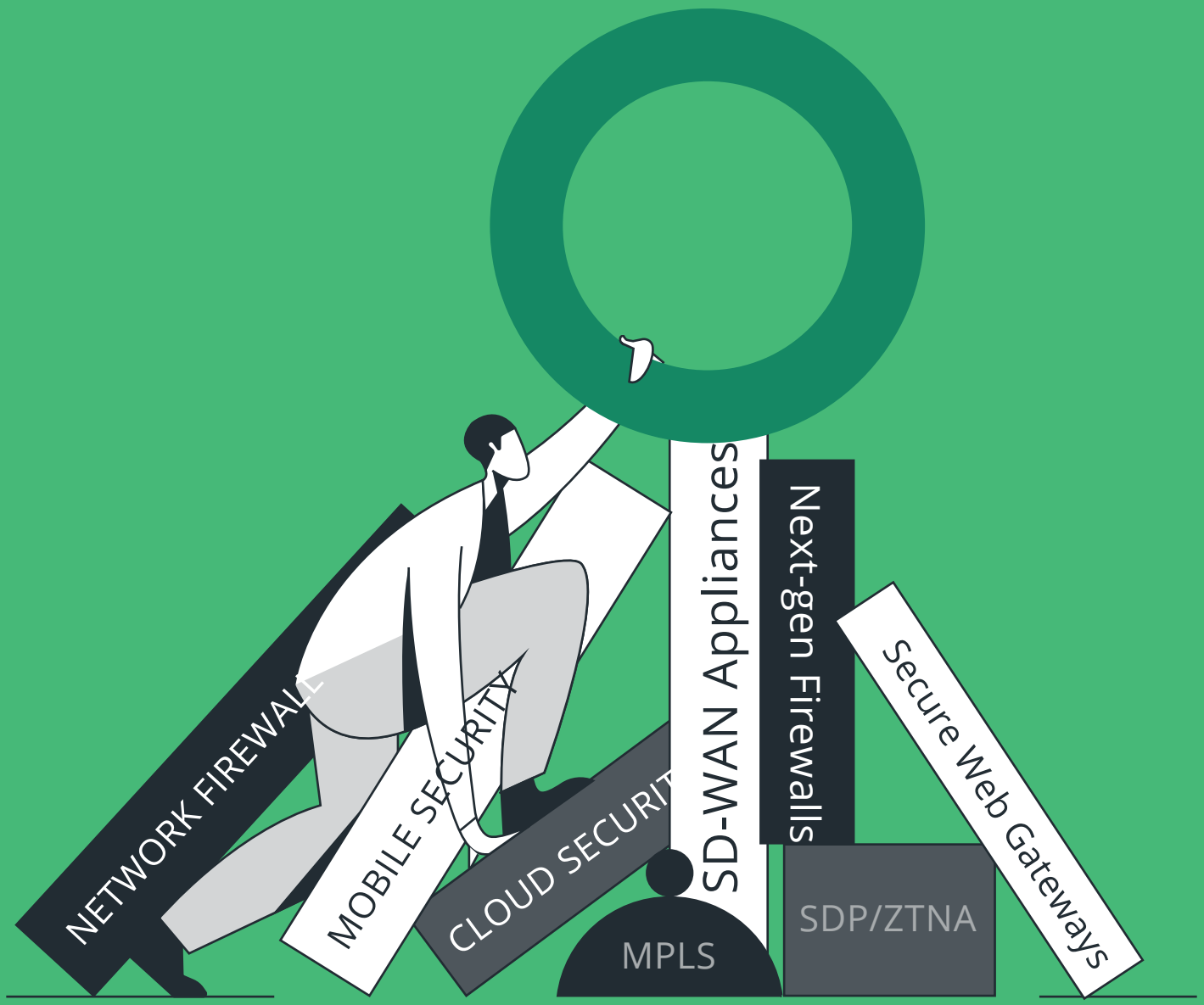
FUTURE RANGE

CATO NETWORKS

The Network for the Digital Business Starts with Secure Access Service Edge (SASE)



How Can IT be Ready for Whatever's Next?

