

Small-medium businesses (SMBs) are often more vulnerable to cyberattacks, due in large part to limited IT resources in the face of ongoing risks. As your company grows, you'll need more than just antivirus and firewall software to keep customer and employee data safe.

Choosing the right gateway for your network puts you a step ahead when it

comes to keeping your network connected and segmented — securely. The right gateway can help prepare your business for expansion by streamlining IT operations, reducing downtime costs, and keeping your IT team nimble and strategic.

This guide aims to demystify gateways and the various considerations and benefits surrounding them for growing businesses.



### WHAT IS A GATEWAY?

Simply put, a gateway connects different networks together while preventing bad actors from harming your business. Whether it's your business network to your ISP's network, one of your branch sites to your main office, or your business servers to your wired and wireless infrastructure, a gateway acts as a singular point of entry and exit that manages and processes the traffic and data passing through it.

Gateways can come in the form of a hardware appliance, as software installed on a local server, or can be consumed as a cloud service, making it a valuable network tool that can be deployed anywhere — from the edge of your network to the data center.

While their core purpose has remained the same, gateway devices have evolved into highly sophisticated appliances that enhance network performance, security, and scale. There are a number of different gateways and functionalities that growing businesses should consider adopting.

# Aruba Central Switching Infrastructure Switching Infrastructure WLAN Client WLAN Client WLAN Client WLAN Client Branch Office

### **INTERNET GATEWAY**

If you're managing a network at a group of medical offices, in manufacturing, or anywhere that utilizes remote services, a backup internet connection is critical for continuity. Even outside of business-critical functions, network downtime can be expensive, blocking productivity and forcing your IT staff to focus on troubleshooting and maintenance instead of strategic services.

With the ability to accept, translate, and process multiple WAN connection types, internet gateways can effortlessly reroute traffic to a backup line, keeping vital business functions connected and running during a service outage.

### STATEFUL FIREWALL

As data packets are sent to the gateway, they first have to pass the built-in firewall which decrypts, authenticates, and inspects data before the gateway decides whether to block the data or allow it to proceed to its intended destination.



The gateway does this by referring to a defined set of configured rules and network access policies. The more decisions that need to be made by the gateway, the more taxing it is on the CPU within the gateway. For this reason, higher-end devices have a specialized CPU designed for high-efficiency policy firewall processing and next-generation security services, like intrusion detection, intrusion prevention, and anti-malware systems.

## **VPN CONCENTRATOR**

Growing businesses take advantage of virtual private network (VPN) tunneling to encrypt and decrypt point-to-point traffic, connecting branch offices and remote workers back to the main office. VPN helps protect the business network against data leaks and unwanted guests as only authenticated users have access to sensitive data, servers, and services.

However, as your business expands, VPN connection requests on a per-client basis can cause issues and clog the network. Gateways with a VPN concentrator (VPNC) can streamline and consolidate secure access, connecting thousands of remote users to a single point without impacting overall network performance.



### **SD-WAN**

Next-generation gateways have started to further differentiate between types of traffic and trusted services based on what that traffic is and where it's going. These often come with built-in software-defined WAN architecture (SD-WAN), which efficiently routes services at different locations and methods of transport and keeps them connected through the cloud. As a result, SD-WAN helps bypass unnecessary routing steps to increase bandwidth availability, reliability, and performance for other devices.

A connection request from a client device to a trusted cloud service like Office 365 or SharePoint, for example, may not need to be routed back to the main office for processing. Bypassing that step increases bandwidth availability, reliability, and performance for other devices.

### **HOW IMPORTANT IS NETWORK SECURITY?**

Increasingly, businesses assess security from a multi-layered point-of-view, considering areas of vulnerability from perimeter to endpoints, including applications and data. Below are a few key security functionalities of gateways:

- Intrusion detection and prevention Inspects network traffic for malware or suspicious activity, and stops them from spreading
- Segmentation and policy enforcement Protects your network by defining profiles and automatically enforcing role-based policies to enable just the right amount of access for users and devices
- Web content filtering Defends against cyberthreats and enhances internet security with granular content classification, malicious site, and IP reputation filters
- ☑ Built to scale Supports up to 2,048 concurrent devices with up to 128K active firewall sessions, N+1 or NxN redundancy deployments, and hybrid ISP links through MPLS, Broadband, and LTE
- Client and IoT device visibility Automates device discovery functions and classification systems to assist with streamlining the onboarding process.

### WHAT GATEWAY IS THE RIGHT FIT FOR ME?

### **Evaluate performance**

Gateways run a substantial number of connections, inspections, and vital services to support business continuity. When shopping for gateways, it's important to consider whether they will be up to the task.



