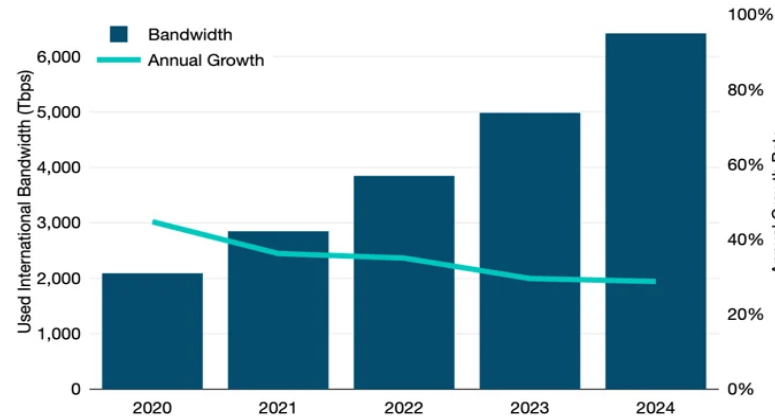


VNIX 3.0 Model, Solutions and Technologies

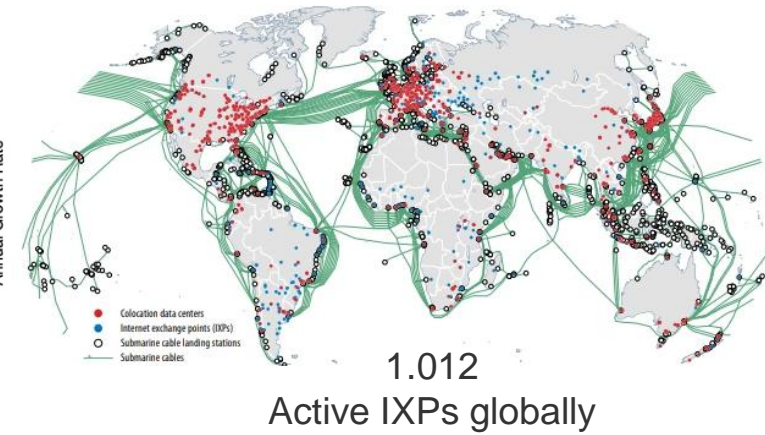
Nha Trang, 10/2025

- Global Internet bandwidth reached 6.4Pbps in 2024, growing 30% annually.
- OTT and cloud providers dominate over 70% of global bandwidth demand.
- IXPs evolved into distributed, secure, and automated platforms.

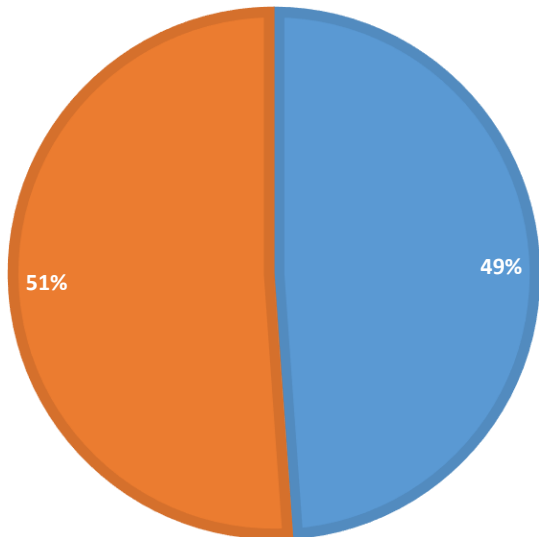
Worldwide International Bandwidth Growth



