9fe4:c1:09:c2	95572	99.15	4	0	815	0.85	96391
bby01055a004	b4:5d:50:c4:c1:74	52702	96.19	429	0.78	1656	3.02	54787
bby01055a003	f0:5c:19:cf:cd:f4	14471	99.08	6	0.04	129	0.88	14606
bby01055a050	b4:5d:50:c4:b3:66	2318	100	0	0	0	0	2318
bby01055a052	f0:5c:19:cf:c0:78	1169	96.29	10	0.82	35	2.88	1214





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## ▪ The Aruba Advantage



AIOps

## AI Insights

**Notes**

TAC Report:

This is Jason from Aruba TAC team.  
We have reviewed the logs and opened a TAC CASE Id: 3345527443. I am taking ownership of this case.

Here is analysis:

#show crypto ipsec sa

Tunnel Service SA Information

Initiator IP	Responder IP	SPI(IN/OUT)	Flags
80.1.1.1	79.1.1.1	25d70000/6caa3000	
UTIt Mar 25 14:23:13	-		
80.1.1.1	78.1.1.1	2eba3a00/c623bc00	
UTIt Mar 25 14:23:13	-		

Flags: T = Tunnel Mode; E = Transport Mode; U = UDP Encap  
L = L2TP Tunnel; N = Nortel Client; C = Client; 2 = IKEv2  
I = uplink load-balance t = Tunnel Service

# NEXT GEN NETWORK

Aruba Edge Services Platform

## AI Assist

**Notifications**

Alerts (3734) **AI Assist (24)**

IPSec tunnel VPN- Amsterdam-01:public\_inet::GW-Oakmead-01:fast\_inet is DOWN  
15 hours ago **more less**

IPSec tunnel VPN- Amsterdam-01:public\_inet::GW-Oakmead-01:fast\_inet is DOWN  
16 hours ago **Improve**

IPSec tunnel VPN- Amsterdam-01:public\_inet::GW-Oakmead-01:fast\_inet is DOWN  
3 days ago **Faster resolution**

IPSec tunnel GW-Oakmead-01:fast\_inet::VPN-SantaClara-01:datacenter\_inet is DOWN  
3 days ago

[View all](#)



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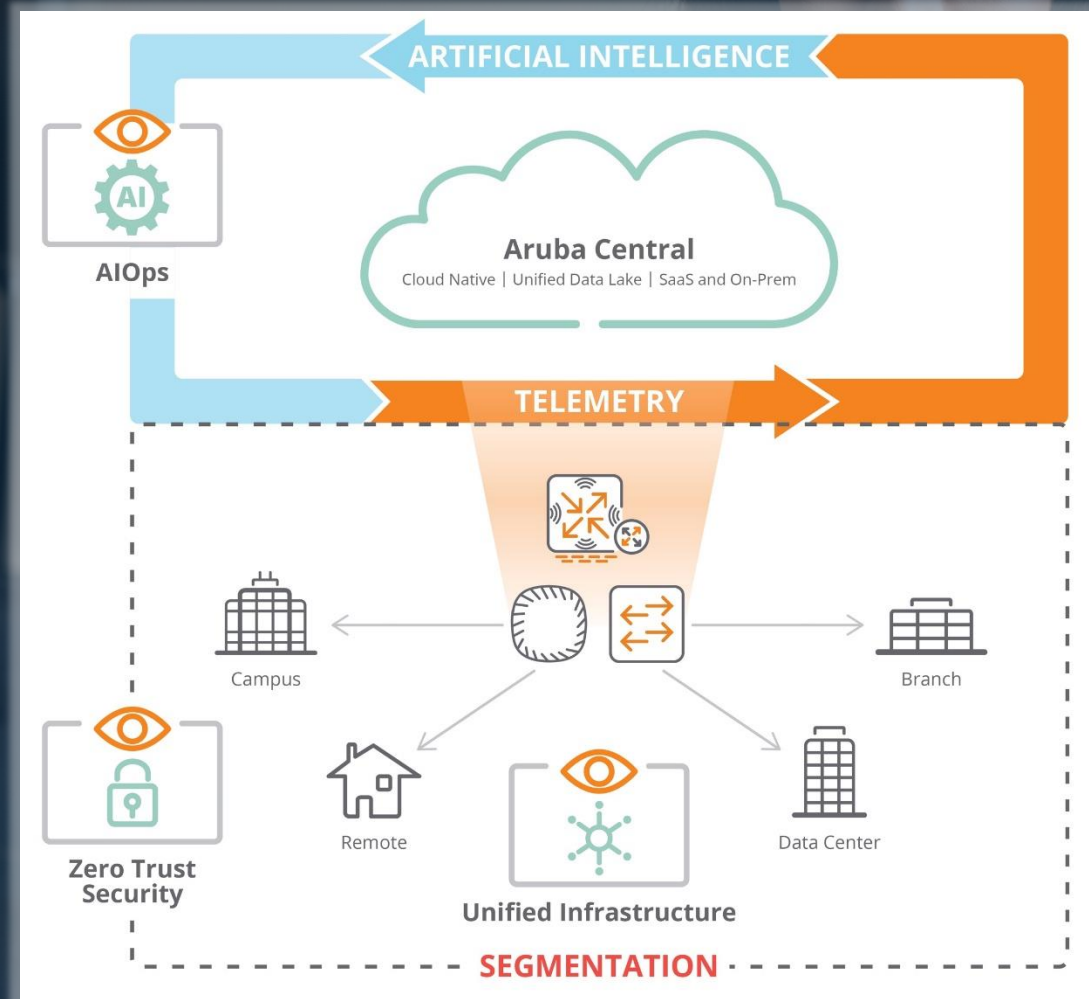
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# COMPLETE WIFI 6 HOSPITALITY PLATFORM

