zenlayer

Cloud Networking

Build your global network, seamlessly

About Zenlayer

The internet connects us, but it often falls short on delivering consistently high performance and a seamless experience.

Ultra-low latency, high-quality transmission is essential for enabling real-time digital interaction.

Users expect instant, rapid responses when accessing digital services.

User attention vanishes in an instant. Success in boosting retention hinges on seizing that sub-second window of opportunity.

Network latency can cost businesses billions of dollars every year.

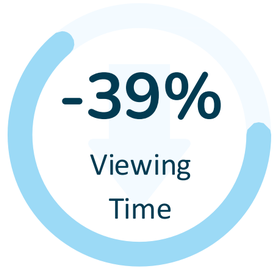
E - commerce

Mobile page load times begin to increase after 2 seconds [1]

Gaming

Quit the game due to delay [2]

Live Streaming



The video buffered once during playback.[3]

Enterprise

The business costs of ICT downtime/ degradation in North America [4]

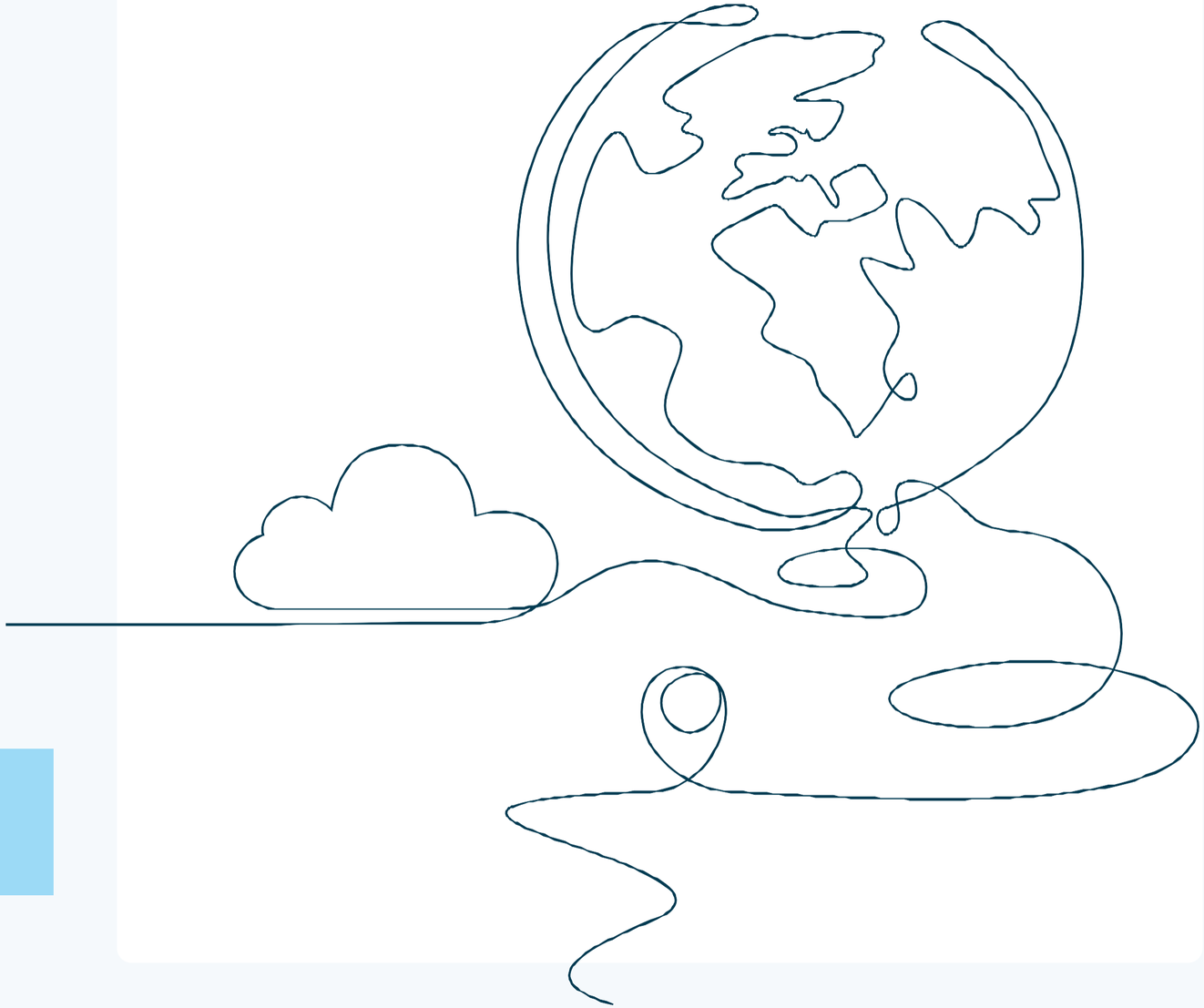
Fintech

Even 1 millisecond of latency impacts revenue [5]

1 Google | 2018 Industry Benchmark for Mobile Page Speed
2 Intelligent Network Application Protocol | 2019 op Reason Players' Annual Exit Rate from Online Multiplayer Games
3 MUX | 2016 Study Shows Buffering Can Reduce Video Watching Time by 40%
4 Jane's Group (UK) | 2015 Costs Due to Server, Application, and Network Downtimes
5 United Fintech Company | 2021 Actual Costs of Market Data Latency

Zenlayer’s hyperconnected cloud reduces latency and improves user experience.

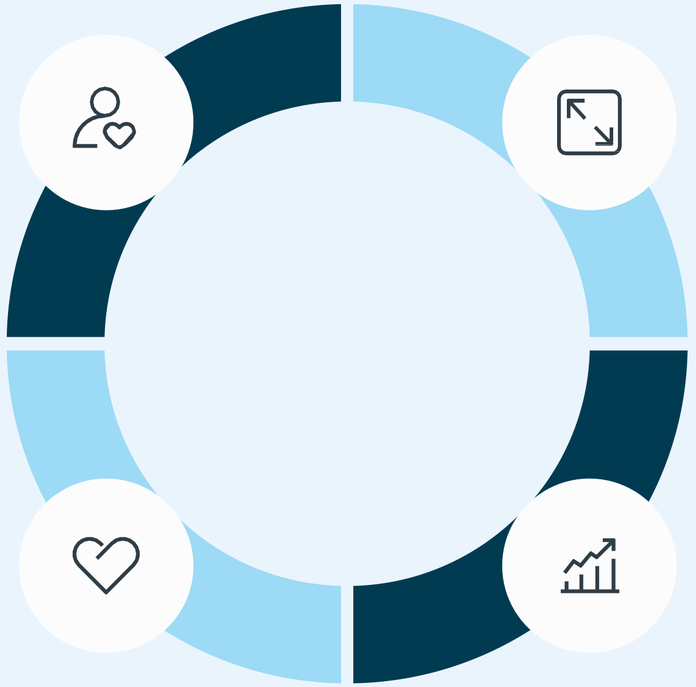
Anywhere, instantly →



Zenlayer empowers global digital transformation for businesses

Enhance global user experience

Creating superior network performance that drives revenue growth for businesses through improved user satisfaction and retention.



Boost scalability and flexibility

On-demand scalability to match your business needs, enabling you to lower costs and improve efficiency.

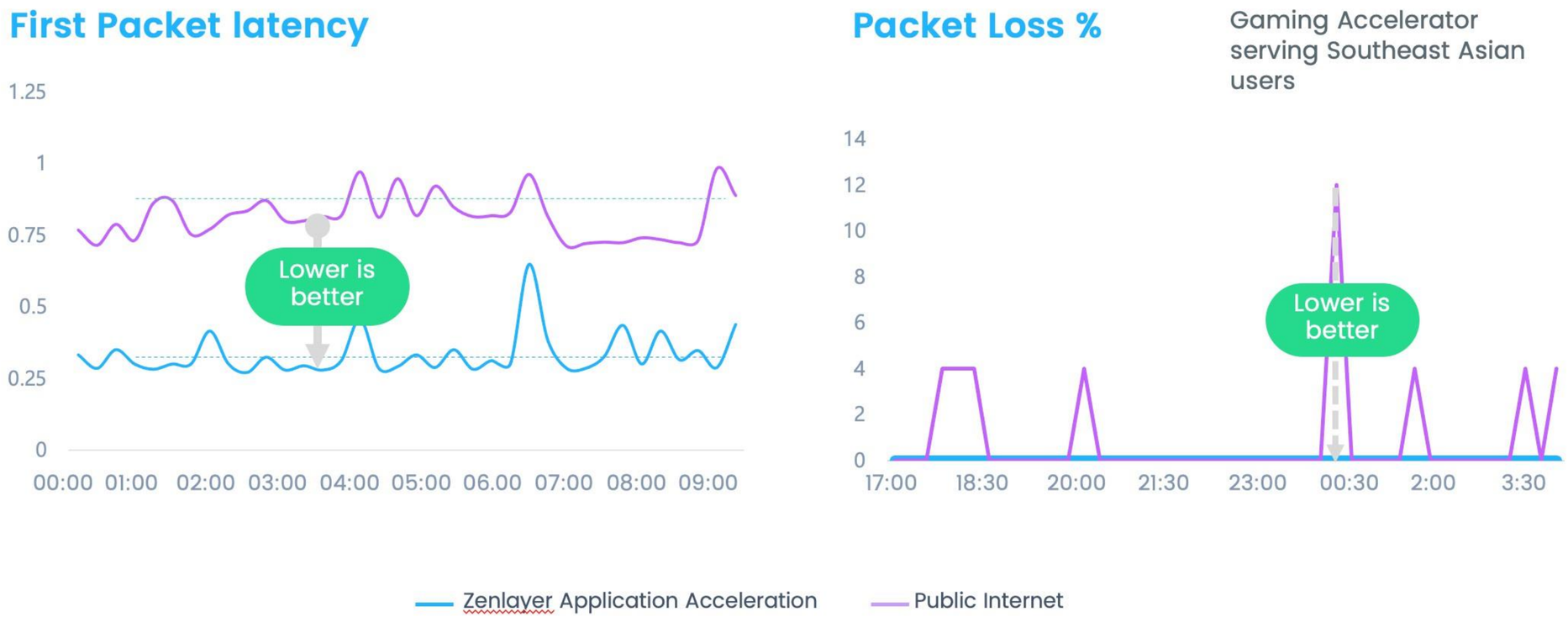
Simplify operations with turnkey solutions

Computing, networking, and application acceleration, all-in-one to meet all enterprise edge needs, with flexible and simple operations.

Rapidly expand into emerging markets

Unlock rapid growth for businesses entering emerging markets with underdeveloped public cloud services.