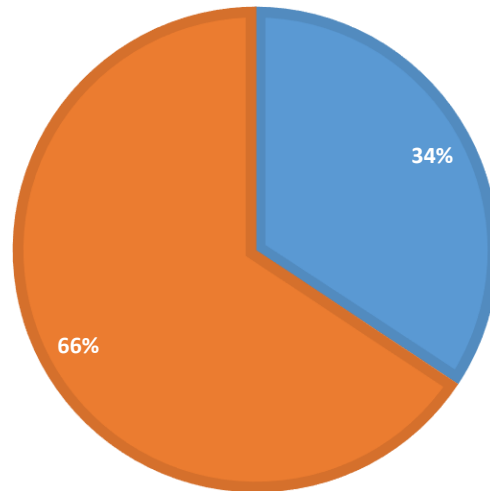
Source: © 2025 TeleGeography



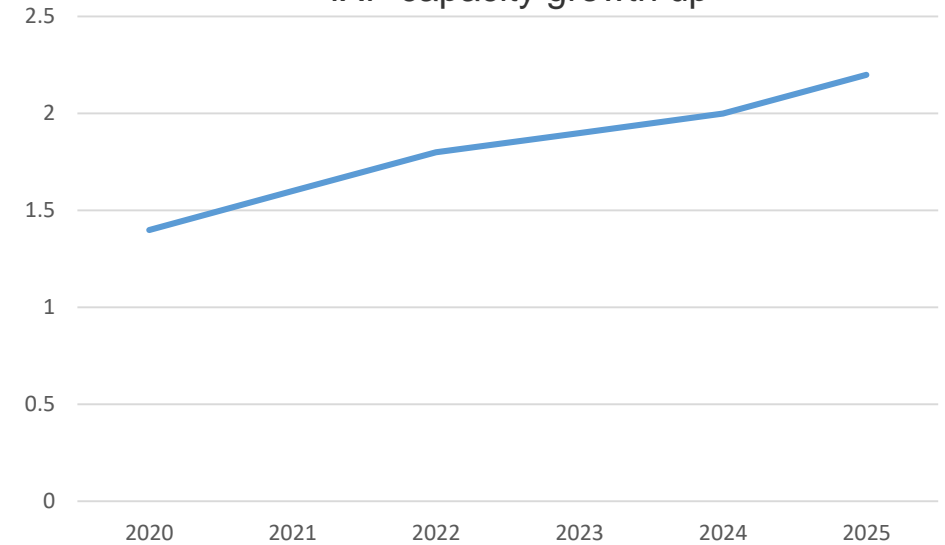
IXP member ASes Non-member AS



IXP capacity Others capacity



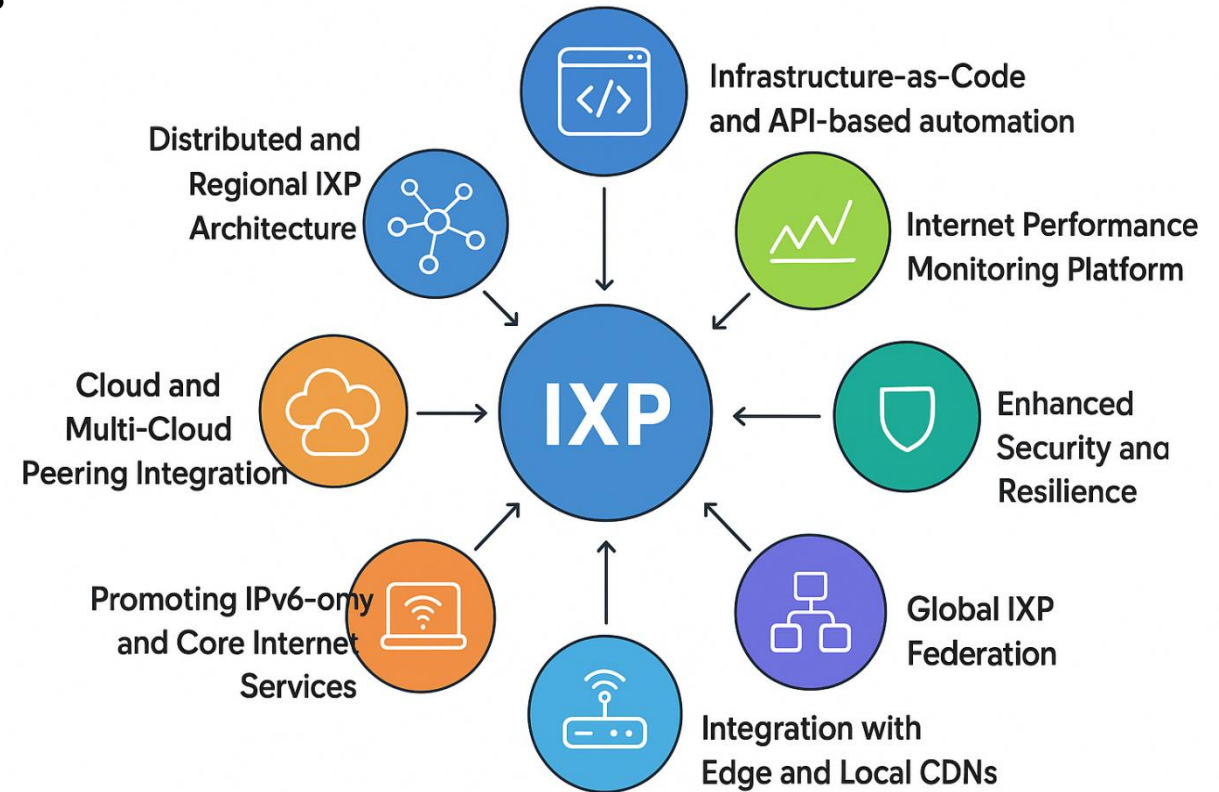
IXP capacity growth up



IXPs are critical Internet infrastructure hubs that connect traffic from many networks. They create shorter routes for Internet traffic, resulting in more affordable, resilient, stable, and efficient Internet connectivity for local users

This role gives them a critical vantage point of the Internet’s stability, security, and efficiency, particularly at a local level. Monitoring the Internet at IXPs allows operators and researchers to:

- ✓ Identify faults, congestion, and bottlenecks quickly, optimizing performance and ensuring a faster and more reliable connection.
- ✓ Detect suspicious activity, such as cyberattacks or abnormal data flows, enabling a prompt response to prevent disruptions or damage.
- ✓ Plan network capacity expansion based on traffic growth trends.
- ✓ Study the evolution of the network and develop new technologies.



