NATIONAL NOVEL
INTERNET EXCHANGE

National Novel Internet Exchange
Summary of 2024 and Plan for 2025

IXPs in China

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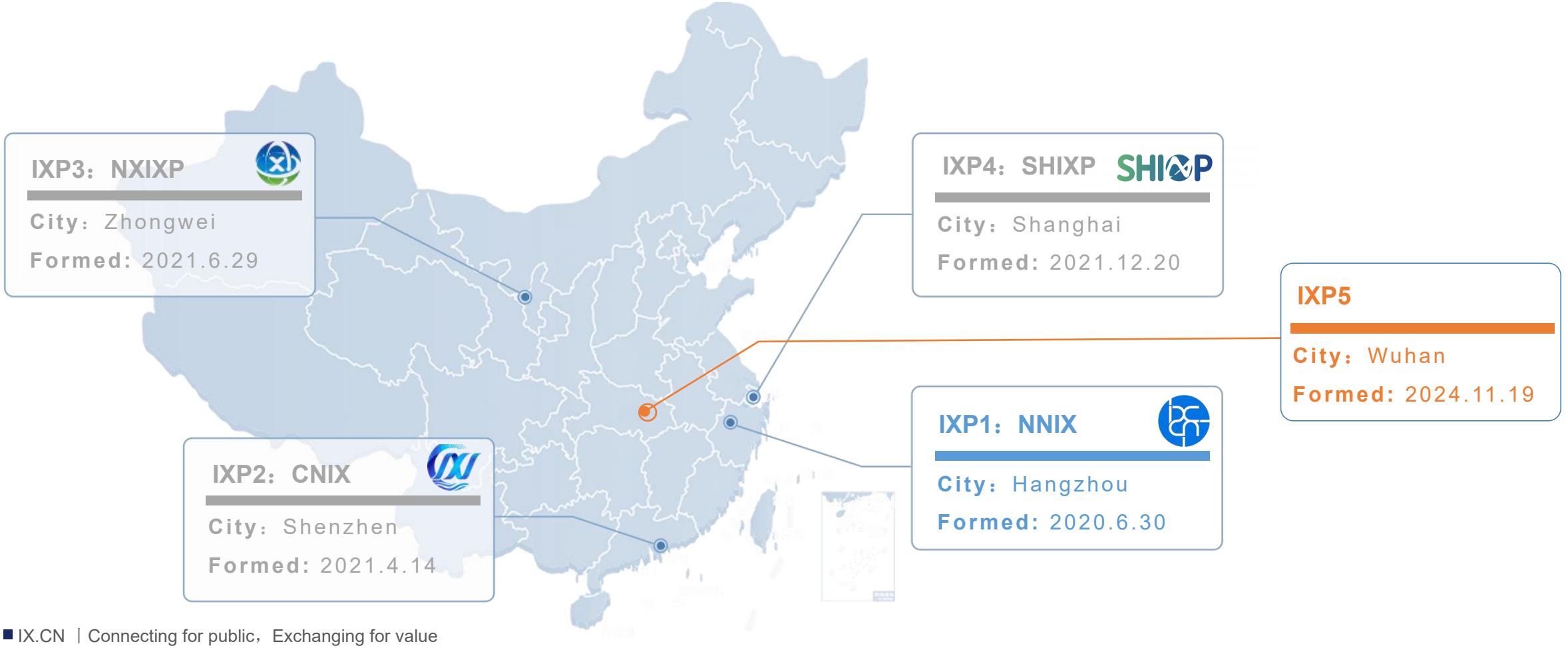
On Nov 2024, China MIIT approved the establishment of the **5th** National Novel Internet Exchange in **Wuhan.** IXP influences the evolution of China's internet architecture with a gradually increasing impact.