We routinely reduce latency and packet loss by 40% or more



How do we do it?

Widest Global Coverage

Massively distributed edge PoPs to place workloads closest to your users

Best-Performing Network

Hyperconnected network with a private global backbone and dynamic traffic engineering for minimal latency and maximum reliability

Instant Deployment

Easy-to-use web interface and APIs to instantly provision compute, networking, and application services

Massively distributed edge PoPs reduce physical distance to your users

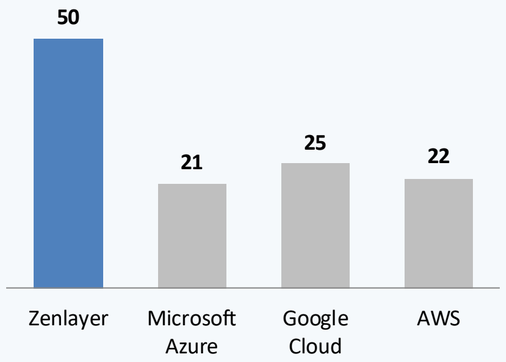
300+

PoPs

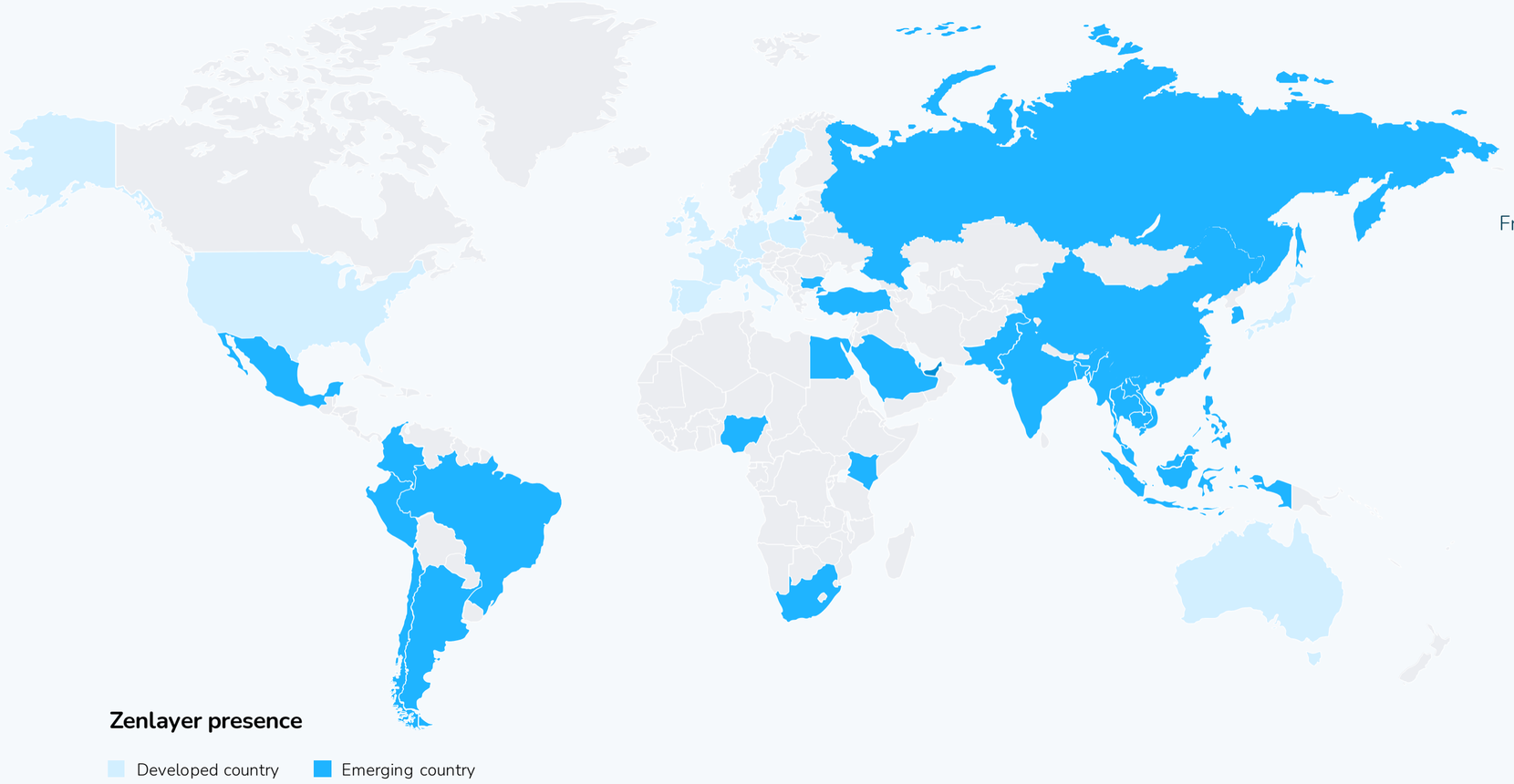
10,000+

Peers

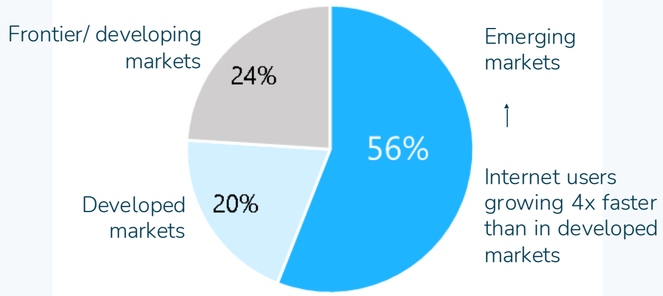
# of available countries
(as of Apr 2024, excluding CDN-only nodes)



Unrivaled expertise in emerging markets help drive your next engine of growth



Share of global internet users



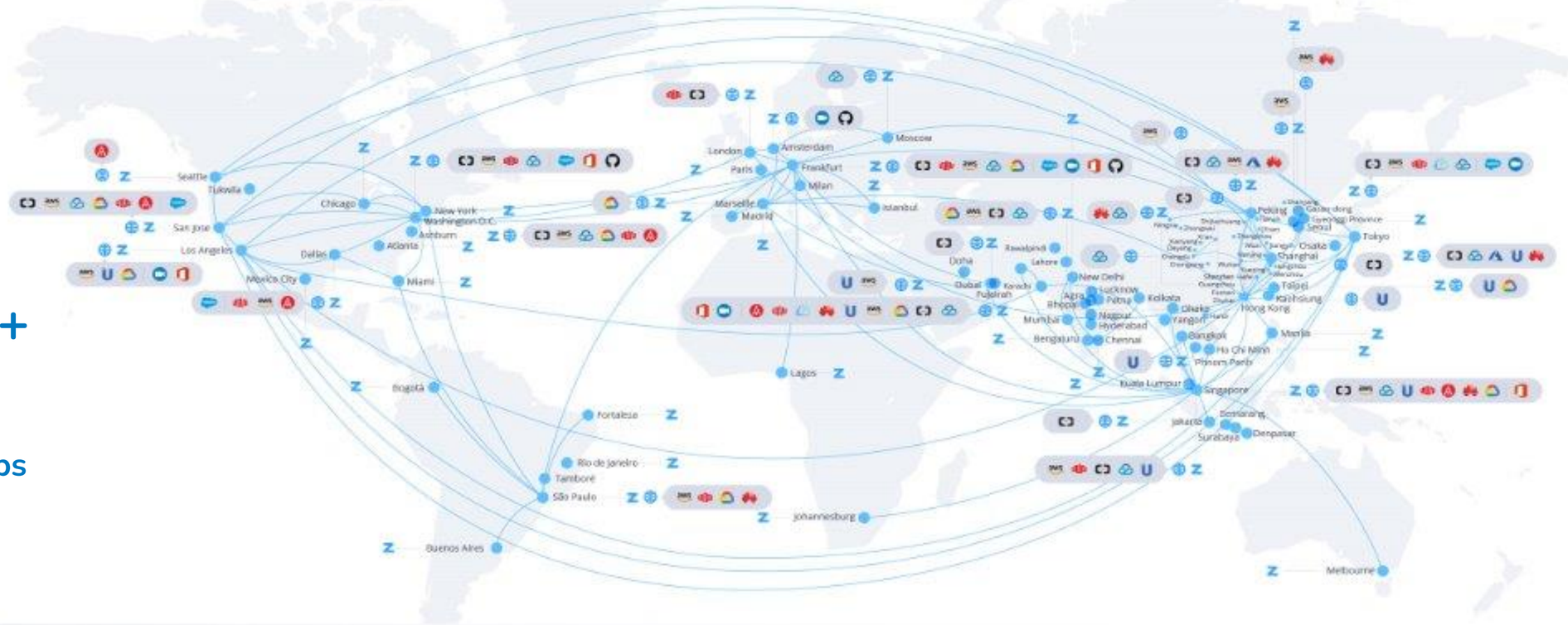
2/3 of Zenlayer's 270+ PoPs are in emerging countries, covering more emerging market users than any other cloud provider.