Your business is going digital.

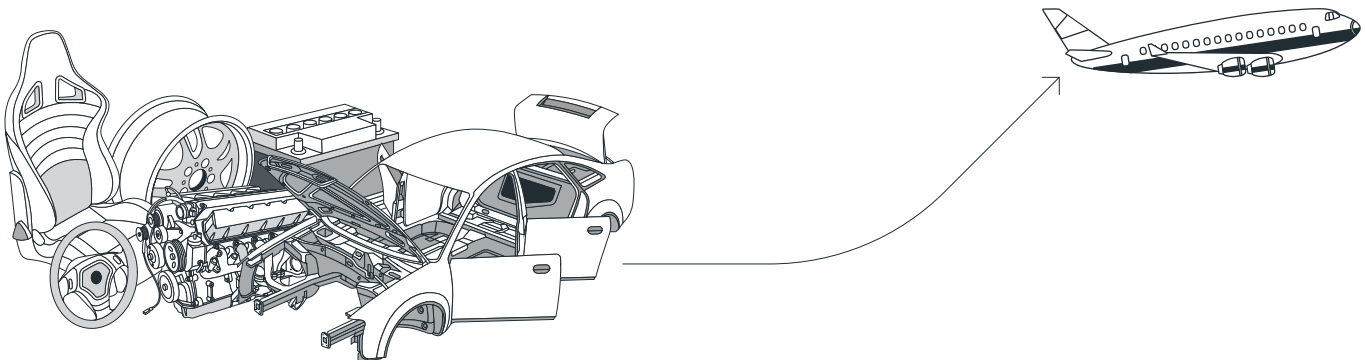
It depends on streamlined global access to applications and data, both on-premises and in the cloud. The workforce is spending a lot of time outside the office, demanding quality service at home and on the go. Legacy network and security architectures, comprised of disparate point solutions, are too slow, too rigid, and too expensive to keep up with the evolving business requirements of the modern digital enterprise. There's a clear need for a new type of architecture; one that's designed to provide secure and optimal access for everyone, everywhere and on every device. The cloud is the ideal place to realize this architecture.
Don't take our word for it. Gartner states that: "Digitalization, work from anywhere (WFA) and cloud-based computing have accelerated cloud-delivered SASE offerings to enable anywhere, anytime access from any device. Security and risk management leaders should build a migration plan from legacy perimeter and hardware-based offerings to a SASE model." Simply put, Gartner believes that by converging all networking and security functions into a global cloud-native service, SASE is the secure network for the future of your business, and a "pragmatic and compelling model that can be partially and fully implemented today."

Source: Gartner's 2021 strategic roadmap for SASE convergence

The Challenge: You Can't Build a Jet from Car Parts

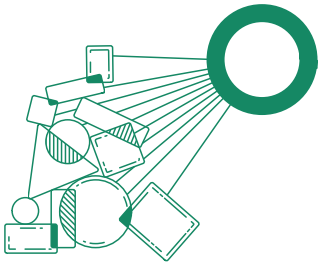
Historically, IT teams solved emerging business needs with point solutions. For example, adding SD-WAN boxes to offload capacity constrained and expensive MPLS connections to Internet links; or adding firewalls in branches to enable secure Direct Internet Access (DIA). The result of this approach was technological silos, built on a pile of products and appliances that are loosely integrated and separately managed. Ultimately, IT needs to provide consistent performance and strong security, in a cost-effective way, to all business resources, globally. This is an architectural challenge, not a functional problem, that requires the elimination of IT silos, alongside the convergence of network and security, to address new business requirements.

It's the realization that IT architecture must evolve beyond the silos and the use of point solutions.
that is driving SASE.