The Network Development of NNIX in 2024

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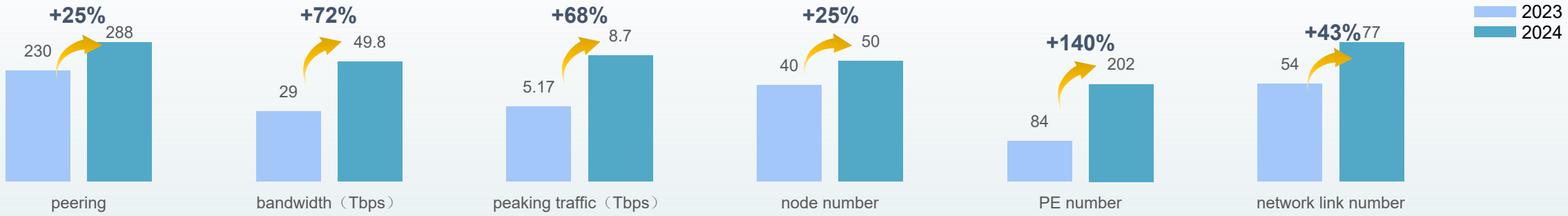
At the end of 2024, Our peering number is 288, Bandwidth is 49.8T, Peak traffic is 8.7Tbps. And, compare to 2023, scale of peering, bandwidth, traffic, node, device and network link has larger increased.

Key Values

A Part of Connected Enterprises

Scale Growth in 2024



The Business Innovation of NNIX in 2024

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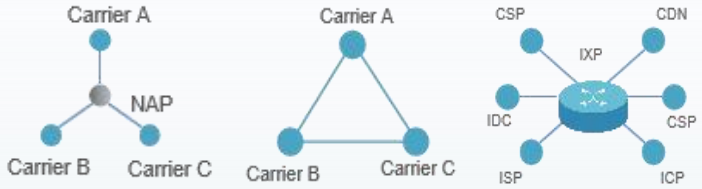
We have made significant progress in our **Multi-Line Ring Network**, which is an innovative model with Chinese characteristics. Already implemented in Wenzhou and has achieved significant results

Background

National level

- Designed and build a multi-layered interconnection architecture.



Industry level

- China Telecom, China Unicom, and China Mobile, the three major telecom operators, with a combined market share of over 90% in the consumer segment

中国移动 China Mobile
中国电信 CHINA TELECOM
China unicom中国联通

Corporate level

- Operators' IDC are subject to strict management, making it impossible to extend bandwidth externally
- ICP have a unified deployment requirement to serve users across all three major telecom networks.

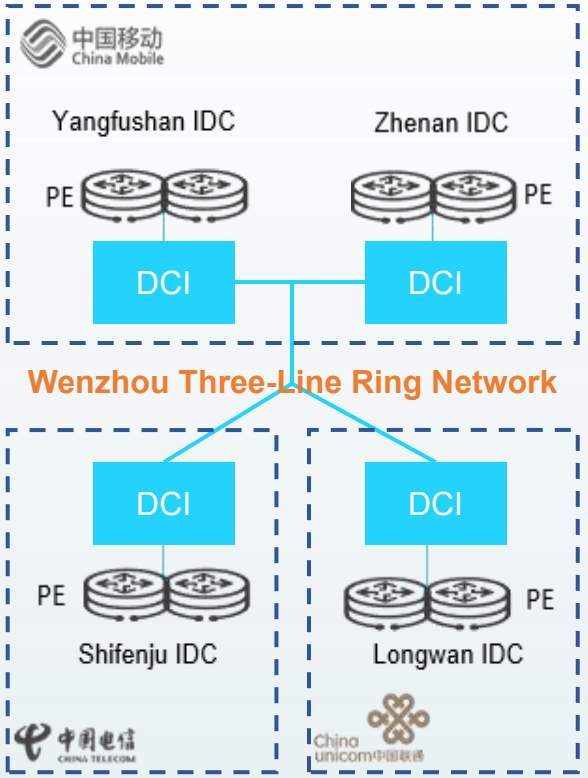
Effectiveness

Ø Wenzhou demonstration model

- **4** third-line nodes
- **30%** network latency reduced
- **30T** total access capacity
- **2.4T** ring network transmission
- **16T** can be expanded on demand
- **1T** business successfully connected
- **300G+** internet traffic