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### AP-505H



### AP-503H



- Dual 2x2 **802.11ax**, 8 RUs
- **OFDMA, 1024-QAM**, MU-MIMO
- **TWT, BSS Color**
- Backward compatible with 11a/b/g/n/ac
- **2.5Gbps SmartRate** uplink port
- Powered by 802.3af, 802.3at, 802.3bt POE
- **4** Gigabit downlink ports with **2 ports PSE**
- 500Mbps crypto performance
- Supports **USB 2.0, BLE** and **802.15.4**
- Advanced IOT Coexistence
- Advanced Cellular Coexistence
- 86mm x 47mm x 150mm, 360g
- 0°C to 40°C, plenum rated

- Dual 2x2 **802.11ax**, 8 RUs
- **OFDMA, 1024-QAM**, MU-MIMO
- **TWT, BSS Color**
- Backward compatible with 11a/b/g/n/ac
- **1GE** uplink port
- Powered by **802.3af**
- **2** Gigabit downlink ports with **no PSE**
- 100Mbps crypto performance
- Supports **BLE** and **802.15.4**
- Advanced IOT Coexistence
- Advanced Cellular Coexistence
- 86mm x 40mm x 150mm, 290g
- 0°C to 40°C, plenum rated



# COMPLETE WIFI 6 HOSPITALITY PLATFORM



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BLE+Zigbee  
**Rooms**



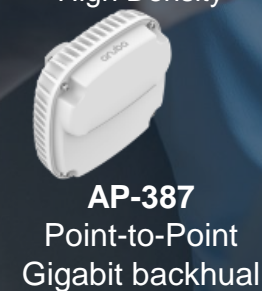
BLE+Zigbee  
**Hallway**



BLE+Zigbee  
**Public**



BLE+Zigbee  
**Ballrooms**



BLE  
**Outdoors**



BLE+Zigbee  
**BOH**



# NEXT GEN NETWORK

## Aruba Edge Services Platform



Unified Infrastructure



Zero Trust Security



AIOps

Cost reduction

Do more with less

Deployment consistency

Operational efficiencies

Contactless experience and operation

Compliance and oversight

Seamless onboarding

Connectivity for all

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make that journey with

# aruba

a Hewlett Packard  
Enterprise company

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aruba

a Hewlett Packard  
Enterprise company

[tc.lee@hpe.com](mailto:tc.lee@hpe.com)

**Thank you**