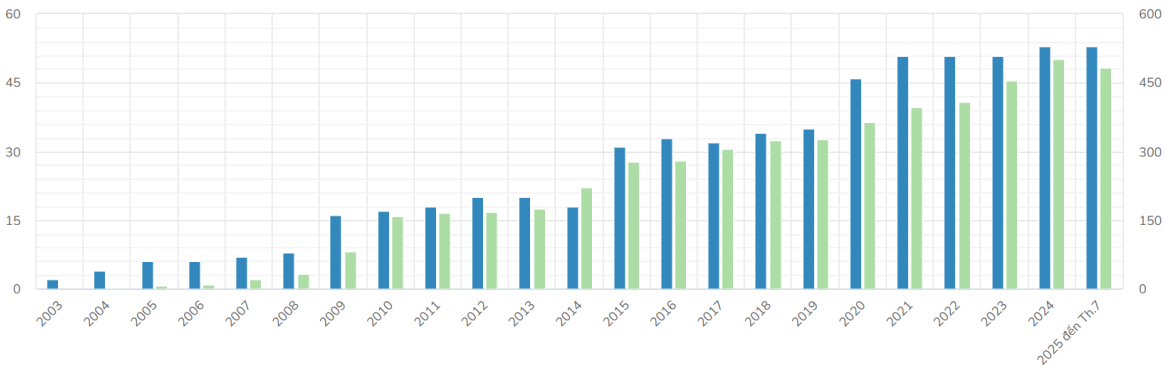


VIETNAM NATIONAL INTERNET EXCHANGE – VNIX

- As a neutral and non-profit system
- VNIX plays a crucial role for the development of Internet, which helps to develop, enhance and improve the quality and security of Internet in Viet Nam.

VNIX Members increased per years

- VNIX Members: +50
- Bandwidth: +500Gbps





VIETNAM NATIONAL INTERNET EXCHANGE – VNIX the digital infrastructure connecting digital platforms

- VNIX is also a digital infrastructure connecting digital platforms, and a solution to promote national digital transformation, which was defined in Decision 749/QĐ-TTg dated June 3, 2020 by The Prime Minister approving the "National Digital Transformation Program to 2025, with orientation to 2030"
- Decision No. 36/QĐ-TTg dated January 11, 2024 of the Prime Minister on "Information and communication infrastructure planning for the 2021-2030 period, with a vision to 2050"
- VNIX's role and regulations are stipulated by Government's Decree (No. 147/2024/NĐ-CP) and Ministry's Circulars