Ø Shaoxing replication promotion

- **2** three-line nodes have been preliminarily constructed



The Technology Application of NNIX in 2024

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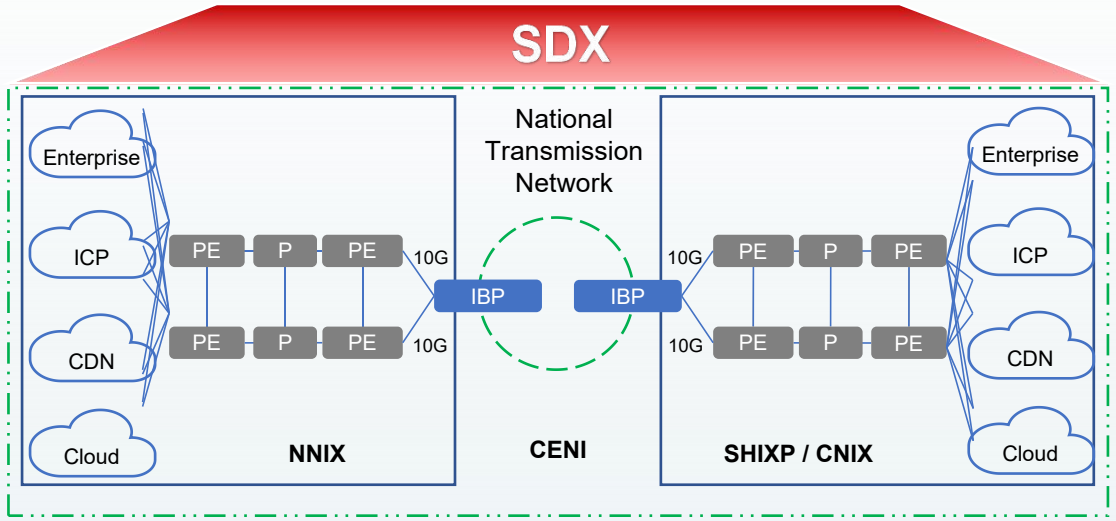
The technology application like **SDX Controller** and **IX switch**, developed by ourselves, have playing an important role in the network.

SDX Controller



NNIX connected with SHIXP and CNIX through the National Transmission Network belong to CENI, Enterprise can access the network connected to the IXs quickly through the SDX, spanning the SHIXP and the NNIX, to achieve **business collaboration**.

IX Switch

Key Function Upgrade

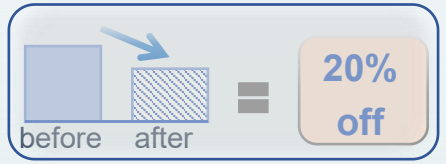
- Deep packet inspection capabilities, enables data security protection
- Route server, enables efficient routing calculation
- IX-CLI, achieving seamless integration with other device vendors

Technical Certification

- Completed the testing in the CAICT certification laboratory.
- The functions and performances meet the requirements for network access.

Cost Reduction

- Enhanced independence and controllability
- Reduced network construction costs



Future Plans

Future Plans

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1	**Network**	Accelerate the capability construction of the computing network
2	**Devices**	Explore the gateway for computing Explore the software-defined computing network controller
3	**Services**	Innovate new services for cross-border
4	**Influence**	Spread Chinese IX Experience, release the book *<Novel Internet Exchange>*
5	**…**	

