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MINISTRY OF SCIENCE AND TECHNOLOGY  
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**REPORT ON INTERNET, INTERNET  
RESOURCES IN VIET NAM**

**2025**

**INTERNET RESOURCES  
DRIVING INNOVATION AND  
CREATIVITY, SHAPING THE  
DIGITAL FUTURE**

 **DONG NAI PUBLISHING HOUSE**



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## PREFACE

In the context of the strong development of the Fourth Industrial Revolution, the Internet plays a foundational role in socio-economic development, innovation, and digital transformation. The Internet is no longer merely a technology, but has become an essential infrastructure – a development space connecting people, nations, and ideas.

Accordingly, Internet resources are no longer purely technical elements, but have become strategic national resources that determine a country’s capacity on cyberspace, its innovative capability, and its competitiveness on the global digital map. Continued investment, effective management, and efficient utilization of Internet resources are key missions in building modern digital infrastructure, promoting the digital economy, digital society, and digital government that contribute to the realization of Viet Nam’s aspiration to become a developed and prosperous nation in the new era.

On this basis, Viet Nam Internet Network Information Center (VNNIC) – the national Internet registry responsible for managing Internet resources and core Internet infrastructure – publishes the **Report on the Internet and Internet Resources in Viet Nam 2025**, under the theme “Internet Resources – Driving Innovation and Creativity, and Shaping the Digital Future”, to support the country’s transition toward the next generation of the Internet. The Report focuses on analyzing global technology trends and shaping the next stage of national development.

VNNIC hopes that this Report will serve as a valuable information and research reference for experts, organizations, and enterprises in developing strategies and plans to jointly build a widespread, modern, secure, and sustainable Internet in Viet Nam.

Readers may access the VNNIC Internet Atlas online system at <https://internetatlas.vnnic.vn>, a platform providing key statistics that reflect trends in Internet resource development and national Internet infrastructure, to stay updated with important data and information on Viet Nam’s Internet.

Sincerely,

**Viet Nam Internet Network Information Center**

## Message FROM THE CHAIRMAN OF GOVERNING BOARD OF VNNIC



In nature, what endures is often formed slowly. Water flows without haste; trees grow without rush. Long-lasting foundations are built up over time. Viet Nam's Internet is no exception—it has not grown through hurried leaps, but through persistence, accumulation, and responsible choices made consistently over many years.

For more than twenty-five years, the Internet has quietly integrated into social life, from work and learning to communication and creativity. Over time, these seemingly invisible connections have become a natural part of the nation's rhythm of life. The Internet is rarely mentioned when operates smoothly; yet when disruptions occur, all activities are affected. This clearly demonstrates that the core value of Internet infrastructure lies not in visibility or display, but in its silent and enduring presence.

Today, the global Internet is entering a new phase marked by IPv6 only networks, artificial intelligence, cloud computing, and big data, driving an ever-accelerating pace of development. In such an era, greater prudence is required to ensure harmonious Internet development: not sacrificing long-term stability for short-term gains, and not allowing technology to outpace governance vision.

The Report on Internet, Internet Resources in Viet Nam 2025 is developed in this spirit. Beyond recording technical indicators or technological trends, the Report offers a comprehensive reflection on the operational state of the national Internet—from Viet Nam's national domain name ".vn", Internet addresses and Autonomous System Numbers (ASN), to the national DNS system, the Viet Nam National Internet eXchange (VNIX), and core connectivity infrastructure. Each figure reflects not only scale, but also strategic orientation and responsibility.

In Eastern philosophy, governance is not about excessive intervention, but about creating conditions for systems to operate according to their true nature. Likewise, the Internet can only develop sustainably when it is embedded in a transparent, stable, and orderly environment, and nurtured through cooperation among regulatory authorities, the technical community, enterprises, and users.

With a spirit of harmonizing with nature while staying grounded, and innovating without losing our foundations, VNNIC presents this Report as a record of the present moment. It is an invitation to reflect together, adjust together, and prepare for the journey ahead—ensuring that Viet Nam's Internet develops securely, sustainably, and in step with society's needs.