SASE: The Future of Networking and Security

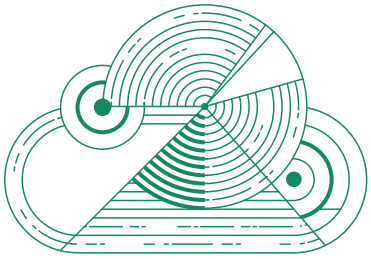
SASE was defined by Gartner analysts Neil McDonald (security analyst) and Joe Skorupa (networking analyst). SASE details an architectural transformation of enterprise networking and security that will enable IT to provide a holistic, agile and adaptable service to the digital business. The SASE Cloud service has 4 main characteristics: it's converged, cloud-native, globally distributed, and supports all edges (WAN, cloud, mobile, edge computing).



Converged

SD-WAN and security converged into single-pass architecture

SASE delivers multiple, distinct network and security services, including SD-WAN, SWG, CASB, SDP/ZTNA and FWaaS, all from a single, unified software stack with single-pass processing. Packets need to be decrypted only once for all inspection and routing operations, guaranteeing optimal performance and efficiency.



Cloud-native

Built-for and delivered-from the cloud

A core characteristic of SASE is a cloud-native, as-a-service model. A cloud-native architecture leverages key cloud capabilities including elasticity, adaptability, self-healing, and self-maintenance.

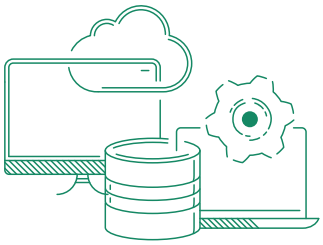
SASE calls for the creation of a network of cloud points of presence (PoPs) which comprise the SASE Cloud. The PoPs run the software that delivers a wide range of networking and security capabilities as a service. The PoPs should seamlessly scale to adapt to changes in traffic load via the addition of compute nodes. The PoPs can be upgraded to deliver new features or bug fixes seamlessly and without IT involvement. The SASE Cloud must include self-healing capabilities to automatically move processing away from failing compute nodes and PoPs and into healthy ones.
These capabilities can't be achieved by spinning up virtual appliances in the cloud. As appliances are designed to serve a single customer (single tenant) and lack the overall cloud orchestration layer to ensure elasticity and self-healing. The approach of service chaining legacy point products, appliances or cloud services, will likely affect service quality and performance.

Globally Distributed

Available Near All Edges

A SASE Cloud is implemented as a globally distributed cloud platform. The SASE Cloud design guarantees that wherever your edges are, the full range of networking and security capabilities will be available to support them. SASE providers will have to strategically deploy PoPs to support business locations, cloud applications and mobile users. As Gartner notes, SASE PoPs must extend beyond public cloud providers' footprints (like AWS and Azure), to deliver a low-latency service to enterprise edges.

Building a global cloud platform requires providers to hone their ability to rapidly deploy PoPs into cloud and physical datacenters, ensure high capacity and redundant connectivity to support both WAN and cloud access, and apply security and optimization end-to-end across all edges.



All Edges

Physical Locations, Clouds, Users and Edge Computing

SASE uniquely supports all enterprise edges equally. By adopting a cloud-first approach to networking and security, SASE decouples many common capabilities, such as network optimization and threat prevention, from physical location edges, and places them in the cloud. For example, legacy network security appliances are tied to a specific physical location, which isn't suitable for serving the cloud or mobile edges.

SASE includes a thin-edge component to connect different edges to the available SASE PoP. The edges work in tandem with the SASE Cloud service to overcome PoP failures or access issues to ensure continuous service. As noted earlier, the SASE Cloud is designed to consistently deliver the same set of capabilities from every PoP, and without dependency on customer specific components simplifying, the shift of traffic across the SASE Cloud.
Edge implementations vary. Physical locations use SD-WAN devices and multiple Internet links to maximize throughput, enforce QoS, and overcome link failure or degradation. Mobile and remote workers use a client or clientless web access for enterprise-grade protection and optimized access to datacenter and cloud applications. Cloud datacenters will connect to the SASE Cloud over multiple tunnels, with all traffic secured and optimized regardless of the source edge.

