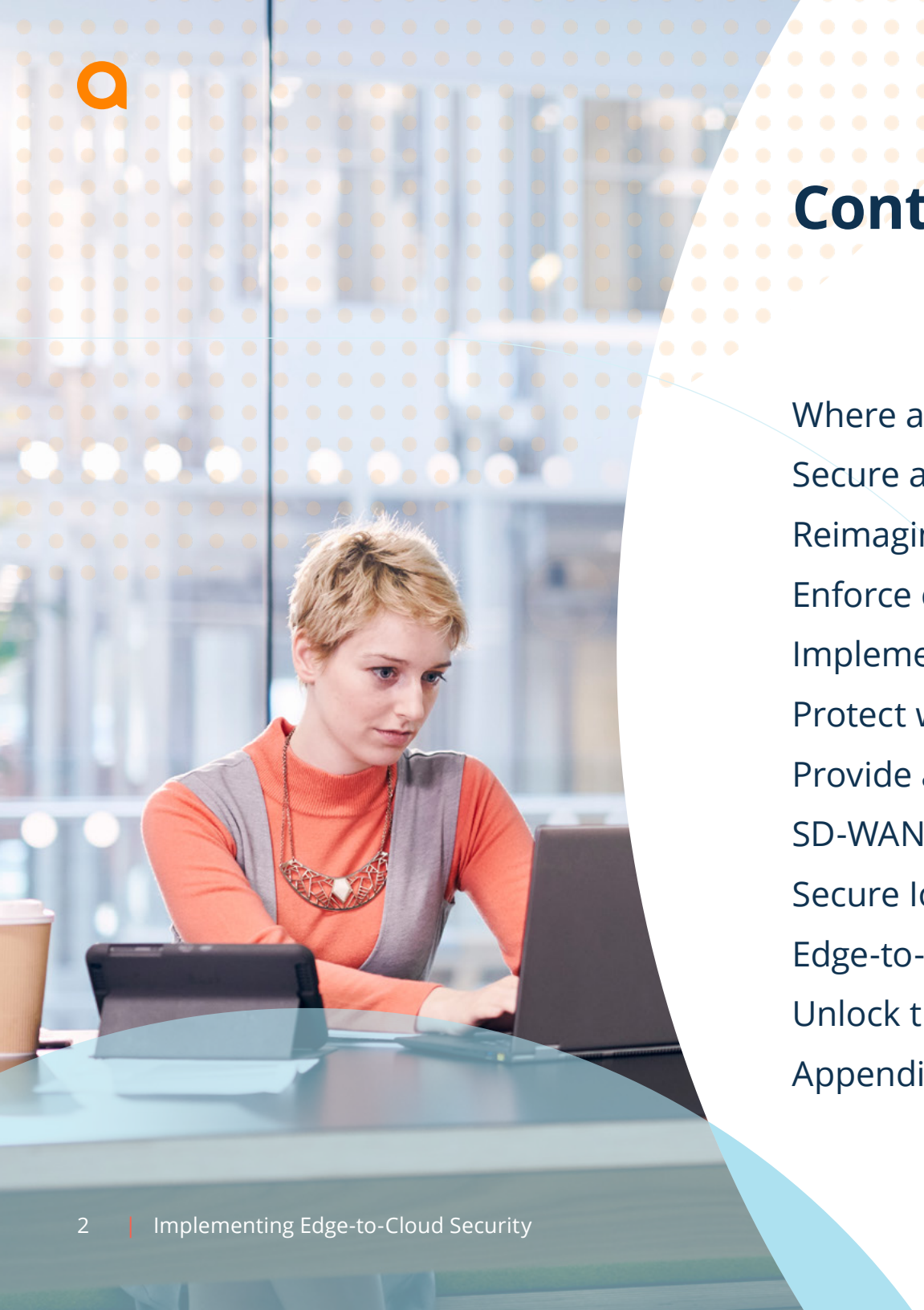
aruba
a Hewlett Packard
Enterprise company

BEST PRACTICE GUIDE

Implementing Edge-to-Cloud Security

How to deliver a best-of-breed SD-WAN and SSE solution without compromise

GET STARTED →



Contents

Where are we now?

For many organizations, “work from anywhere” is here to stay and expected to expand over time.

Users are accessing applications and data from anywhere, on any device. IT faces the challenge of managing and operating complex Wide Area Network (WAN) connectivity that extends across mobile workers, home-based workers, microbranches, co-located facilities, and the enterprise.