Vision – VNIX 3.0



Build VNIX into a modern, secure, high-capacity Internet exchange hub for national and regional digital infrastructure



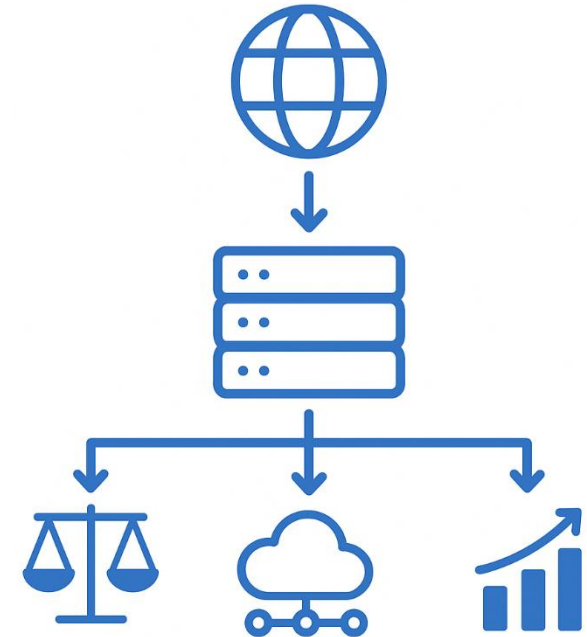
Maintain a neutral and transparent model, optimizing domestic traffic and reducing international costs