Hyperconnected network and proprietary routing algorithms accelerate your applications

300+
PoPs

10,000+
Global Peers

130+Tbps
Network



Infrastructure
- Data Center

Services
- Cloud Networking
- Bare Metal Cloud

Public Clouds
- AWS
- Microsoft Azure
- Google Cloud
- Alibaba Cloud
- Tencent Cloud
- UCloud
- Equinix Cloud Exchange
- Coresite Open Cloud Exchange
- Megaport
- IBM
- Huawei Cloud

SaaS
- Salesforce
- Office365
- Github
- Zoom

Full suite of products to deploy and run your applications at the edge

Compute

Bare Metal Cloud

Deploy applications close to your users via on-demand, high-performance bare metal

Edge Data Center Services

Fully managed, distributed colocation in 270+ PoPs for minimal latency worldwide

Networking

Cloud Networking

Ultra-low latency, elastic, private connectivity between data centers, public clouds, and SaaS

Dedicated Internet Access

High-performance internet access via hyperconnected networks and peering

Application

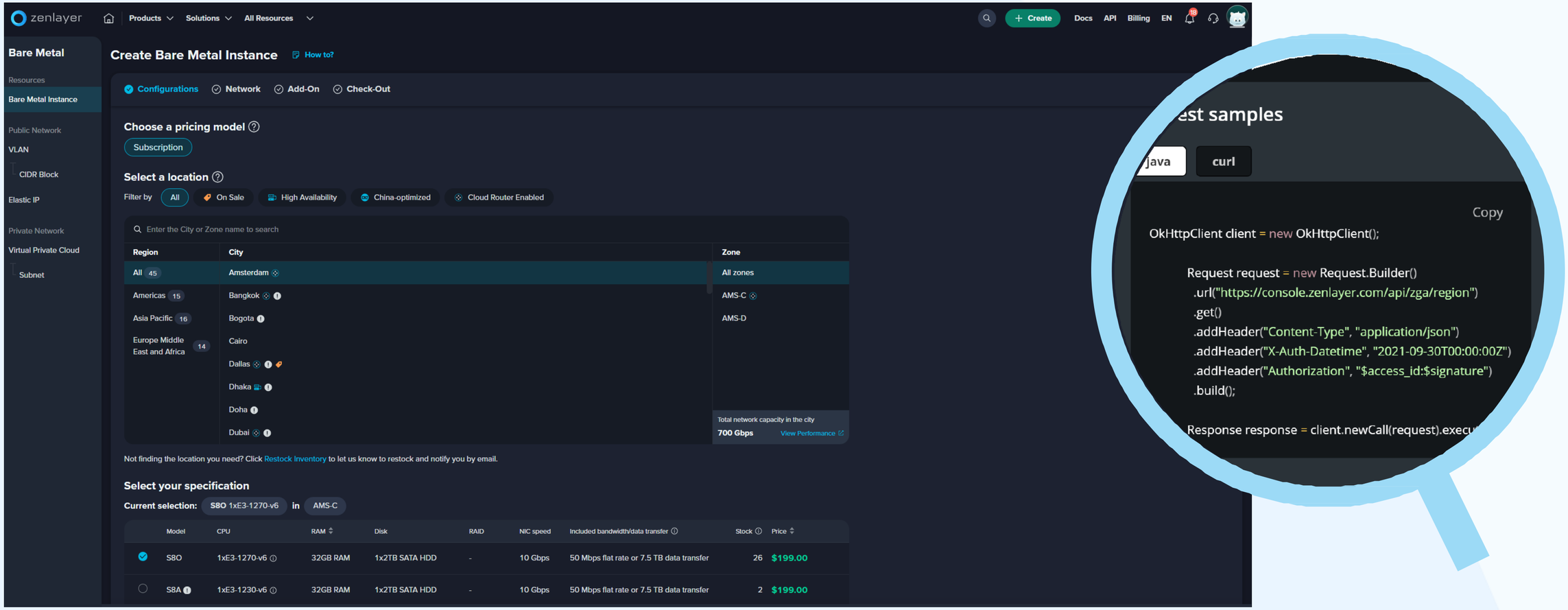
Global Accelerator

SaaS and dynamic application acceleration worldwide via API, SDK, and client app

DDoS Protection

Distributed DDoS protection and web application firewall to mitigate attacks at the source

On-demand deployment via online console or APIs



Consistent level of service worldwide that exceeds expectations

Easy contact

24/7 technical support
via phone and email
24/7 proactive network and
device monitoring

Fast responses

< 15-minute response time
On-site technicians at core PoPs

Reliable resolution

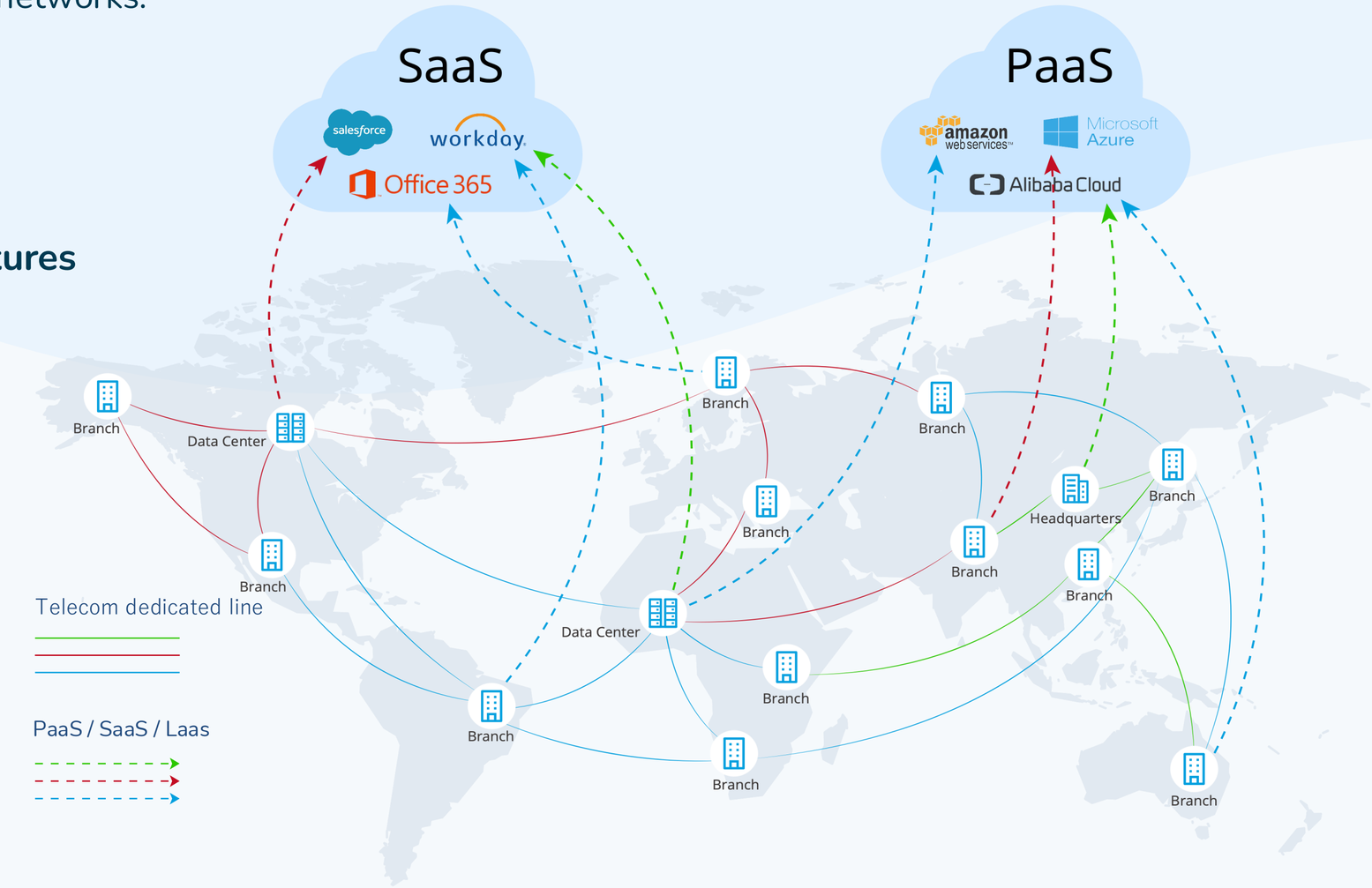
95%+ TRR < 4 hours
(time to resolution)
99.99% SLA
(built-in redundancy for both circuits
& hardware)

Products Overview

Modern enterprise network demands are increasing

Traditional network connections struggle to keep pace with the rapid iteration, fast provisioning, and complex, dynamic needs of modern networks.

- ✓ **Hybrid and multi-cloud architectures**
- ✓ **On-demand deployment**
- ✓ **Monitoring and alarms**
- ✓ **Cost-effective entry**
- ✓ **Start your business instantly**
- ✓ **Flexible billing**
- ✓ **Performance visualization**



Zenlayer Cloud Networking

Cloud-based Services

Multi-point interconnection on demand

Network Resource

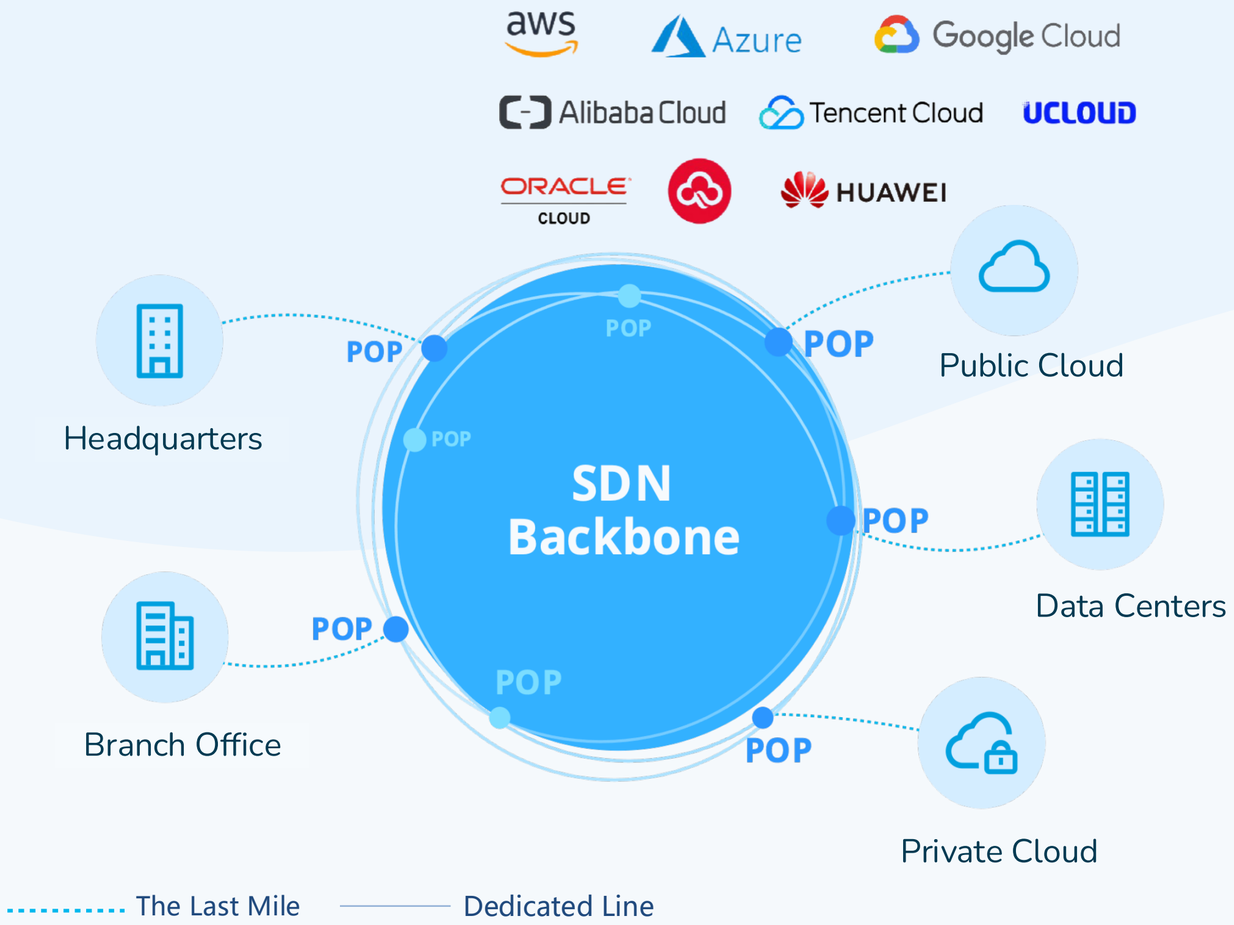
Flexibly connect clouds, SaaS, data centers, and offices.