Delivering consistent quality of experience without compromising security is a priority. This is driving organizations towards Software-Defined Wide Area Network (SD-WAN) and Secure Access Service Edge (SASE). But infrastructure and operations leaders face a confusing array of options when trying to make deployment decisions.

They may question the maturity of some vendor solutions while facing mixed messages about whether single vendor or dual vendor SASE solutions are best.

One thing is certain, though: security can no longer be a bolt-on to SD-WAN. Gartner emphasizes that SD-WAN must be evaluated with cloud-delivered security services like Security Service Edge (SSE), or there’s a risk of implementing a suboptimal SASE framework. This leaves organizations open to a higher risk of security incidents, downtime, and increased TCO.

>30%

Current market trends highlight the continued and rapid adoption of SD-WAN and SASE architectures, both growing at greater than 30% per year

>60%

By 2024, more than 60% of organizations will opt for a dual-vendor approach to their SASE initiatives, down from more than 80% in early 2022.

80%

By 2024, 80% of SD-WAN deployments will incorporate security service edge (SSE) requirements, up from less than 25% in 2022[1]

This Best Practice Guide demonstrates how enterprises can deliver a high performing network without compromising security, using Aruba’s WAN edge technology and integrating with best-of-breed cloud-delivered security.

1 Gartner, How to Align SD-WAN Projects With SASE Initiatives, Bjarne Munch, Lisa Pierce, Craig Lawson, 18 April 2022

BACK TO CONTENTS ⟶

Secure at the edge; secure in the cloud

The requirement to access applications and data from anywhere, anytime means the cloud is now the center of the enterprise.

Businesses worldwide are harnessing the power of cloud services to grow and prosper. But cloud adoption opens up more opportunities for cyberattacks; the network must be relentlessly secure from end to end or the business will be at risk.

In a cloud-first world, your WAN and network security are more intertwined than ever before. To achieve digital transformation, work-from-anywhere enterprises must transform both their WAN and security architectures to support business applications that can be hosted and accessed from anywhere, by anyone authorized to use them, from any device.

You'll learn how leading companies around the globe are powering their digital transformation initiatives with Aruba EdgeConnect SD-WAN solutions, a wide area network built for cloud-first enterprises.

Read more to find out the basics of a SASE architecture and how Aruba's revolutionary best-of-breed platform helps enterprises integrate seamlessly with leading cloud security providers, so you can secure your network from the edge to the cloud.

BACK TO CONTENTS ⟶

Reimagining network security

For most modern enterprises, the data center has ceased to be the center of the universe.

Cloud-hosted applications are proliferating across every industry. And as more apps move to the cloud, users are accessing them directly—from anywhere, on any device—and bypassing the data center for the highest quality of experience.

In the past, you secured enterprise application traffic by backhauling from branch locations to the data center using private line connections like MPLS or via VPNs. Today, that traditional security model is no longer relevant.

You need unique security solutions designed to safely and flexibly route traffic directly to the cloud over the internet without reducing performance, reliability, or security.

Aruba has a broad ecosystem of cloud security (SSE) integrations so you don't have to compromise on network performance or security. This is why leading enterprises across the globe are deploying Aruba EdgeConnect SD-WAN solutions—to transform network and security architectures for the cloud era and forge a competitive edge in their markets.

Learn how our customers:

— Improve end user quality of experience

— Deliver more consistent security from edge to cloud

— Increase WAN bandwidth

— Enable digitization

— Support a cloud-first strategy

— Reduce costs

Enforce consistent security policies

Work from anywhere and adoption of cloud services are continuing to expand, which is accelerating the need to address security architectures across the enterprise.

Organizations are looking to SASE to help them enforce consistent security policies without weakening network performance and connectivity. However, infrastructure and operations leaders face a confusing array of options when trying to decide on the right SASE solution, increasing their risk of implementing a suboptimal SASE framework.

With offices in 70 countries, Cushman & Wakefield sets the standard in commercial real estate and property management. Today, the company is pioneering the use of cloud services and platforms to empower its employees and customers worldwide. That requires giving users fast and secure access to critical applications across the globe—even more so as the company grows steadily through M&A.

Aruba EdgeConnect integrated with Zscaler cloud-delivered security services provides Cushman & Wakefield with a consistent security model for offices worldwide and ensures real-time access to their users' most vital business applications.