1st: Network for AI

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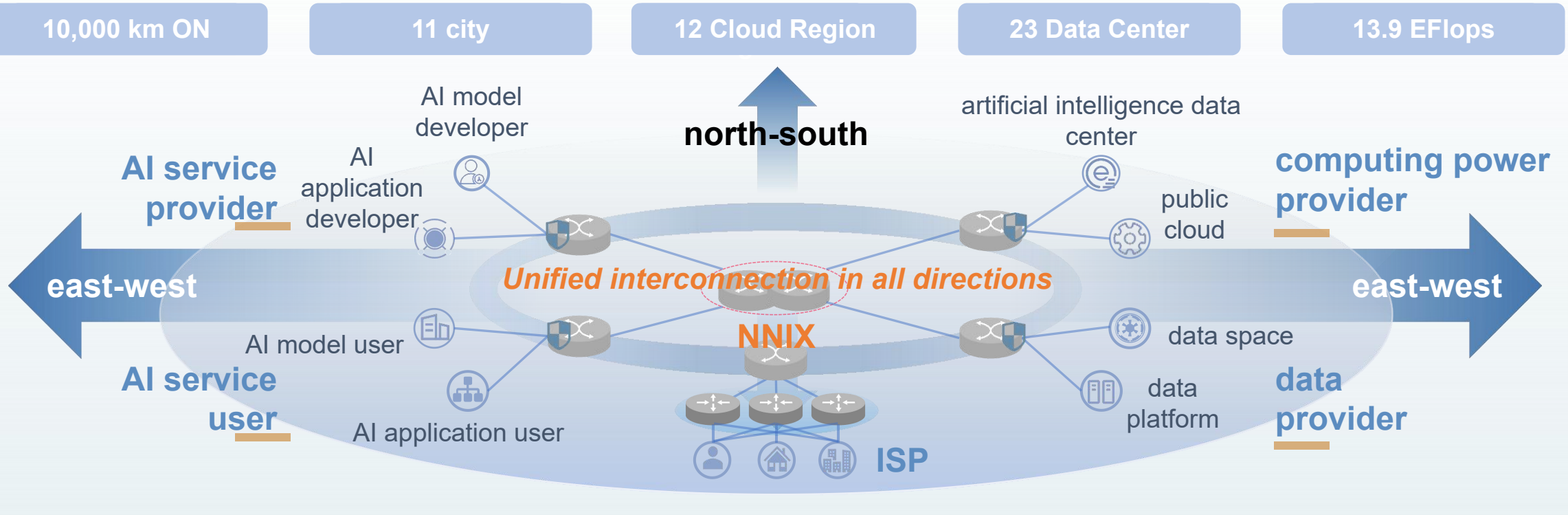
Recently, China's AI model have achieved significant breakthroughs, and AI application are showing a trend of large-scale deployment. This will lead to an increase in east-west traffic. NNIX actively embraces the AI era, comprehensively upgrades basic network to the computing network, and collaborates with ISP's north-south networks to build a national-level solution.

