CISCO
SECURE

The Cisco Umbrella global cloud architecture

Lightning-fast performance. Rock-solid reliability.

Umbrella's global cloud architecture delivers network resiliency and reliability to keep your performance fast, and your connections secure.

Network performance matters

When selecting a cloud security service, it's important to consider network performance. Users' devices create multiple simultaneous connections each time they access a website. Establishing a fast connection, without delay, is critical.

Umbrella cuts latency

Many vendors show a network map with the quantity and distribution of their data centers. Customers may falsely assume that connection latency decreases when a vendor's data center is physically located closer to the ISP that serves the customer. The shortest path between the ISP and the vendor may require an excessive number of intermediate stops due to inadequate peering or transit relationships. This can result in a slower path between points A and B, regardless of geographic distance.

Our extensive and expanding peering relationships augment our global data center distribution to deliver lightning-fast performance.

Umbrella cracks the performance expectation

Rigorous performance evaluation by an independent testing firm showed that Umbrella (with security policies in place) performed as well as – ***often better than*** – accessing SaaS apps over the internet with no security.

Traffic through Umbrella (with security) compared with direct to internet (with no security):

- Traffic to Box was 33% faster
- Traffic to AWS console was 22% faster
- Traffic to Salesforce was 21% faster
- Umbrella was more consistent, denoting an even / predictable customer experience.

Peering relationships shorten the path

Building data centers near Internet Exchange Points (IXPs) means that networks can create more peering relationships. Each peer provides a shortcut for traffic through the thousands of ISPs that make up the fabric of the internet's topology. Umbrella has 1000+ (and expanding) peering relationships to shorten the path that a packet travels.

Data centers located, built, enhanced for quality

Umbrella locates our data centers near the IXPs for faster, more reliable service.

Data center locations are carrier neutral, selected purely on the location's ability to provide the best quality connections and services. All data centers meet or exceed standards for security and uptime, such as Uptime Institute Tier III standards, ISO27001, and SOC2. Additionally, our data centers adhere to Cisco's stringent requirements for network connectivity, security, quality, and risk controls, plus help the Umbrella service satisfy the General Data Protection Regulation (GDPR) requirements.

Some of our peering partners

AT&T, BT, Google Fiber, verizon, amazon, DocuSign, DELL Services, HUAWEI, Microsoft, Alibaba.com, salesforce, Google, Adobe, box, Bai du 百度, Cisco webex

Cloud-first architecture

Cisco owns, actively manages, and tunes our own equipment to ensure consistent, unmatched performance. Optimal usage of hybrid multi-cloud infrastructure maximizes resilience and minimizes traffic latency. Umbrella uses microservices to deliver security capabilities in a cloud-native environment. Additionally, we selectively use public cloud providers and build our services as multi-region for expanded scalability, enabling us to effectively manage our customers' traffic.

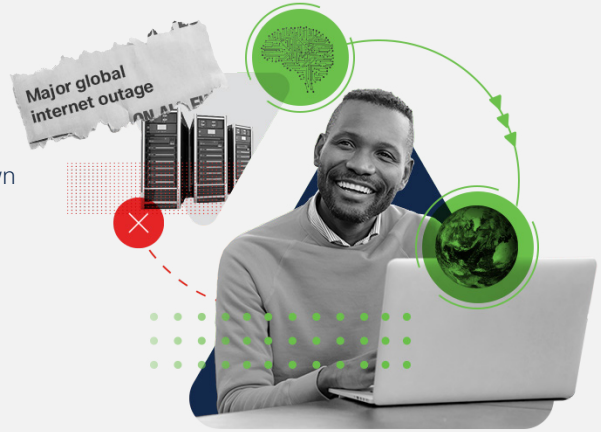
Self-healing, highly automated

Umbrella's highly automated architecture has been running container workloads in production for 6+ years, longer than any other cloud security vendor. With 30,000 worldwide production containers carrying security traffic at scale, our compute and network can self-heal, using capabilities like a global load balancer and auto scale to transparently resolve issues and devise workarounds.This agile architecture enables us to continuously deliver new capabilities seamlessly to our customers, without business downtime.

Anycast Routing Advantage

Anycast routing automatically steers traffic to the closest Umbrella data center to ensure top throughput, circumventing degraded or unavailable links, without customer intervention. It's like a built-in customer assistant, providing customers with the best possible availability, reliability, and quality, without the need to manage load balancers, configuration files, routing policies or to maintain a lot of hardware. Additionally, data center failover is automatic. When planned maintenance or unplanned interruptions occur, failover just happens and maintains redundancy. Our customers can focus on securing their business, while benefiting from the flexibility to rapidly scale up or down as their business needs dictate.

For example, the customer selects Los Angeles as its primary Umbrella data center. If that center is taken down for maintenance or unexpectedly fails, the address space is also advertised out to the other data center in the region pair, Santa Clara. This means the tunnel will failover automatically without customer intervention.



Operational Excellence

Cisco is committed to complete transparency with our customers. We publish a snapshot of our current network status for everyone to see, along with operational notices at https://status.umbrella.com.

Since 2006, our DNS security service has delivered 100% business uptime. The global cloud architecture is run by a deeply experienced team with expertise in security, networking, cloud-native architecture, threat research, data science, and more.

Securing the edge with Cisco Umbrella

Cisco Umbrella is a highly elastic, cloud-native security service at the heart of Cisco's SASE architecture. Built on micro services, it delivers the following value to customers:

- Flexibility to rapidly scale up/down to meet your business needs
- Network resiliency and reliability you can count on to quickly recover
- High capacity and throughput with a secure, low latency path to applications regardless of where they are hosted
- Agile infrastructure that is constantly updated to deliver new capabilities without customer downtime

The Umbrella global cloud architecture advantage

Umbrella's cloud-native global footprint sees and analyzes massive and diverse data. Our infrastructure scales to process over 500 billion DNS requests per day, representing 100M active users and 24K+ enterprise customers, from 190+ countries –and rising.

Cisco Umbrella blocks daily:

16M
command and control requests

50M
phishing attempts

103M
malicious site access attempts

To learn more about Cisco Umbrella, visit:

umbrella.cisco.com/products/cloud-security-service