Zenlayer Cloud Networking

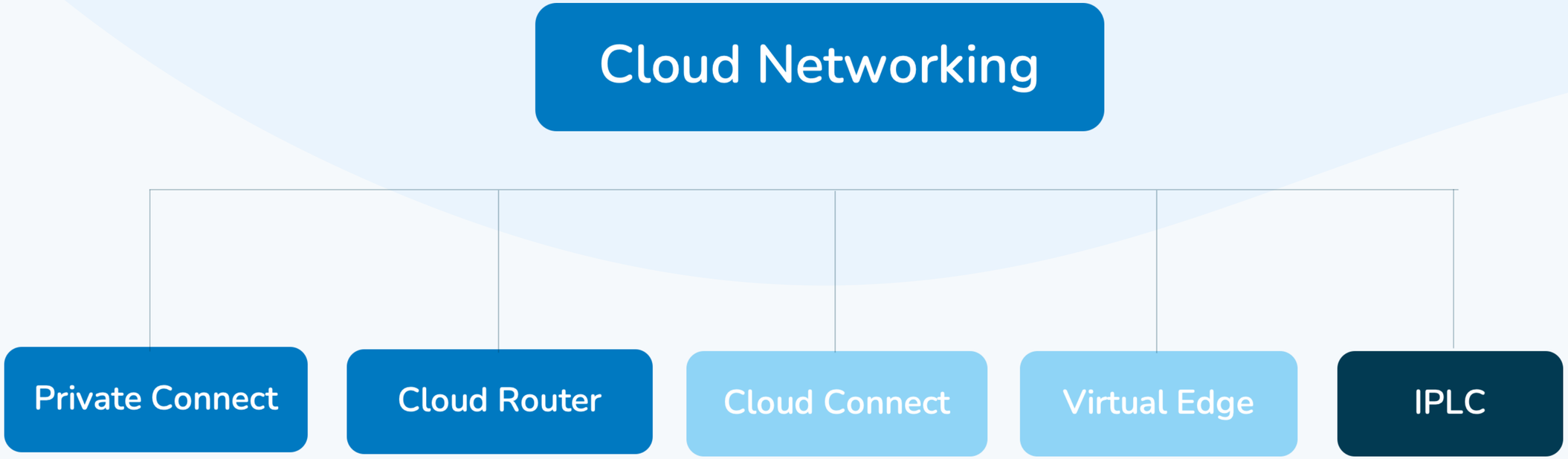
Build networks on demand with NaaS services that offer direct access to data centers and clouds.

Connect Cloud & Data Center

- ✓ L2 transparent transmission
- ✓ L3 networking
- ✓ Flexible billing
- ✓ Supports redundant and protected connections
- ✓ Supports millisecond-level business switching



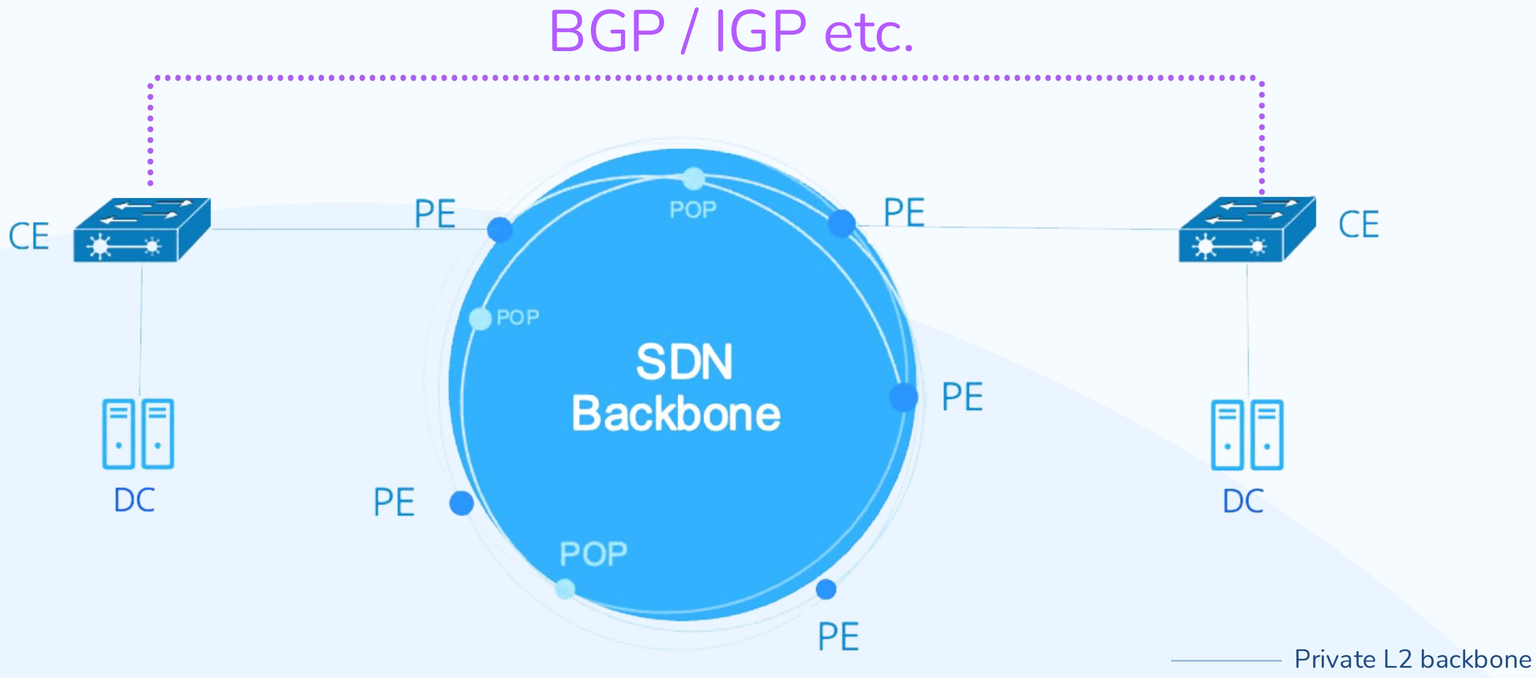
Cloud Networking Products



Cloud Networking Product - 1 : Private Connect

Two nodes are connected via a dedicated Layer 2 network, ensuring secure traffic without the need for encryption. Private Connect supports the transparent transmission of all protocol packets, including LLDP, ISIS, LACP, STP, MACSEC, E-LMI, PAUSE, and more. The MTU can support up to 9000 and above.

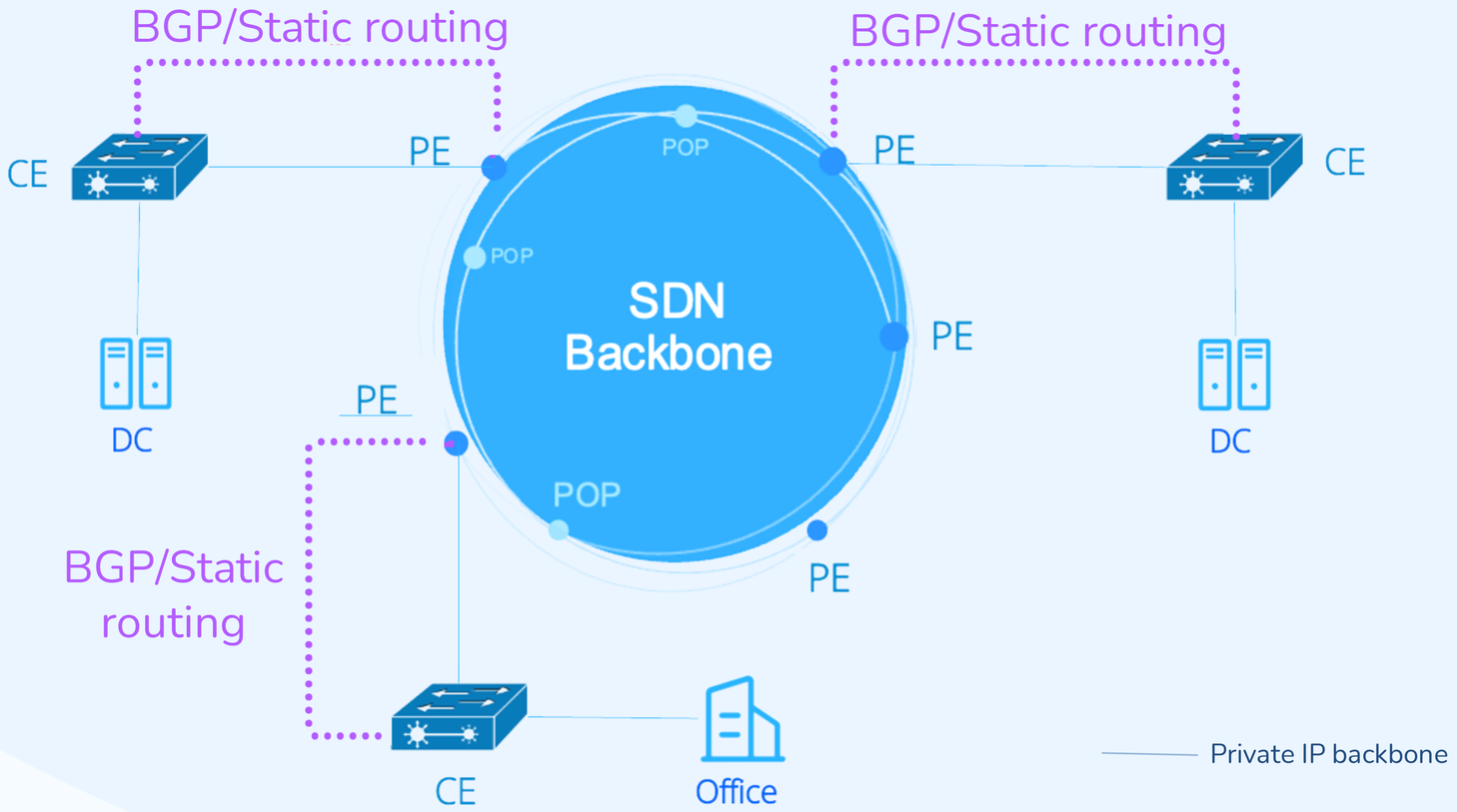
Zenlayer's backbone network is responsible only for the transparent transmission of packets. Routing protocols are established between the customer's two CEs (Customer Edge devices) to transmit IP packets.