What's more, by consolidating on the EdgeConnect platform and adopting Zscaler cloud security, Cushman & Wakefield expects OPEX savings of $1.5 million per year. In a fast-moving market, the company needed a technology that could be up and running on the network quickly with uncompromising security.

<12 months

With Aruba EdgeConnect and Zscaler, Cushman & Wakefield deployed its secure, cloud-first SD-WAN across the Americas and EMEA in under 12 months.

CUSHMAN & WAKEFIELD

Implement operational simplicity

With today's 'work from anywhere' model spanning enterprise locations, data centers, branches, homes, and mobile workers, networks and security infrastructure are becoming increasingly difficult to manage.

The complexity is time-consuming and costly for IT. Multiple tools and manual troubleshooting are leaving IT teams overstretched. Organizations need to improve their efficiency. They can do this by eliminating the time IT spends on manual troubleshooting tasks, using that time instead to work on business strategy. But with a lack of staff and skills, it's difficult for IT to support new initiatives.

"A good business starts with a great foundation." That's the motto of First Bank, a St. Louis-based full service bank with 94 branches across Missouri, Illinois, Kansas, Nebraska, and California.

But keeping the branches connected using high-cost MPLS lines and narrow bandwidth was beginning to constrain the bank's application performance. That's when it deployed the Aruba EdgeConnect Enterprise SD-WAN platform at 168 sites, including each of its 94 branches and dozens of ATMs.

EdgeConnect is providing First Bank with leading-edge cloud-delivered security, enabling better control over network device usage and better monitoring of the bank's growing contingent of remote workers. And to accelerate access to key applications and network services, the bank benefited from the Aruba Boost WAN optimization performance pack.

100% ROI

The results were phenomenal: it increased the effective bandwidth by nearly 67x, improved application performance by 35%, and saved $1 million per year with a 100% ROI in 20 months.

Protect without compromising performance

With many more employees regularly switching between work environments—at home, in the office, and on the move—traditional router-centric WAN architectures are no longer suitable.

At the same time, organizations are migrating more apps to cloud services. IT teams are struggling to deliver consistent quality of experience and security policy enforcement. Poor application performance can mean frustrated workers and lost productivity. Gaps in security make a breach more likely, posing a risk to business reputation.

Featuring 31 award-winning hospitals, and scores of wellness clubs, clinics, and workplace well-being services across the UK, Nuffield Health is the epitome of a healthy organization. But it wanted to take its network to the next level by moving beyond its sluggish MPLS-based WAN infrastructure and moving its critical apps to the cloud with confidence.

Adopting the EdgeConnect Enterprise SD-WAN platform has made Nuffield Health's transition real. Now it runs dual internet links to its sites, dramatically improving the performance and availability to its key business and clinical applications.

Plus, with EdgeConnect, Nuffield Health supports seamless integration with its cloud delivered security services. With 4x to 6x greater bandwidth, the non-profit healthcare organization is helping provide wider access to the apps that make a difference in people's lives.

> "Our staff rely on data-critical applications to care for patients and our customers. We required a reliable WAN solution that would improve network performance and securely support our cloud-first IT strategy."
>
> **Dan Morgan, IT Operations Director, Nuffield Health**

Provide a better, faster network

Organizations accelerating digital transformation—fueled by new initiatives such as remote/hybrid work, omni-channel retail, distance learning, and more—require the most modern and up-to-date WAN connectivity.

With a growing number of locations, users, and devices needing reliable connectivity, legacy architectures based on traditional routers no longer deliver. In order to achieve innovative business outcomes, enterprises need a more intelligent application-aware SD-WAN that spans locations of any size to deliver consistent end user (and device) quality of experience and security policy enforcement.

If you're building or remodeling a house, Builders FirstSource is your go-to supplier in the U.S. for everything you need to help construction professionals make your home a reality. Builders FirstSource faced a challenge, though. It was saddled with a complex, router-centric WAN, supported by only a single MPLS circuit per site. Network performance and reliability suffered, and long distances between some locations resulted in latency that negatively impacted application response time.

Builders FirstSource deployed the Aruba EdgeConnect Enterprise SD-WAN platform at each location and added two links at each site to boost speed and reliability of business-critical apps. Plus, with EdgeConnect, the building supplier could seamlessly integrate with Zscaler to deliver best-of-breed cloud security services using a SASE framework to harden access.

Today, bandwidth has jumped from 1.5 Mbps to as much as 250 Mbps per site, and bringing new locations online went from a full day to just 20 minutes.