The Core Capabilities of SASE: Plug-and-Play Visibility, Optimization, and Control

The SASE architecture is made of two core components. SASE Cloud acts as an aggregator of networking and security capabilities. SASE edge connectors drive traffic from physical, cloud, and device edges for SASE cloud processing. SASE uses a single-pass, traffic processing engine to efficiently enforce a single policy on all flows and based on a single context. Contrast the SASE model with stacking point products, where each product analyzes traffic for a specific requirement, adds overhead for actions like decryption, and lacks the context generated in other network and security point products. Selected SASE capabilities include:

Authentication: Upon connection of an edge, dynamic risk assessment drives activation of multi-factor authentication.

Access: Access to key applications and service is controlled by application- and user-aware next generation firewall policies. In addition, a zero-trust network access model can ensure users only access authorized applications without gaining general network access.

Prioritization: Application identification assigns priority to the traffic to optimize loss-sensitive applications like Voice over IP (VOIP) and virtual desktop access (VDI) over other traffic such as general Internet browsing.

Decryption: To enable deep packet inspection, encrypted traffic can be decrypted once to allow multiple threat prevention engines to process the traffic.

Threat prevention: Multiple security engines parse the traffic to detect risky access. These include Secure Web Gateways (SWG) that look for malicious websites, anti-malware to prevent download of malicious files, IPS to stop inbound and outbound anomalous connections that are indicative of bot activity, and more.

Data loss prevention: SASE applies specific Data Loss Prevention (DLP) rules to detect sensitive data in the network flows and stop it from leaving the network. Similarly, a Cloud Access Service Broker (CASB) can enforce granular access control to cloud applications.

While this is a subset of the SASE capabilities, the SASE architecture is designed to rapidly extend the single-pass traffic processing engine with new ones. This unique benefit of SASE is future proofing the network, extending the SASE cloud and the new capabilities to anyone and everywhere. Similarly, adapting the SASE cloud service to new threats or attack vectors can be done centrally and immediately affects all enterprises and all edges without the need for IT to deploy or activate these added capabilities.

The Right IT Foundation for the Digital Business

The Benefits of SASE

SASE creates a holistic platform that connects all edges to the networking and security capabilities they need. This lowers the cost, complexity and risks of supporting the business in a dynamic environment. Here are some of the key benefits of the SASE platform:

Agility: Supported by the SASE architecture, IT can deliver optimized networking and strong security to all locations, applications, and users regardless of where they are. Provisioning of new resources and capabilities is fast and simple. Just deploy the right edge client and plug into the SASE platform and corporate policies drive your network and security experience.

Collaboration: IT teams can leverage the convergence of network and security to manage all features and policies in a single interface, using a common terminology, and gain deep visibility into network and security events. Cross team collaboration improves the overall service delivery to the business that often involves a combination of availability, performance, and security requirements.

Efficiency: With SASE, IT teams are relieved of the grunt work to maintain on-premises infrastructure. Physical topology, redundancy, scaling, sizing, and upgrading is dramatically reduced. IT can now achieve better service to the business, while focusing precious resources and skills on business-specific problems rather than the grunt work of generic infrastructure maintenance.

Cost reduction: The simplification of the network and security stack, and the consolidation of multiple point products enables both vendors and customers to reduce the overall costs of keeping the infrastructure running.

Business continuity: With or without a global crisis, enterprises have come to realize that supporting secure remote access, at scale, has become a critical pillar of their business continuity plan. The elasticity of SASE's cloud-native architecture makes it possible to instantly shift to a work-from-anywhere (WFA) model.

What is Not a SASE?

True SASE carries such a big promise that a marketing war erupted between SASE wannabees. Gartner warned that some traditional vendors will try to deliver a SASE-like solution based on wrapping their existing products in a SASE package. Such attempts create a risk to service quality and delivery, as these technologies weren't designed for cloud-native delivery. In a nutshell, look carefully at the underlying SASE architecture to determine the fit with the expected outcomes.