Cloud Networking Product - 2 : Cloud Router

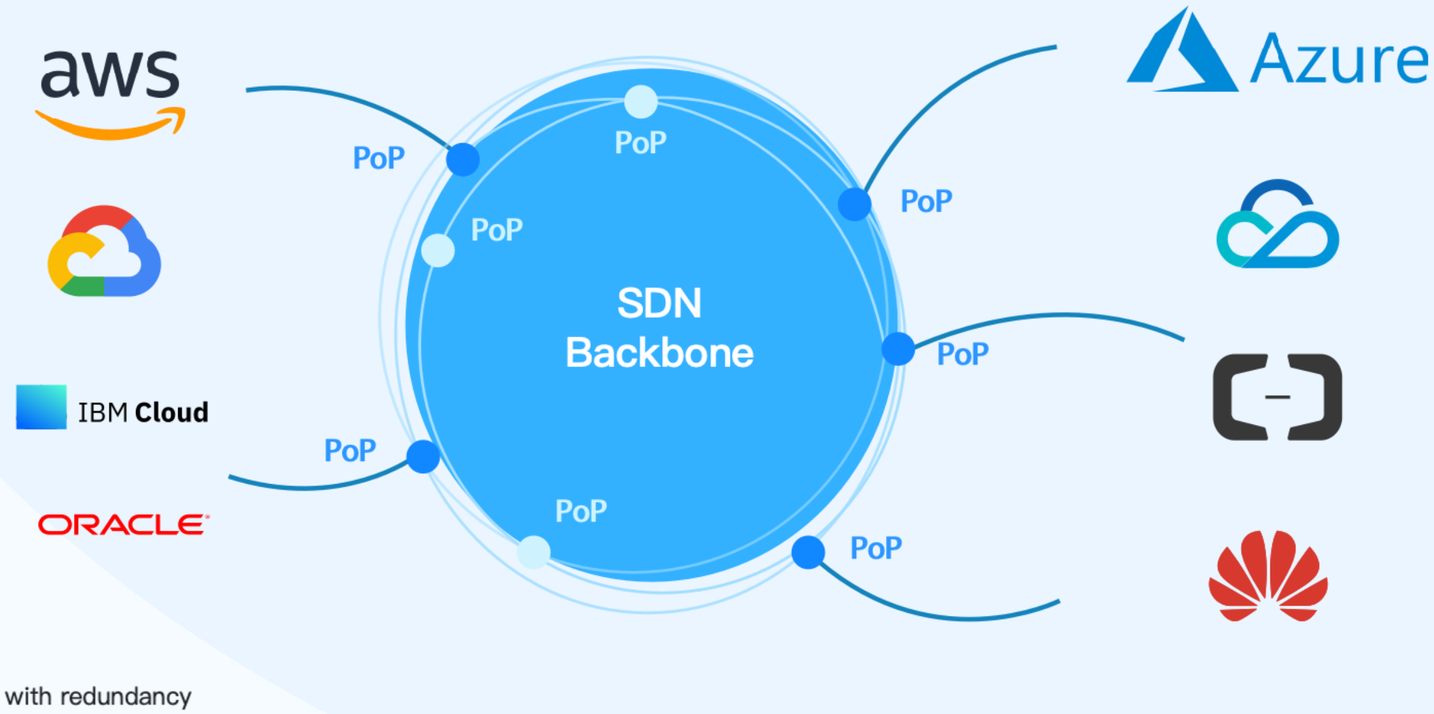
Instant full-mesh, private connectivity at layer 3. Available for full-mesh, hub-spoke, or customized networks. BGP and static routing are supported for the access side.

Zenlayer's backbone network PE (Provider Edge) establishes BGP or static routing with the customer's CE (Customer Edge) responsible for IP routing between multiple CEs on the customer side.



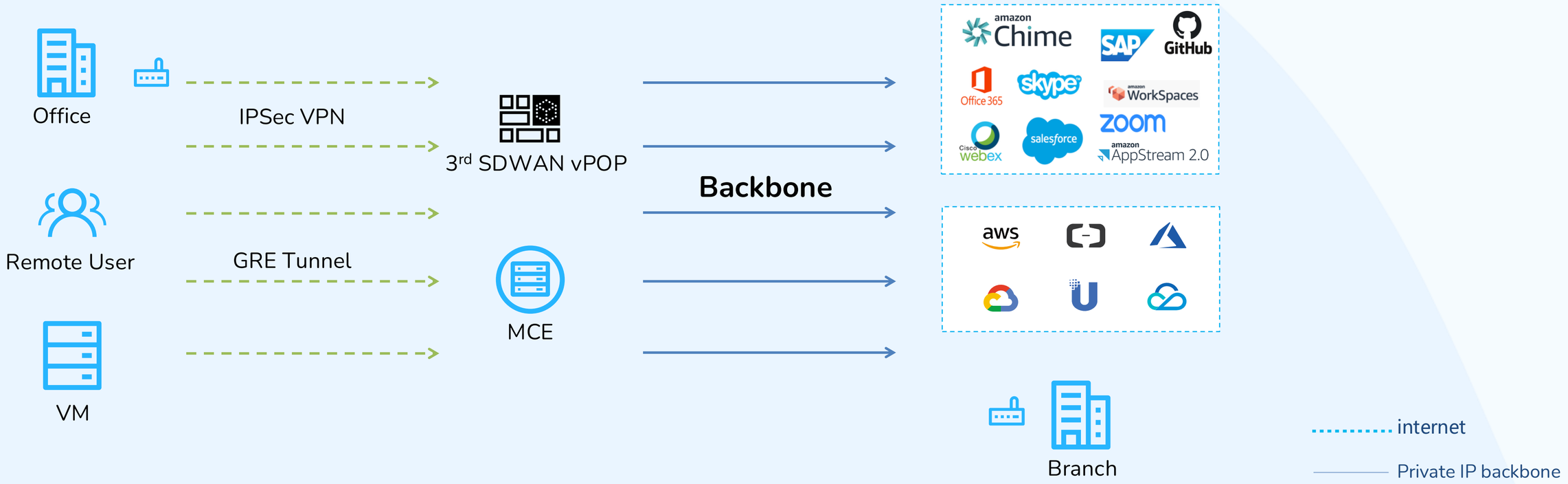
Cloud Networking Product - 3: Cloud Connect

Providing dedicated Layer 2 and Layer 3 connection between public clouds and data centers. Easily provision dedicated connections to the world’s top clouds (AWS, Azure, Google Cloud Platform, Alibaba, Huawei, Tencent, Oracle, IBM, etc.)



Cloud Networking Product - 4: Virtual Edge

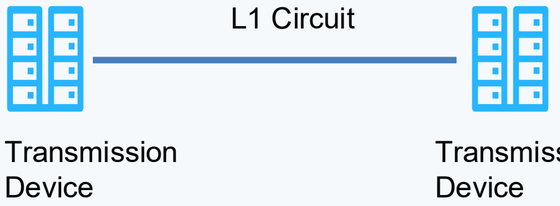
Customers who are unable to leverage dedicated line access for the last mile can access Zenlayer's self-developed software gateway (MCE) or third-party gateway nodes through methods like IPSEC VPN, GRE, etc. via the internet. This helps improve deployment efficiency and reduce CapEx.