Sincerely,

**Le Ngoc Duc**

## Message FROM THE ACTING DIRECTOR OF VNNIC



The Viet Nam Internet Network Information Center (VNNIC) is the organization assigned by the Ministry of Science and Technology to manage and develop Internet resources in Viet Nam, and to establish, manage, and operate the Viet Nam National Internet Exchange (VNIX) and the national Domain Name System (DNS) server system.

For more than 25 years of accompanying the development of the Internet in Viet Nam, in its role as the national Internet Network Information Center (NIC), VNNIC has made continuous efforts to promote the widespread adoption and effective use of Viet Nam's Internet resources—including the national ".vn" domain name, Internet addresses (IPs), and AS Numbers (ASNs); to ensure security of the national DNS server system and the Viet Nam National Internet Exchange (VNIX); to provide new services to the community; to foster and connect the community of Internet experts in Viet Nam; and to orient and promote the secure and sustainable development of Viet Nam's Internet, thereby improving Viet Nam's standing regionally and internationally.

The next era of the Internet is Internet of Things, which requires a fundamental transformation of the national digital infrastructure—from traditional connectivity platforms to intelligent connectivity encompassing devices, sensors, connectivity systems, and smart manufacturing. This transformation requires an Internet infrastructure that delivers ultra-large capacity, ultra-wide bandwidth, universal access, sustainability, green development, intelligence, openness, and security. It also calls for close integration between network infrastructure—such as IPv6, 5G, and Internet Exchanges (IX)—and digital resources and services, including cloud computing, artificial intelligence (AI),

the Internet of Things (IoT), secure DNS, governance frameworks, open standards, and international cooperation. A strong, open, and trusted Internet infrastructure is essential for Viet Nam to enter a new breakthrough phase of Internet development that is self-reliant, innovative, and globally connected.

The transition to IPv6 and IPv6 only is the first step toward this breakthrough era. The adoption of IPv6 is not merely a transition from the current Internet to a new protocol and address generation, but a foundation for a larger, faster, safer, and flatter Internet space, where digital values and innovation can flourish more strongly than ever before.

Viet Nam has taken the lead and ranks among the global frontrunners in IPv6 deployment, with the seventh-highest IPv6 adoption rate worldwide. On 27 October 2025, the Minister of Science and Technology approved the "Program on promoting, deploying, and transitioning to IPv6 only for Viet Nam during the 2026–2030 period". Viet Nam continues to anticipate technological trends and accelerate the deployment of IPv6 only across the entire national Internet, opening new Internet space, fostering industrial Internet development, and driving innovation to create new services.

To prepare for the Internet's future transformation, organizations and enterprises must quickly embrace emerging technologies and explore new service markets. VNNIC hopes that the Report on Internet and Internet Resources in Viet Nam 2025 will serve as a valuable reference for experts, organizations, and enterprises in research, information sharing, and the development of strategies and action plans toward a modern, secure, sustainable, open, and intelligent Internet in Viet Nam.

Sincerely,

**Nguyen Truong Giang**

# INTRODUCTION AND SCOPE OF THE REPORT

## REPORT OBJECTIVES

The Report on Internet, Internet Resources in Viet Nam 2025, under the theme “Internet Resources – Driving Innovation and Creativity, and Shaping the Digital Future”, focuses on analyzing indicators and trends related to national Internet resources and national Internet infrastructure. The Report serves the information and research needs of experts, organizations, and enterprises in formulating strategies and action plans to jointly develop the Internet in Viet Nam.

## TIMEFRAME AND DATA SCOPE

The Report analyzes data within the period from January 1st 2025 to December 31st 2025, including data on national Internet resources (the “.vn” domain name, IP addresses and Autonomous System Numbers – ASN), key national Internet infrastructure (VNIX and DNS), as well as information on domestic and international cooperation activities, contributing to the mission of enhancing the position of national resources in particular, and Viet Nam in general, on the global digital map

## DATA SOURCES

- Registries and Regional Internet Registries (RIR) (APNIC)
- Data extracted from the DNS and VNIX systems
- VNNIC Internet Speed (i-Speed) measurement system
- Open data systems on Viet Nam’s Internet – VNNIC Internet Atlas

# OVERVIEW

As 2025 begins, the global Internet continues to expand rapidly in scale, applications, and technological platforms, reinforcing its role as essential infrastructure for the digital economy and digital society. According to the International Telecommunication Union (ITU), the world currently has more than 6 billion Internet users, accounting for approximately 74% of the global population, an increase of over 1.3 billion users compared to 2020. Alongside the rapid growth in the number of users, the Internet is transitioning into a new phase of development characterized by emerging technology trends such as big data, artificial intelligence (AI), the Internet of Things (IoT), 5G/6G, and cross-border digital platforms. The Internet is no longer merely an information infrastructure, but has become a core platform for production, commerce, governance, and innovation on a global scale.