90% LESS LATENCY

By implementing Aruba Boost WAN Optimization software, the impact of latency is reduced by 90%.

"With EdgeConnect we have much more granularity in how we route traffic, which gives us the flexibility we need to enable the business to grow and adapt to new opportunities," says Greg Taylor, Senior Network Engineer at Builders FirstSource.

SD-WAN: a critical foundation of SASE

Sending cloud traffic destined for the internet back to headquarters doesn't make sense.

What does make sense is a modern application-aware SD-WAN that uses software to intelligently steer traffic across the network based on business needs such as priority, performance, and security policies for every application.

That solution is SD-WAN, a software-defined wide area network. Put simply, an advanced SD-WAN solution empowers you to use the internet as a highly secure and reliable form of data transport.

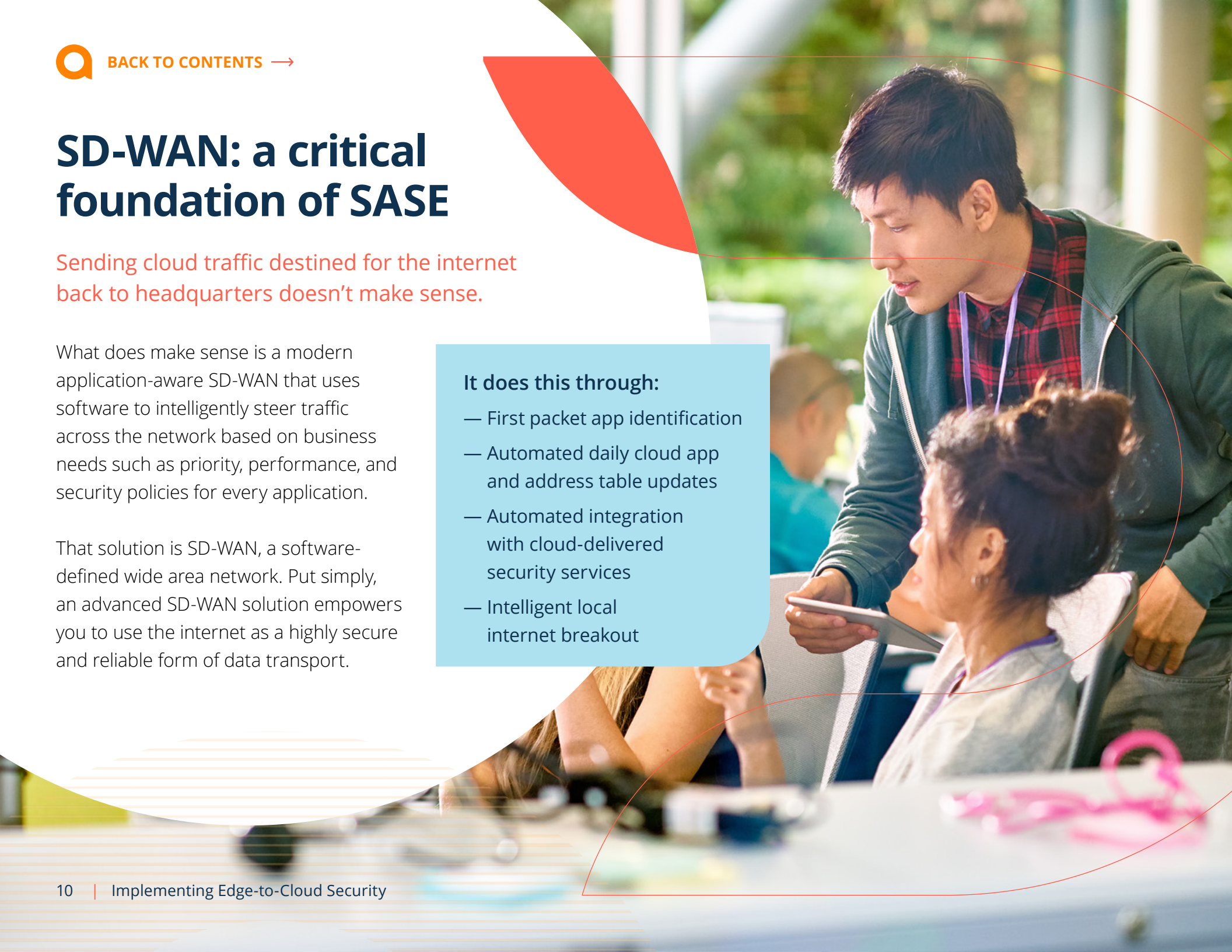
It does this through:

— First packet app identification

— Automated daily cloud app and address table updates

— Automated integration with cloud-delivered security services

— Intelligent local internet breakout



Secure IoT devices

In recent years, network traffic patterns have changed significantly—and so has the risk of security threats.