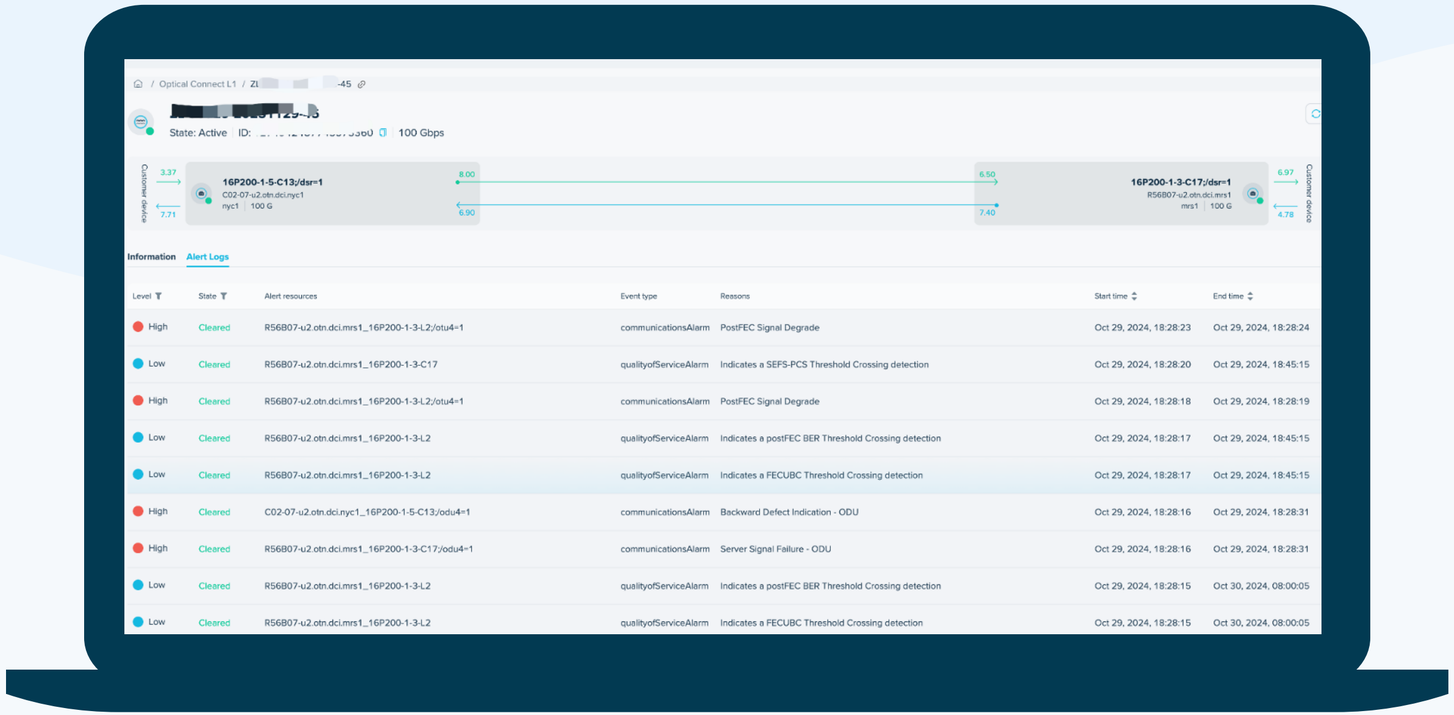


Cloud Networking Product - 5 : IPLC

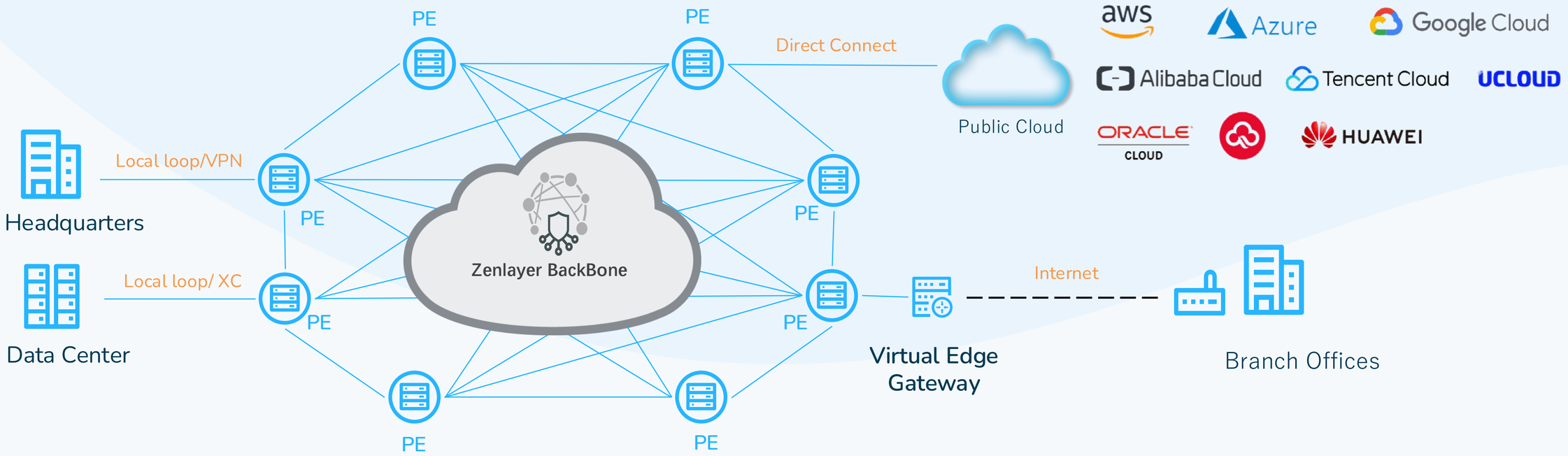
An IPLC (International Private Leased Circuit) is a Layer 1 point-to-point dedicated line providing dedicated bandwidth, high capacity, and completely transparent data transmission. The maximum MTU is greater than 9600.

Zenlayer's IPLC service also features a user portal with traffic monitoring and alarm capabilities.





Hybrid Cloud Networking Use Case



Zenlayer's cloud networking services meet the needs for interconnectivity between enterprise headquarters, branches, and data centers, as well as clouds. Here are some sample use cases:

1. Enterprise, private cloud, public cloud, and data center that require multi-point interconnectivity.
2. Enterprises/data centers that need to connect to public clouds in different regions domestically and internationally.
3. When interconnectivity is required between different regions of the same or different public cloud providers.
4. Users accessing via the internet for their last mile connection.

Cloud Networking Advantages

	Cloud Networking	Traditional Network Connection
Deployment Cycle	Instant configuration in seconds	Deployment period can last for months
Flexibility/Scalability	Bandwidth can be expanded or reduced on demand	Bandwidth cannot be easily changed
Price	Pay-as-you-go, usage-based billing	Fixed price and very expensive
Rental Period	Daily or Monthly rental	Yearly contract signing
Cloud Networking	Optimized for multi-cloud networks	Usually does not provide dedicated connections to public cloud
Availability	Zenlayer one-stop global connection	Connecting networks across different regions and carriers is complex.
Usability/Visualization	A self-service, visual platform provides detailed information including traffic, latency, packet loss, jitter, port status, and protocol status.	phone & email technical support
Ease of maintenance	Supports customized alerting rules on demand, such as alerts for traffic, latency, and packet loss.	Manually maintenance notifications.

VS

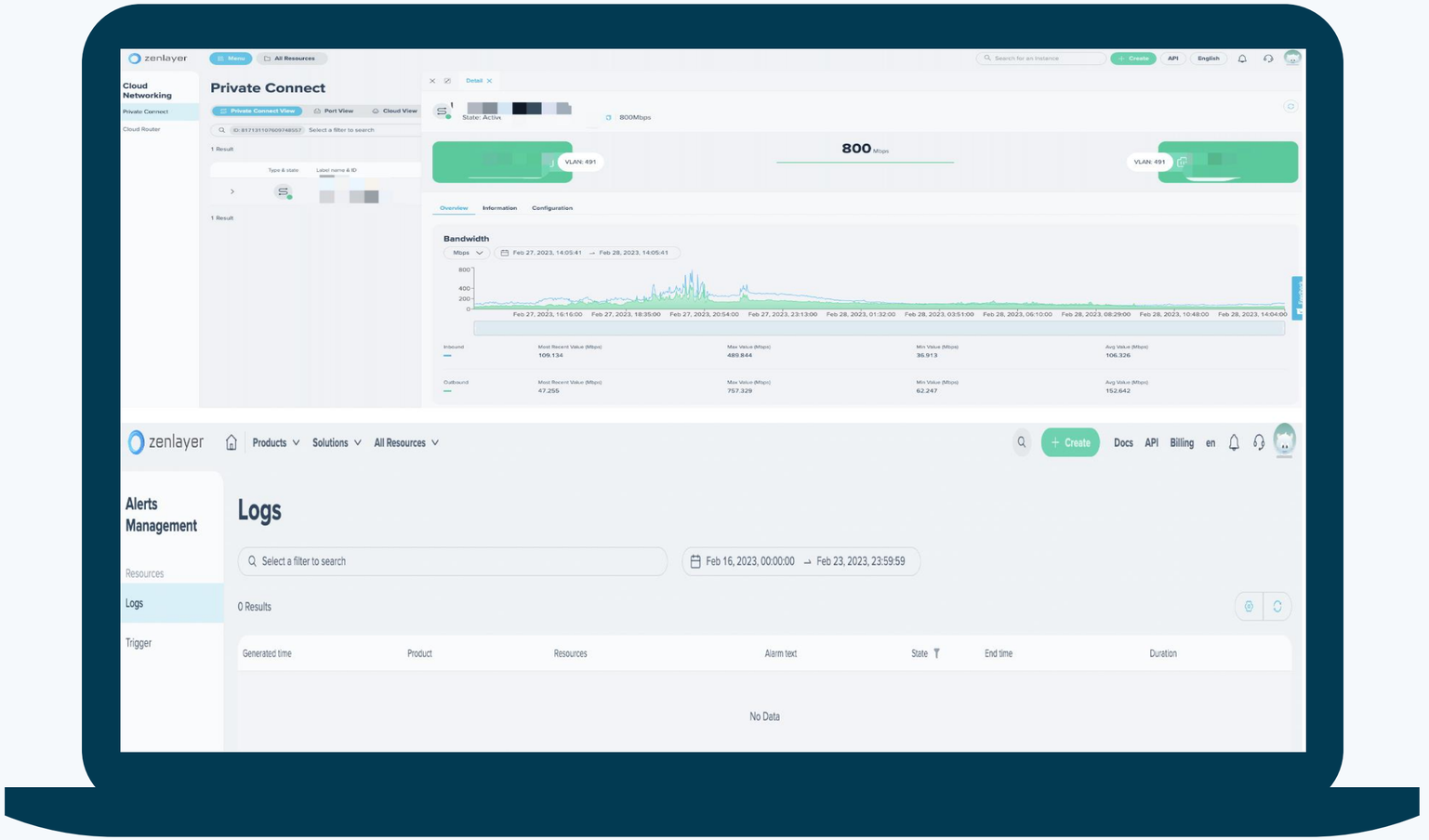
Cloud Networking Product Features

Network Visibility

- Business Status Visibility: Provides second-level visibility for traffic volume, latency, port status, and protocol connection status.

- Network Line Status Visibility: Provides visibility for network line status, including status, traffic volume, latency, and packet loss.

- Customers can define custom alert rules as needed, such as traffic volume/latency/packet loss threshold alerts.



High-performance networking

Zenlayer's dedicated backbone network ensures optimal performance.

Ultra-Low Latency

- ✓ 40% reduction in latency and jitter during peak hours
- ✓ Provides independent high-speed channels