Telco Bundles are the Exact Opposite of SASE

For over a decade, telcos have offered to take away the complexity of managing your network and security stack, through a bundle of point solutions they procure, install and manage. Complexity didn’t go away, and your spend increased to pay for both the products and the people to manage them. Also, you were dependent on the telco to do everything for you, often slowing the IT organization to a crawl. This is the exact opposite of SASE: legacy appliances and fragmented management with limited or no visibility. SASE is built with the scalability, self-service, and agility of the cloud. Your telco isn't.

Virtual Machines in the Cloud are Still a Stack of Appliances

Instantiating virtual machines in an IaaS like AWS, Azure and alike is great, but not for SASE. While it does move on-premises appliances to be ‘in the cloud’, they are still disparate point solutions that lack the cloud-native integration, single pass processing, global reach, and elasticity of a SASE. And, depending on the vendor mix, you'd still need to use multiple management consoles.

Service Chaining Sounds Close, But not Really

Facing the reality of a multi-vendor environment, service chaining is a technique to link together multiple point solutions such as SD-WAN, routers, firewalls, WAN optimizers and more. Regardless of the use of multiple physical appliances or Universal Customer Premises Equipment (uCPE) that host multiple virtual machines, these are still discrete solutions that need to be sized, scaled and managed separately. Ultimately, SASE offers convergence as the key defining attribute and service chaining isn't convergence but loosely coupled linking of point solutions.

The Incomplete SASE: Cloud and Edge Vendors Must Plug Big Holes in their Offerings

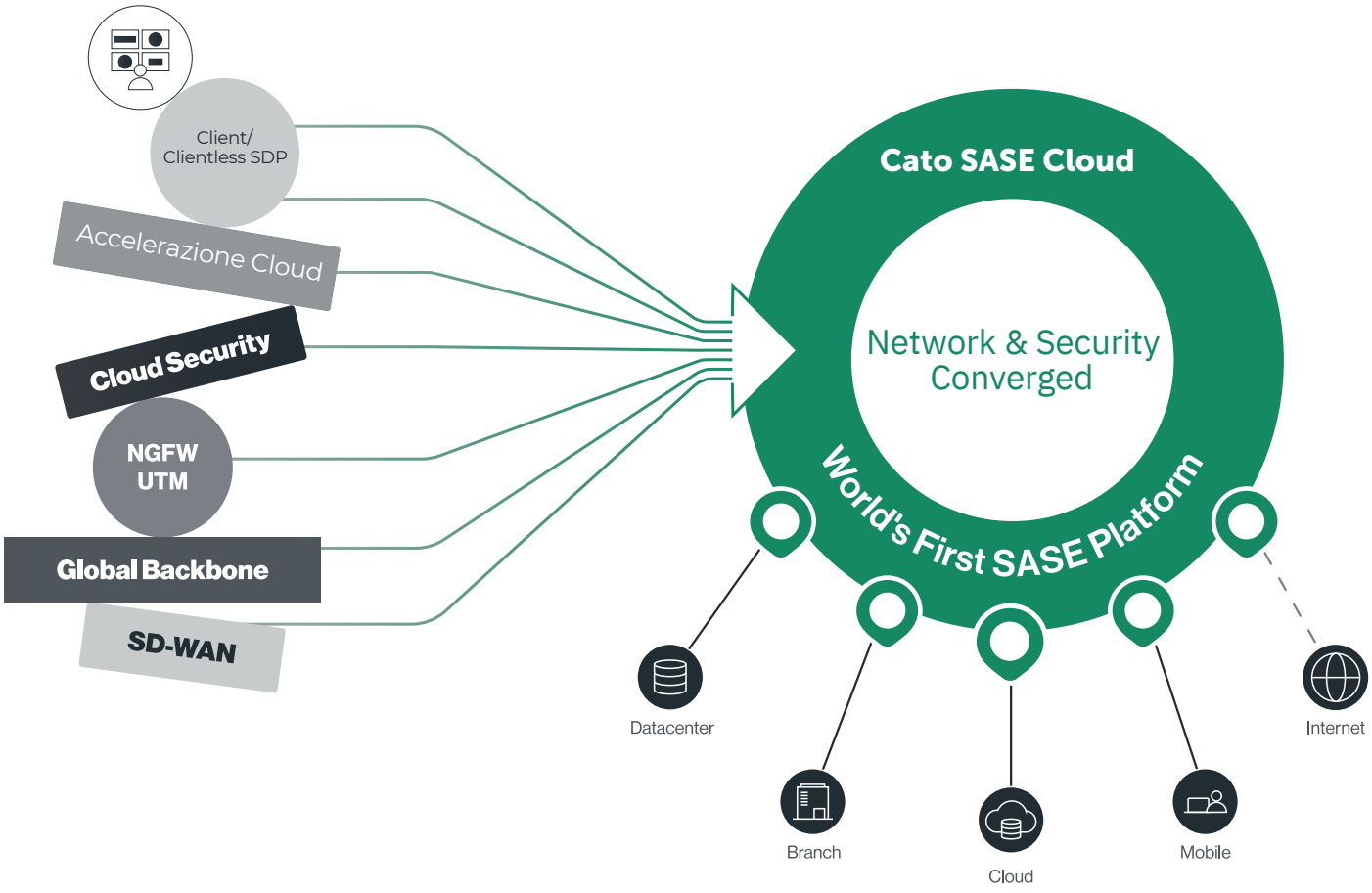
Security-as-a-Service vendors have been working to deliver multiple security capabilities via their cloud services including SWGs and CASBs. These vendors still lack the key SASE elements of controlling network flows and natively supporting the WAN edge. Without a natively integrated and mature technology to reliably and securely connect all edges (offices, cloud datacenters, users and devices) to the SASE Cloud, SWGs and CASBs remain a silo that needs integration with other products. Similarly, edge appliance vendors now face the task of building the breadth of SASE Cloud capabilities as globally distributed, cloud-native services.