The explosive growth of internet-connected devices (IoT) requires extraordinary security measures, which is why enterprises need to complement a SASE architecture with a Zero Trust framework like Aruba ClearPass.

Remember that IoT devices are agentless

Traditional endpoint security agents cannot be installed on IoT devices, creating potentially serious security vulnerabilities.

Role-Based Access Control is the key

A Zero Trust role-based access control solution, like ClearPass, secures your network edge and ensures that IoT devices can only access network resources and data consistent with their role in the business.

BACK TO CONTENTS ⟶

Edge-to-cloud security from Aruba

Users are accessing your network from virtually everywhere—to reach applications that are hosted in the cloud, onsite, and from third parties. Aruba gives you the power to secure your entire network—from edge to cloud—with best-of-breed cloud security solutions.

Here's what Aruba's edge-to-cloud security delivers:

Advanced SD-WAN

Aruba solutions offer cost-effective unified WAN connectivity, spanning locations of any size to deliver consistent quality of experience and security policy enforcement. Aruba EdgeConnect cuts complexity with Zero Trust best practices, including strong authentication, identity and role-based access control, and proper user and device segmentation.

Secure from threats

Aruba EdgeConnect provides the security functions you need to keep branch offices secure from threats including a built-in next generation firewall, granular segmentation capabilities, integrated IDS/IPS, DDoS detection, and remediation.

Best-of-breed security

Whether you choose Aruba as your single network provider or as a dual vendor partner for SASE, we deliver best-in-class SD-WAN and security, with the broadest set of leading security integrations available. This gives customers freedom of choice and delivers a SASE architecture that doesn't compromise either network or security capabilities.

SASE at your own pace

Aruba EdgeConnect allows you to transform your WAN and security architectures at your own pace. Our single solution simplifies the deployment, ongoing management and operations, and security of the WAN across four deployment models (mobile, microbranch, branch, and enterprise), so your WAN can grow as you do.

BACK TO CONTENTS ⟶

Unlock the power of the cloud

As enterprises become more dependent on cloud applications, they face growing risks and opportunities.

Changing network traffic patterns, the rise of work-from-anywhere enterprises, and the explosion of IoT devices have made the business landscape more vulnerable to cyberattacks.

The Aruba EdgeConnect SD-WAN portfolio is driving a transformation in how enterprises securely connect to critical cloud applications while enabling a best-of-breed SASE architecture. EdgeConnect dramatically enhances network performance and scalability and offers great flexibility to optimally manage traffic to meet the changing needs of your cloud-first business.

The scope of these network transformations is far reaching. The businesses and organizations we studied deployed EdgeConnect solutions in dozens of countries and across hundreds to thousands of sites.

The technical and business benefits realized were equally significant, with companies in some cases expanding their bandwidth as much as 100X, increasing application speed by double-digit percentages, and saving millions a year in network expenses. Plus, companies can deploy EdgeConnect and enable a SASE architecture at their sites in minutes, accelerating time to value.

> "With EdgeConnect we have much more granularity in how we route traffic, which gives us the flexibility we need to enable the business to grow and adapt to new opportunities."
>
> **Enterprise executive**

Empowered by a next-generation SD-WAN platform integrated with industry-leading SSE offerings, EdgeConnect enables an advanced SASE architecture without compromising either network functionality or security functionality. Businesses now have what they need to unlock the power of their cloud applications with confidence.

BACK TO CONTENTS ⟶

About Aruba, a Hewlett Packard Enterprise company

Aruba is the global leader in secure, intelligent edge-to-cloud networking solutions that use AI to automate the network, while harnessing data to drive powerful business outcomes. With Aruba ESP (Edge Services Platform) and as-a-service options, Aruba takes a cloud-native approach to helping customers meet their connectivity, security, and financial requirements across campus, branch, data center, and remote worker environments, covering all aspects of wired, wireless LAN, and WAN.

Learn more at
www.arubanetworks.com

aruba
a Hewlett Packard Enterprise company