Interconnect with major global infrastructure and content networks

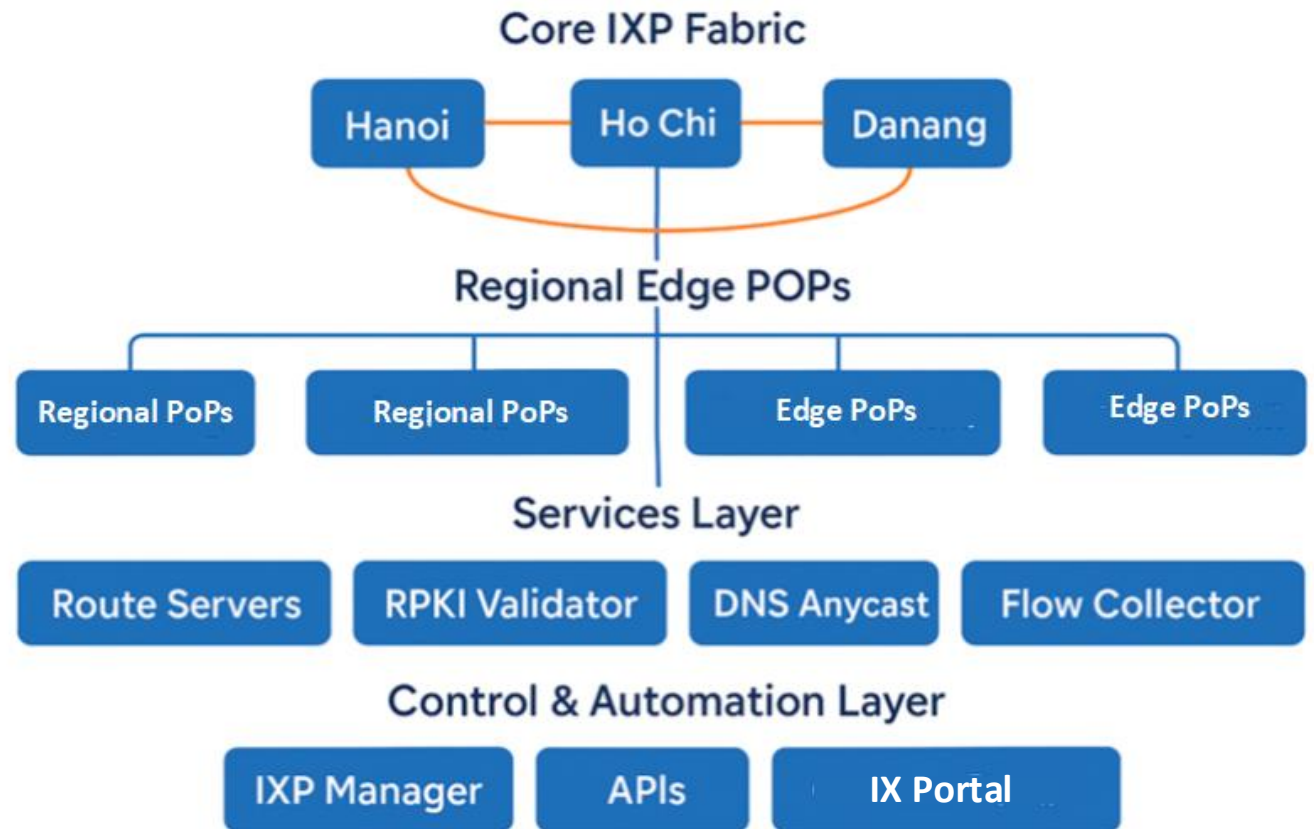


Serve as an open data platform for Internet traffic and performance — supporting policy, management, and research



Architecture Overview

- Core IXP Fabric: Hanoi – HCM – Danang
- Regional Edge PoPs
- Service Layer: Route Servers, RPKI, DNS Anycast, Flow Collector, ...
- Control Layer: IXP Manager, APIs, Automation, IX Portal, ...