High Availability

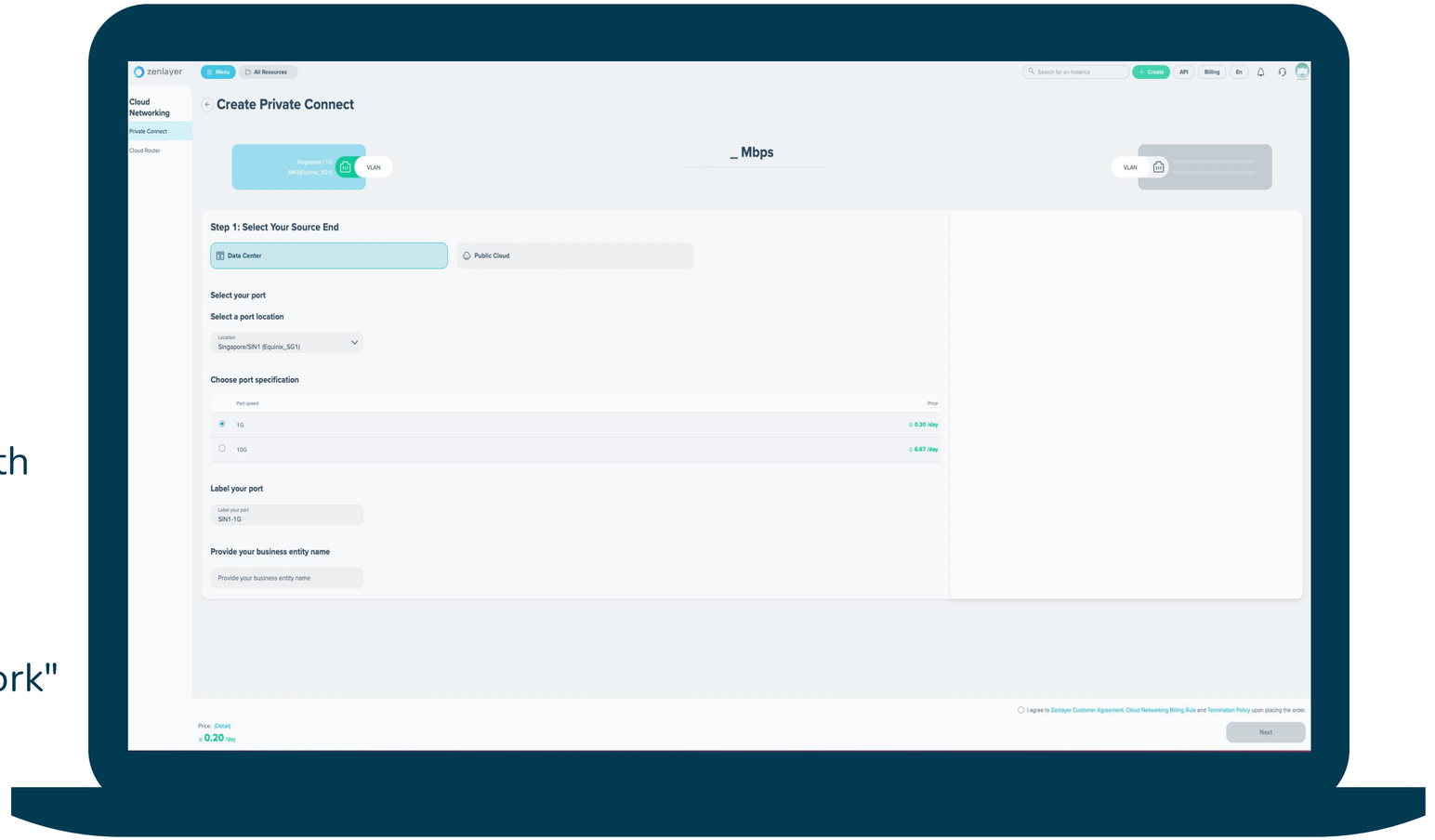
- ✓ Zero packet loss
- ✓ Hardware redundancy for routers and switches
- ✓ Full network redundancy

On-demand cloud connectivity. Globally.

- Global coverage with over 300 PoPs, ensuring optimal delivery speed and the best network experience
- Rapid deployment of hybrid and multi-cloud architectures to meet enterprise cloud needs
- Direct connection to public clouds and SaaS
- Multiple partner integrations, including Megaport, Equinix, etc.


Connect to major hyper-scalers in 3 steps

1. Log in to zenConsole
2. Select PoPs and bandwidth
3. Click "Create Cloud Network"



Flexible Billing

Supports various flexible billing methods

Fixed bandwidth billing

Guaranteed burst billing

Varied billing rates for daytime hours

Traffic package billing

On-demand scaling

1 Mbps to 10 Gbps options

Supports burst traffic

Typical Structure

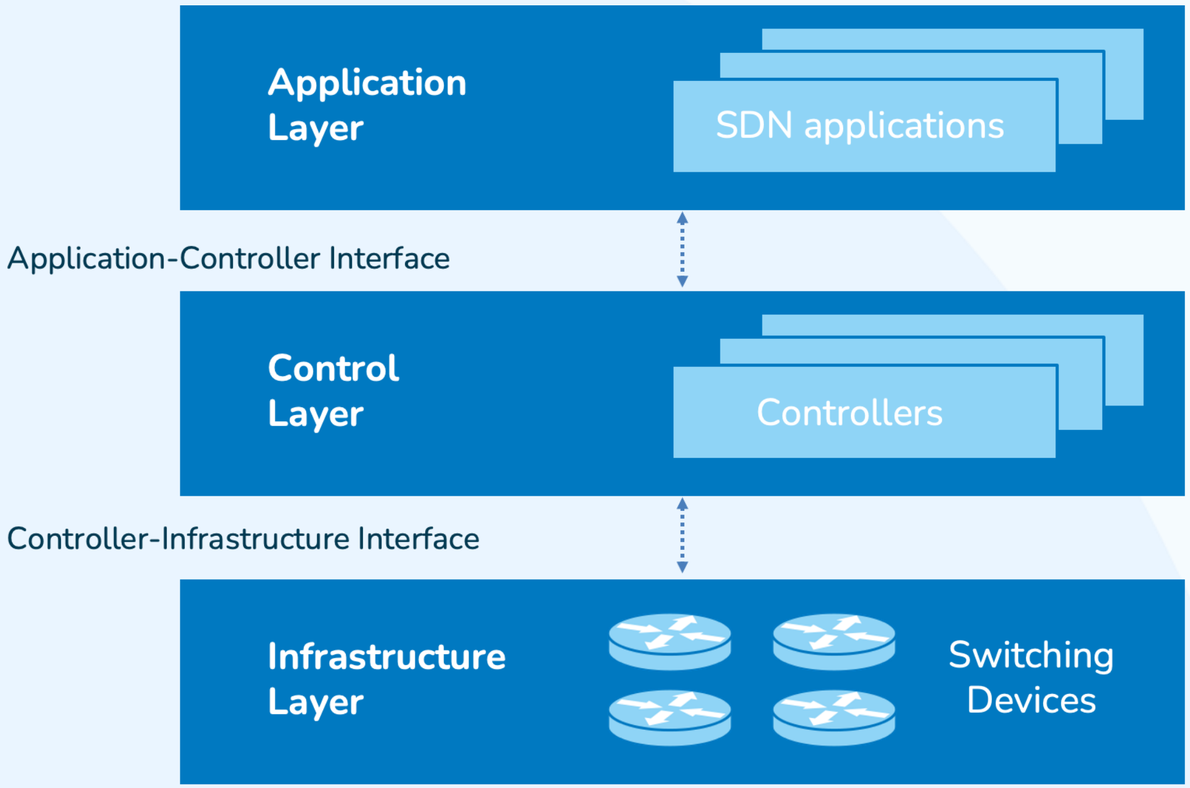
Controller and forwarding plane are completely separated, avoiding business disruption caused by controller failures.

Controller :

- Self-developed controller
- Network topology management
- Device configuration query and distribution
- Audit log and system event management
- Path calculation management
- Data collection management
- Authentication and alarm management

Forwarding Plane:

- The underlying layer uses Segment Routing, offering advantages such as software-defined networking architecture, intelligent traffic scheduling, and high reliability.
- SBFD tunnel detection technology, achieving millisecond-level business switching.



ONF's SDN Reference Architecture

Cloud Network Case Studies

Use Cases

Crafting the optimal real-time interactive experience

Gaming

Immersive gameplay

Streaming

Interruption-free

Online Education

No audio / video lag

Content

Dynamic content acceleration

Cloud

Secure and fast data transfer

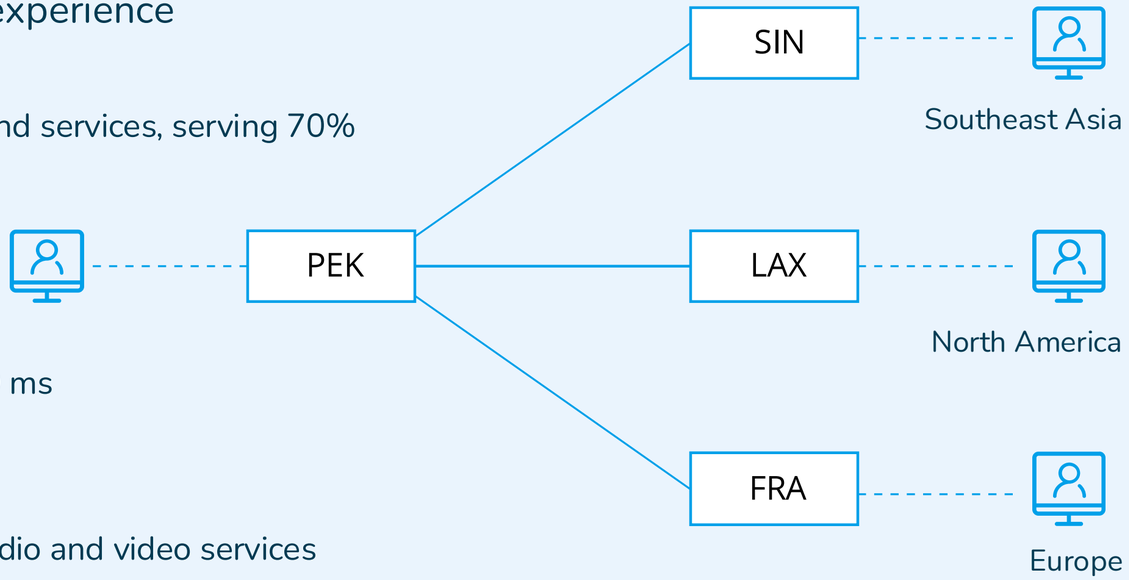
Mobile Apps

Seamless app experiences

Case Study 1: Video Conferencing

Zenlayer helps video conferencing platform establish a global dedicated network, enhancing video conference quality and user experience

Background: A B2B provider of audio and video conferencing and services, serving 70% of the Fortune 500 and covering over 150 countries and regions.



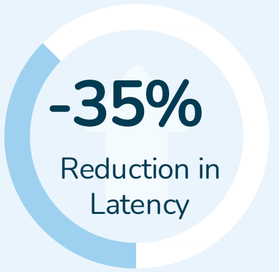
Needs:

- Optimal latency for video conferencing should be less than 100 ms
- Maximum acceptable latency is 200 ms
- Packet loss must be less than 1%
- Public network cross-border (especially China cross-border) audio and video services are prone to interference and jitter

Solutions:

- **Dedicated Network:** Dedicated connections between Beijing and Singapore, Beijing and Los Angeles, and Beijing and Frankfurt ensure ultra-low latency and network reliability
- **Visualized Management:** Through the Zenlayer Cloud Network Portal, the customer now enjoys simple and flexible network management to ensure optimal performance around-the-clock.

Outcomes:



Case Study 2 : Smart Manufacturing

Zenlayer builds multi-cloud and hybrid cloud networking architecture for smart manufacturing enterprises.

Background

Real-time data synchronization across multiple global public clouds is difficult with traditional solutions due to complex architectures, high internet latency, and insufficient redundancy in self-built connections. Business continuity is at risk.