Cato SASE Cloud: A Full SASE Platform You Can Deploy Today

Your SASE journey can start today with WAN transformation or appliance refresh. How do you pay for SASE?

The good news is, that the budget for SASE is already here. Your next security appliance refresh, your upcoming MPLS contract renewal, or your M&A integration project – all represent great catalysts to launch the SASE project. The migration doesn't have to happen all at once, and most SASE platforms support a gradual migration process, during which a SASE can co-exist with legacy network and security solutions until they are fully retired.

Cato SASE Cloud is a market-proven SASE platform you can deploy today. It converges enterprise network and security capabilities into a single-pass software stack delivered as a cloud service.



Convergence of networking and security in the cloud

Cato SASE Cloud Meets the Key Attributes of the SASE Architecture

Converged: Cato converges SD-WAN and network security into a single cloud service that's centrally managed. This eliminates the complexity associated with handling numerous point products.

Cloud-native traffic processing: Cato developed the Cato SASE Cloud from scratch as a cloud-native service. It uses a single-pass engine to process all traffic from the packet up and provide optimization and security. Cato doesn't use purpose-built appliances or virtual machines and is therefore able to provide Cato customers the scalability, self-service, and agility of cloud providers.

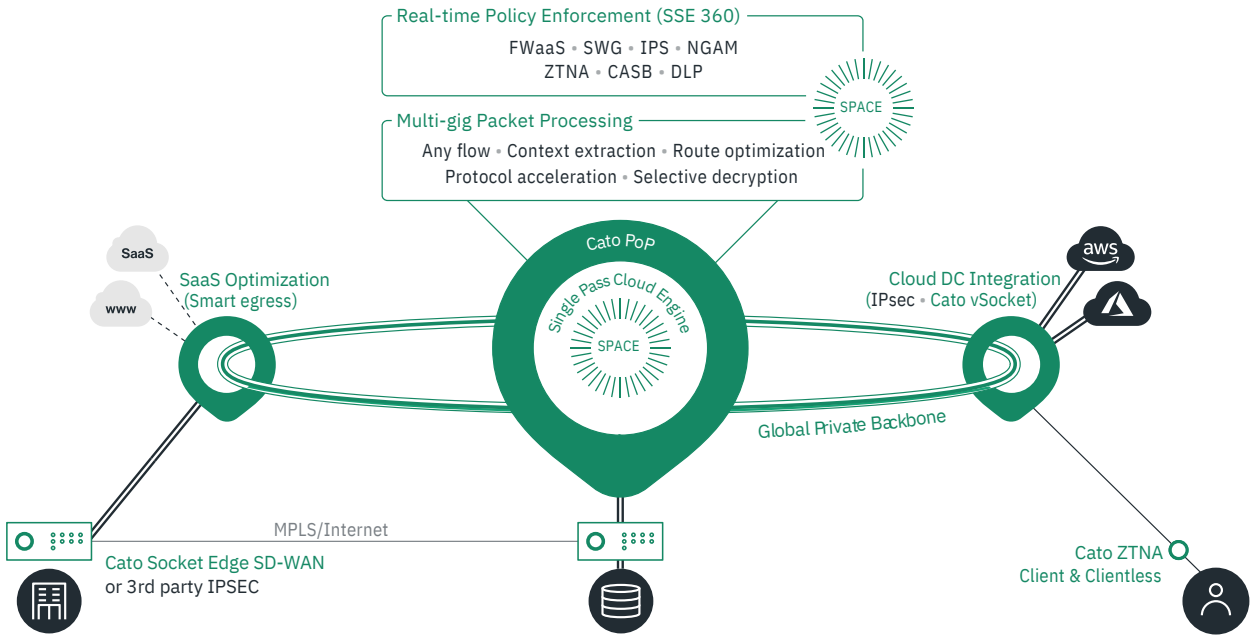
Support for all edges: Physical locations, mobile users on any device, cloud datacenters and applications, use Cato edge solutions to plug into the Cato SASE Cloud. Physical locations use an edge SD-WAN device (Cato Socket), a Software-Defined Perimeter (SDP) client or clientless web browser is offered for mobile devices, and IPsec tunnels connect cloud resources to Cato SASE Cloud. Regardless of edge, Cato's full set of networking and security capabilities is readily available from the nearest Cato PoP.

Globally distributed network of PoPs: Cato SASE Cloud spans over 75 PoPs from which the full capabilities of the service are delivered. All of Cato's PoPs are interconnected by multiple tier-1 carriers, forming a global private backbone that optimizes WAN and cloud traffic. The PoP software applies deep packet inspection to secure the traffic against multiple threats as it flows through the Cato SASE Cloud.

About Cato Networks

Cato provides the world's leading single-vendor SASE platform, converging Cato SD-WAN and a cloud-native security service edge, Cato SSE 360, into a global cloud service. Cato SASE Cloud optimizes and secures application access for all users and locations everywhere. Using Cato, customers easily replace costly and rigid legacy MPLS with modern network architecture based on SD-WAN, secure and optimize a hybrid workforce working from anywhere, and enable seamless cloud migration. Cato enforces granular access policies, protects users against threats, and prevents sensitive data loss, all easily managed from a single pane of glass. With Cato your business is ready for whatever's next.

Cato SASE Cloud with SSE360



Cato SASE Cloud

SSE 360

Secure Remote Access

Edge SD-WAN

Global Private Backbone

Multi-cloud / Hybrid-cloud

SaaS Optimization

Cato Management Application

Use Cases

MPLS Migration to SD-WAN

Secure Remote Access

Secure Branch Internet Access

Optimized Global Connectivity

Secure Hybrid-cloud and Multi-cloud Work From Home

We would be delighted to discuss this with you further if you are interested in learning more about CATO. Get in touch!

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