Aruba 9004 LTE Gateway

For example, purchasing a low-cost gateway may serve as a stopgap solution for your midsize business. However, it can often come with throughput or client device count limits that can be an infrastructure bottleneck, impeding near-term growth and business scalability. When looking at performance, there are a few key areas to consider:

**Throughput performance:** Comparing your requirements with tunneled throughput measurements will be an important part of ensuring seamless site-to-site performance. Other numbers to consider include concurrent sessions and maximum users and devices, which are useful for determining the potential for long-term growth.

Connectivity interface: The most straightforward performance consideration is whether the gateway has enough physical ports and LTE connectivity to connect your network infrastructure together, including your core switching stack, other gateways, and any ISP services.

**High availability:** As your business grows and more traffic passes through your network, you'll want to consider backup hardware and cluster configuration options to ensure performance and business continuity.

### Leverage network management

Gateways offer on-premise and cloud-based management solutions. On-premise management through localized software or a device Web UI can be attractive for those that need to meet regulatory standards or internal requirements.

Cloud management solutions, however, have seen rapid adoption as midsize businesses expand support for the modern hybrid workplace.



Aruba Central, for example, is a cloud-native solution designed to help you quickly deploy, manage, and maintain your network, end- to-end, no matter how far and wide it scales. In fact, 64% of surveyed Aruba Central customers estimate they have reduced the time it takes to deploy a new network or site by at least half.

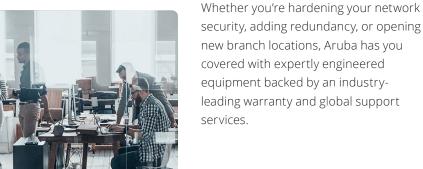
The ability to have every branch site and networking device accessible and configurable from behind a single, secure log-in provides unparalleled business scale.

### ARUBA GATEWAYS FOR MIDSIZE BUSINESSES

With Aruba, you can put your network to work for you, using smart, scalable, and secure gateways that keep your business in the fast lane.

Aruba 9000 gateways are compact and powerful, providing uniform network security and resiliency for multiple business branches and growing campus networks, whether they're connecting through the wired, wireless, or WAN network. They are your first line of defense, scanning incoming and outgoing traffic to keep your business, employees, and customers safe without slowing down your network.

They're easy to set up, scale, and manage, helping you resolve issues faster and freeing up IT resources to support business growth of any kind — all while keeping your people, data, and customers safe.









## **TECHNICAL SPECIFICATIONS: ARUBA 9000 SERIES GATEWAYS**

PERFORMANCE AND CAPACITY	9004	9004-LTE	9012
SD-Branch <sup>1.1</sup>	•	•	
WLAN Gateway <sup>1,2</sup>	•	-	
Sizing	Small site		Medium site
Interfaces	4x GbE²	4x GbE 4G Cellular	12x GbE
Power over Ethernet	-	-	(120W)
Maximum campus or remote Access Points	32	NA	32
Maximum clients	Up to 2,048		
Active Firewall sessions	64K (128K on SD-Branch 2.3+)³		
Maximum concurrent users/devices	2,048		
Maximum VLANs	4,096		
Concurrent GRE tunnels	544		
Concurrent IPsec sessions	2,048		
Concurrent SSL sessions	2,048		
Concurrent tunneled ports	2,048		
Firewall throughput (Gbps)	4	4	6
Wired bridged throughput (Gbps)	4	4	• 6 • • •
Encrypted throughput 3DES (Gbps)	4	4	4
Encrypted throughput AES-CBC-256 (Gbps)	4	4	4
Encrypted throughput AES-CCM (Gbps)	2	2	• • • 2 • • •
Encrypted throughput AES-GCM-256 (Gbps)	4	4	6

<sup>&</sup>lt;sup>1</sup>These modes are only enabled when the appropriate minimum licenses and ArubaOS firmware are deployed:

- 1.1 SD-WAN Mode Aruba Central Foundation, Foundation Base, or Advanced Licenses
- · 1.2 WLAN Gateway Mode ArubaOS Licenses

<u>Speed Configuration</u>
The 9004 Interface speed can now be set to **Auto/1000/100**.

<u>Full Duplex Configuration</u> 9004 Interface = Auto Partnering Device Duplex Configuration = **Full** Partnering Device Auto Negotiation = **Enabled** 

<sup>3</sup> Prior to 8.6, the active number of firewall sessions was set to 32K.

<sup>&</sup>lt;sup>2</sup>The 9004 was originally released (8.5) to operate in an Auto/Auto configuration. A software fix was introduced in 8,7.1.5, 8.8.0.2, 10.2.0.3, and SDWAN-2.3.0.2, which allows users to configure the speed and duplex of the interfaces on the 9004 to: Auto/Auto, 1000/Full, or 100/Full.



## **ADDITIONAL RESOURCES**

Learn more about Gateways on our website
 Browse our additional solutions for growing businesses
 Contact us if you're ready to start

Aruba 9004 LTE, 9004 and 9012 Gateways



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