Needs

- Ability to connect multiple clouds
- All backbone network lines have redundant protection, providing SLA of at least 99.9%
- Latency meets requirements

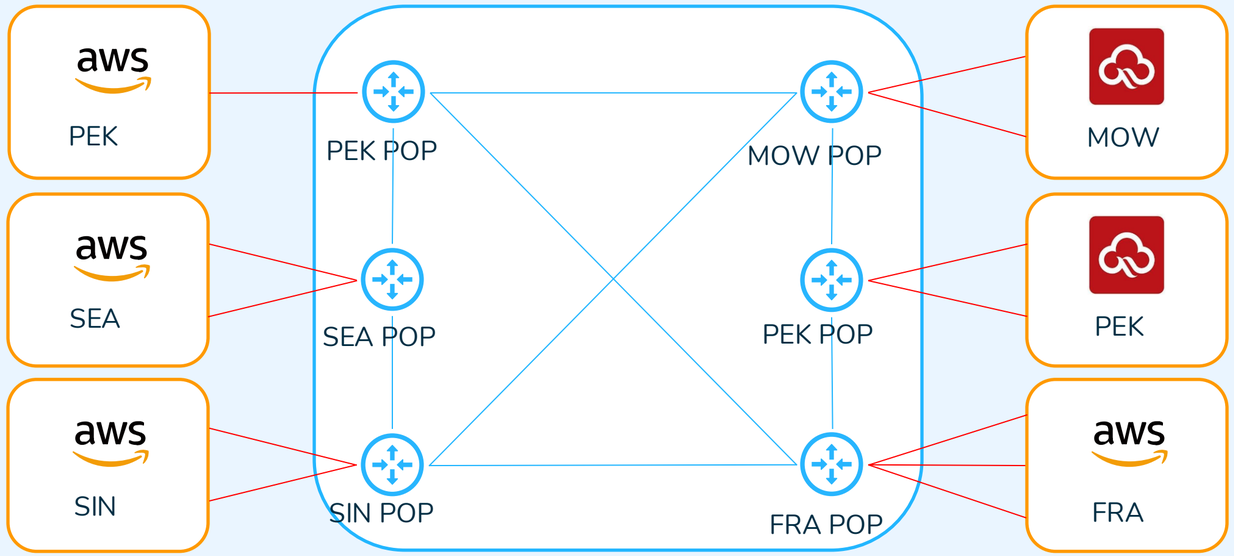
Solutions

- Zenlayer cloud network products helped the customer achieve multi-cloud, full-mesh networking
- Ultra-low latency and ultra-high stability of the backbone network meet real-time synchronization requirements
- Multi-link redundancy at each PoP ensures high overall availability.

Case Study 2 : Smart Manufacturing

Zenlayer builds multi-cloud and hybrid cloud networking architecture for smart manufacturing enterprises.

Site A	Site Z	Latency
PEK	FRA	122ms
PEK	SIN	63ms
PEK	SEA	133ms
PEK	MOW	85ms



Outcomes:

- Full-mesh interconnection among multiple clouds, with pre-deployment completed across the entire network
- Latency reduced by over 38%
- Stability increased by 21%
- ROI improved by 46% over three years

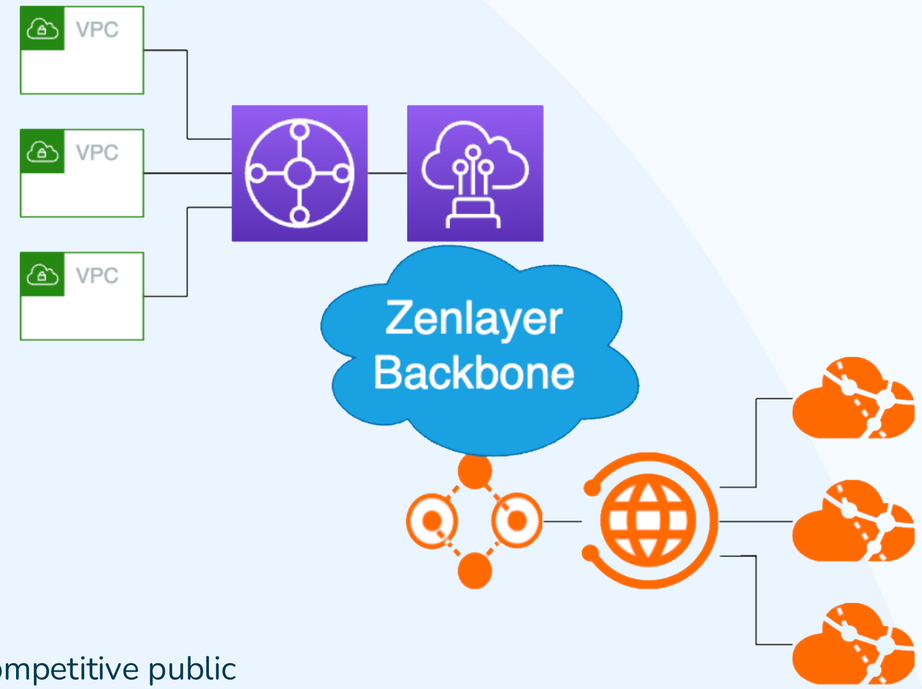
Case Study 3: Cloud Data Migration

Zenlayer accelerates enterprise cloud data migration with lightweight migration pipelines.

Background: A leading Shanghai-based game developer with a 2021 revenue of $4.5 billion and over 4,000 global employees heavily utilizes cloud services. Growing business demands and customer preference for hybrid cloud deployments drive their need for cross-cloud migration.

Needs:

- Customers often struggled with self-managed migration processes.
- Disrupted authorization process, due to monopolistic control of data center resources, delays requests for extending the authorization period.
- Self-maintenance is expensive and time-consuming, and scaling resources is difficult, leading to an imbalance between investment and return.



Solutions:

- Abundant network resources allow for flexible and rapid resource allocation adjustments.
- Simple LOA and BGP configuration enables easy deployment and real-time monitoring; no data center connection is required.
- Supports pay-per-traffic billing, with on-demand use and payment.

Outcomes:

- This solution simplifies cross-cloud migration delivery and monitoring, offering competitive public cloud port pricing and a pay-as-you-go model with usage alerts and self-service renewal.
- It significantly eases the technical and financial burdens of customer migration projects.

Case Study 4 : Enterprise Networking

Zenlayer and Fortinet partnered to deliver secure global cloud and on-premises networking for a leading automotive company.

Background

- A renowned sports car manufacturer headquartered in the UK.
- The customer has multiple advanced automotive R&D centers in Asia, North America, and Europe.
- Their services span the automotive industry, encompassing manufacturing, design, development, engineering, technical upgrades, consulting, and autonomous driving technologies.

Needs

- High latency and poor experience in cloud-to-cloud resource access.
- Long deployment and launch time for new branches, significantly impacting new business expansion.
- Urgent need to strengthen data security protection.

Solutions

- **Dedicated Network:** Built a low-latency, highly stable dedicated network across multiple global PoPs with various access methods.
- **Multi-Cloud Network:** Enabled high-speed cloud connections with AWS, Alibaba Cloud, etc.
- **End-to-End Security Protection:** In partnership with Fortinet, Zenlayer provides SASE security services and a unified management and analysis platform for comprehensive network protection.

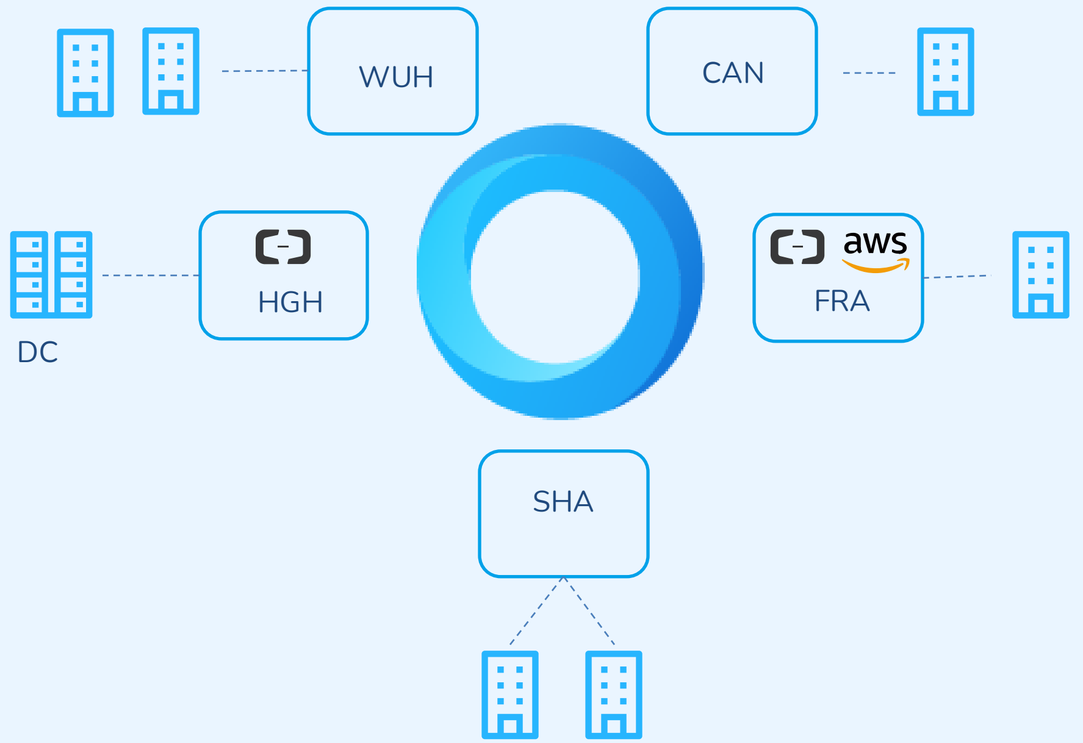
Case Study 4 : Enterprise Networking

Zenlayer and Fortinet partner to deliver secure global cloud and on-premises networking for a leading automotive company.

- Connected nodes to Zenlayer's FortiGate security gateway (IPsec, SSL VPN, or dedicated lines) for enhanced flexibility, reliability, and rapid failover.

- Zenlayer's seamless integration with major public cloud and SaaS providers via our global backbone enables instant cloud connectivity. Deployment time is reduced by around 42%, and latency is reduced by around 35%.

- FortiManager and FortiAnalyzer enable centralized management of FortiGate CPEs and POP points, providing real-time network visibility and reducing deployment time by 33%.



zenlayer

Powering a better-connected world

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