Network Layer: Build the Computing Network, Enrich the Computing Ecosystem



2nd: Devices + AI

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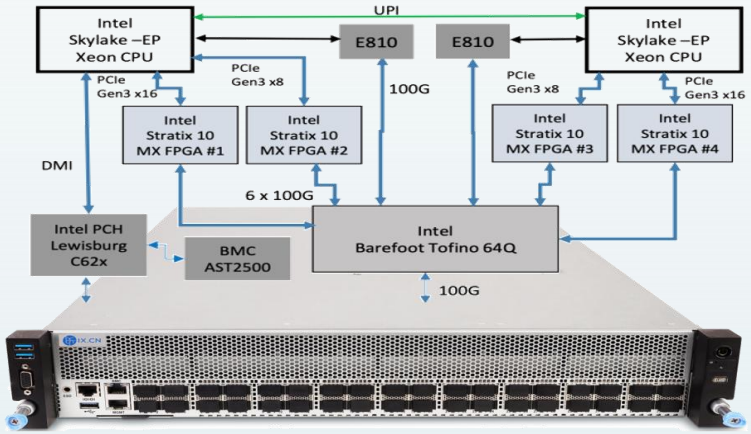
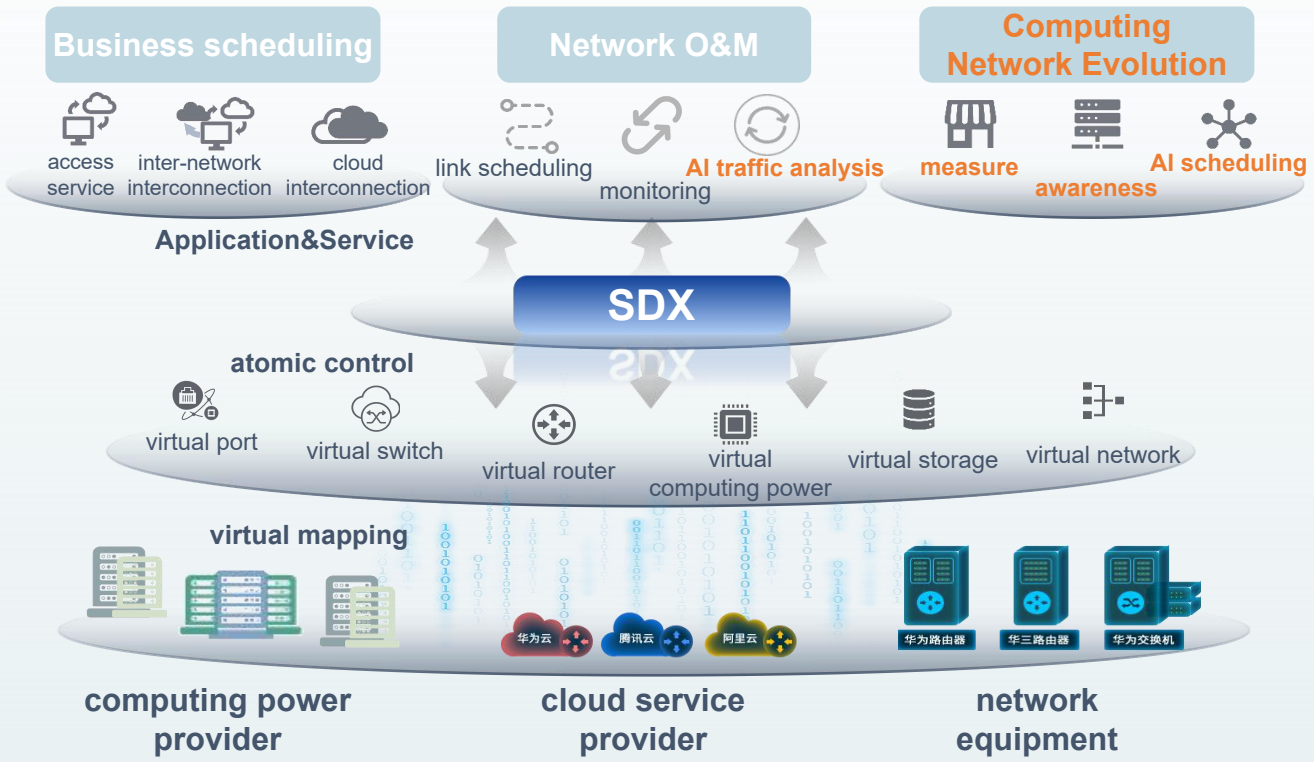
NNIX actively embraces the AI era, comprehensively upgrades devices, enhances its converged computing and networking control capabilities, and empowers dedicated computing networks.

Link Layer
converged computing power gateway

Network	Computing	Data
Based on the IX1.0 User Access Service Manager, develop an **integrated information security gateway**	Integrate DPI, SRv6, and RDMA to develop a **converged computing gateway**	For trusted data spaces and data infrastructure solutions to develop a **data access gateway**



Control Layer
software-defined computing network controller (SDX)



3rd: Services for Cross-border (1)

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China’s High-level Opening Up creates new development opportunities.

Government Policies

MIIT Issues The Pilot Program For The Expansion Of Opening-up Of Value-added Telecommunications Business on 10 April，2024.

Improving The Institution And Mechanism For High-level Opening Up

Deepening the reform of the regulatory system for foreign investment and overseas investment

Market Demand

Cross-border trade, e-commerce live streaming and other businesses in Zhejiang Province are accelerating development, with significant increase in cross-border demand.

Currently, the needs of enterprises conducting cross-border business have not been well met. The problems encountered include poor network quality and high prices.

Based on the conclusions of government policies and market demand, NNIX takes the lead in playing ***the role of a High-level Opening Up Link***, and actively builds capabilities in cross-border policy consultation, cross-border website construction, cross-border AI applications, **cross-border network services** and more.