Core Technologies



EVPN-VXLAN
Spine-Leaf
architecture



RPKI, IRR, and
BGPsec
for routing security



sFlow/IPFIX,
Grafana, BGPMon
for monitoring



Dual-stack to
IPv6-only
transition



Dual-stack to IPv6-only
transition

Service Ecosystem



Public
& Private
Peering



DNS Anycast /
Resolver Service
/ DNS64



RPKI
Monitoring



Traffic
Analytics Portal

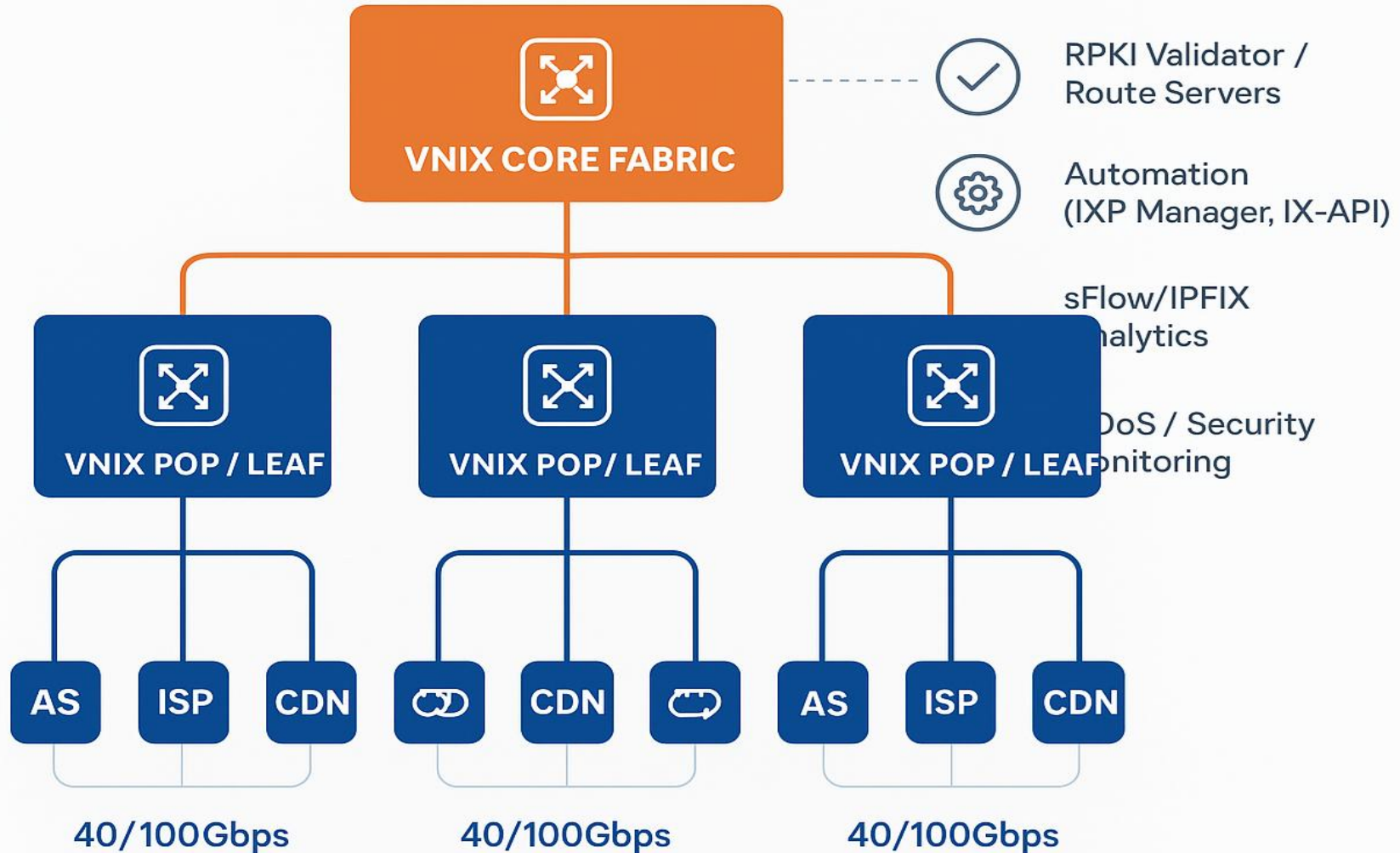


Cloud / CDN
On-Ramp



On-demand
DDoS Mitigation

VNIX 3.0 Core Fabric



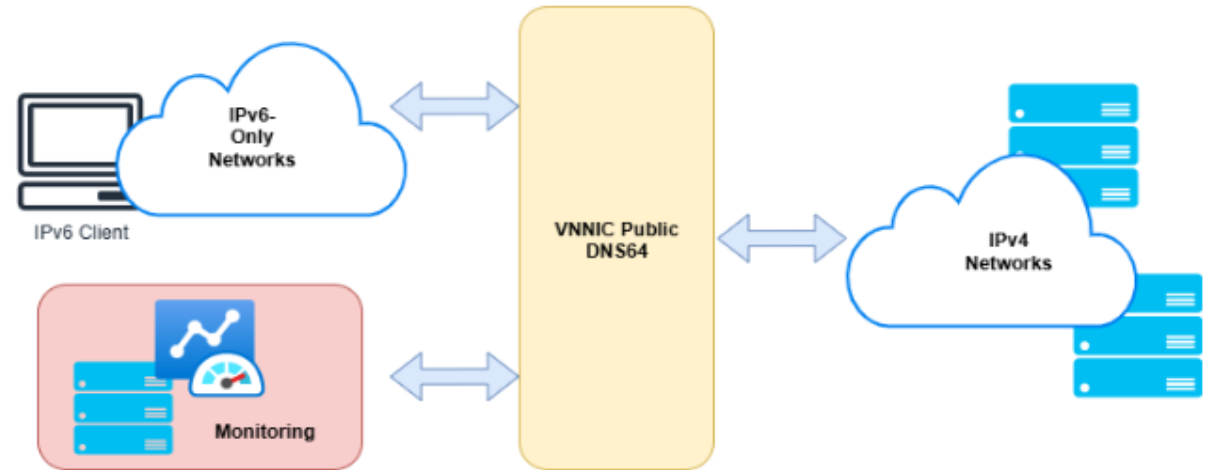
40/100Gbps Interconnect – EVPN/VXLAN Fabric

VNIX 3.0 Services Layer VNNIC Public DNS64

A public DNS infrastructure platform deployed by VNNIC to support the transition and implementation of IPv6-Only in Vietnam. The platform is designed based on the modern DNS64 model, operating stably, provided free of charge, and aimed at serving the Vietnamese Internet community in the IPv6 era.