3rd: Services for Cross-border (2)

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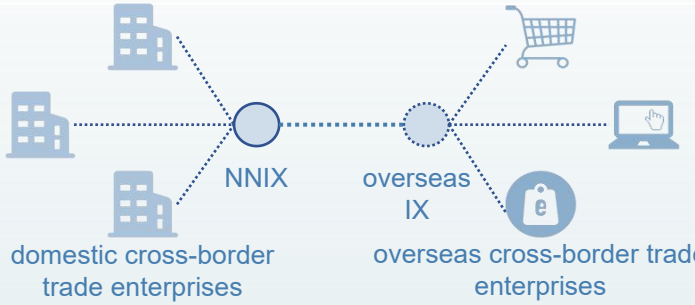
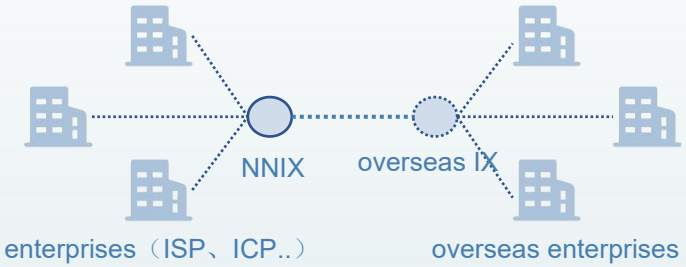
Focus on Cross-border Network Services, To target four scenarios and provide four services.

Cross-border Enterprise Networking
For Globalized Business Customers

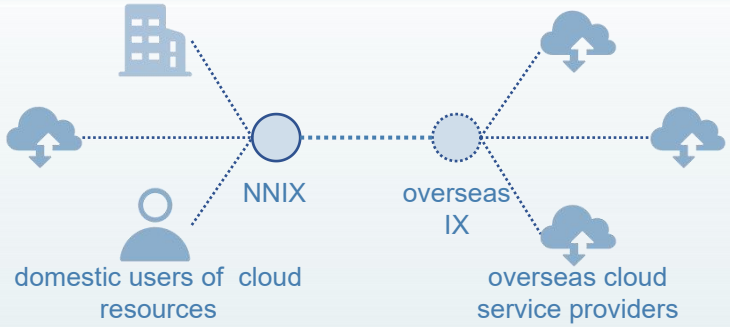
Cross-border Multi-cloud Interconnection
For Chinese Enterprises Going Overseas



Cross-border Network Optimization
For Cross-border E-commerce Live Streaming, etc.



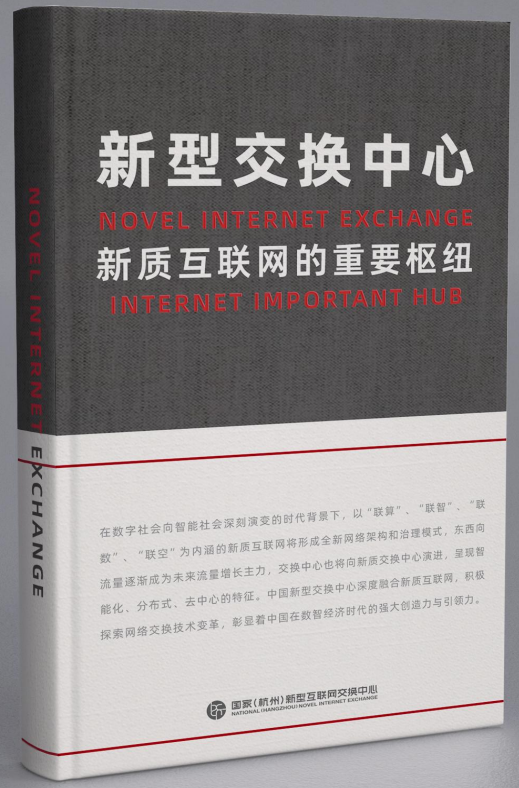
Cross-border Peer Interconnection
For Interconnection of Domestic and Overseas ISPs, IDCs, ICPs and IXPs



4th: Spread Chinese IX Experience

The First Book about IXP in China

“Novel Internet Exchange Internet Important Hub”



Chapter 1 What is the Internet Exchange

Chapter 2 The Origin and Development of International Internet Exchange

Chapter 3 The Background of Domestic Internet Exchange

Chapter 4 The Pilot Operation of the National Novel Internet Exchange

Chapter 5 Traditional Network Technology and Architecture

Chapter 6 Technological Challenges and Evolution

Chapter 7 Technological Evolution of the National Novel Internet Exchange

Chapter 8 The Novel Internet Exchange Promotes the Development of the Internet Industry

- **The Chinese version is planned to release in May, 2025. The English version is under planning.**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THANK YOU