VNNIC Public DNS64
 2001:dc8:1:2::66/64
 2001:dc8:c001:2::66/64

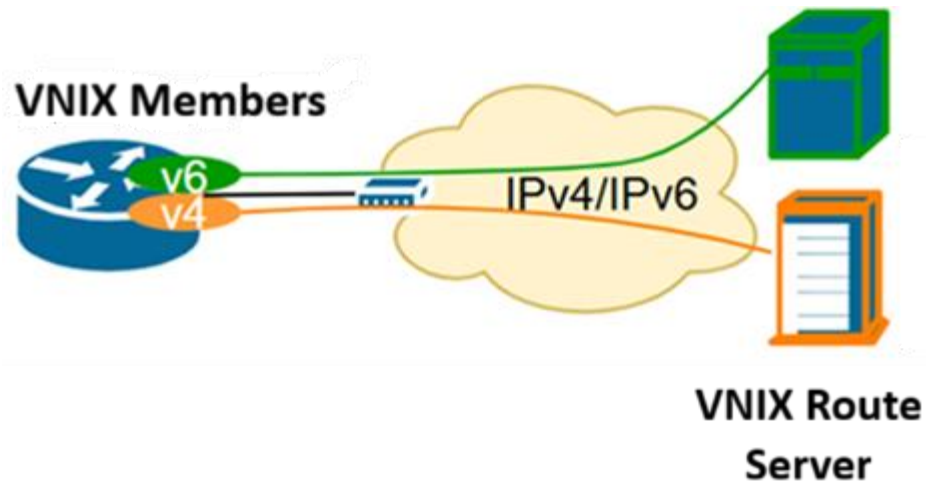


Benefits of DNS64

- **Free & Secure** – Provides a free, reliable, and secure DNS64 platform for users.
- **IPv6-Only Support** – Enables IPv6-only devices to easily access IPv4 services.
- **Promotes IPv6 Adoption** – Contributes to nationwide IPv6-only deployment.

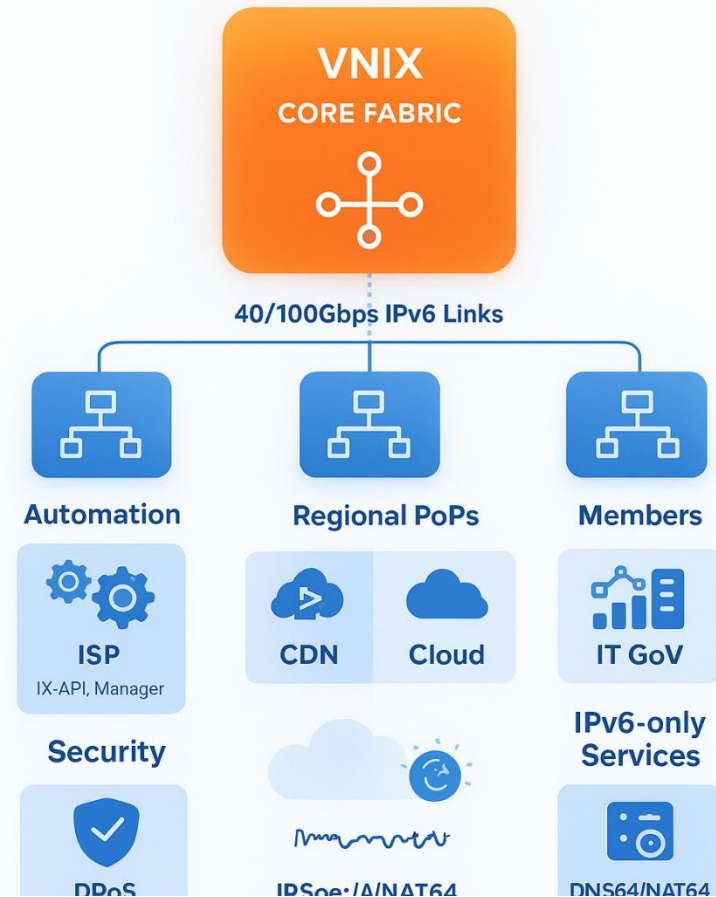
Upcoming

IPv6 only Environment



VNIX IPv6-only Peering & Services

IPv6-only Peering Fabric



- ⇒ ***VNIX is open to every ASN (ISP, CP, public authority, businesses, organizations) in Viet Nam and overseas***
- ⇒ ***VNIX connects to major datacenters in Viet Nam to facilitate domestic traffic***
- ⇒ ***VNIX are located in big cities and regional DCs***
- ⇒ ***VNIX connects to global and regional IXPs***



VNIX
fees



Open for All
ASN



Multi-
location



IPv6 only



Thank you !