Within this landscape, the Internet domain name system plays a particularly critical role, often likened to the “identity address” of socio-economic activities in the digital environment. The development of e-commerce, the digital economy, and digital society has driven growing demand for online presence among enterprises, organizations, and individuals through domain names. According to ICANN and Verisign, the total number of registered domain names worldwide has exceeded 360 million, with country-code top-level domains (ccTLDs) and domain names associated with brands and digital services maintaining stable growth. Domain names are increasingly integral to digital business activities, ranging from brand building and e-commerce transactions to the provision of online public services, social platforms, digital content, and electronic payments.

More than a measure of Internet development, domain names have evolved into essential digital assets, fostering trust, enabling online transactions, and strengthening national digital sovereignty. In the context of the rapidly growing digital economy, the trend toward using secure and trusted national domain names integrated with domestic digital service ecosystems is attracting increasing attention worldwide. Technologies for enhancing domain name security—such as DNSSEC, eKYC, and Registry Lock—have been widely deployed, ensuring the sustainable development of the digital economy.

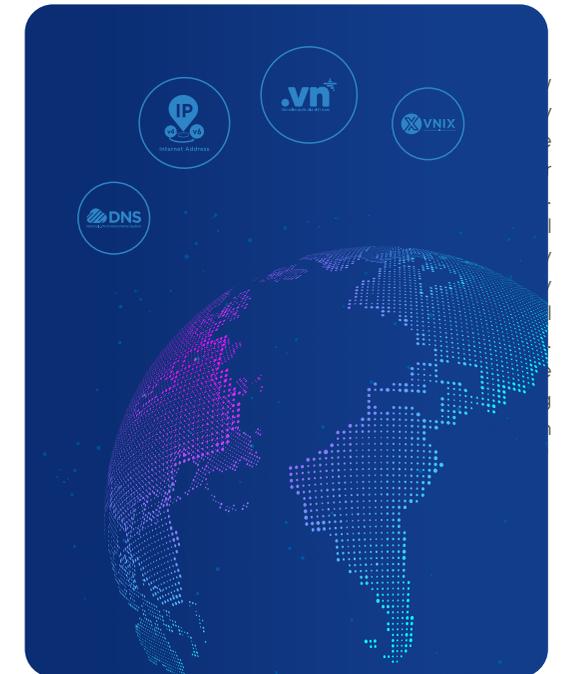
Another key component of the Internet landscape is the system of IP address resources, including IPv4 and IPv6. In 2011, IPv4 was officially declared exhausted at the global level by ICANN, transforming IPv4 addresses into valuable assets and giving rise to transfer and trading activities among providers and enterprises seeking to maintain or expand their networks. This exhaustion has further underscored the urgency of transitioning to the next generation of Internet protocols in order to meet the explosive growth of Internet-connected devices, the Internet of Things (IoT), and new digital services.

The Internet community has been focusing on the transition to and adoption of IPv6 on the global scale. Google IPv6 Statistics show that global IPv6 traffic in 2024–2025 reached approximately 45%, while several major telecommunications operators in the United States, Japan, and Europe have deployed IPv6 only access networks, providing IPv4 solely through transition mechanisms such as NAT64/464XLAT. In Viet Nam, according to reports from the Viet Nam Internet Network Information Center (VNNIC), the IPv6 adoption rate reached 67.68% in 2025, placing Viet Nam (as of the end of November) among the top seven countries worldwide with the highest IPv6 deployment rates and second in the ASEAN region. This represents a critical foundation for Viet Nam’s transition toward the IPv6 only model in the coming years, in line with the requirements of IoT, 5G, and large-scale digital services.

However, alongside the rapid development of Internet infrastructure, issues of security and trust have become increasingly urgent. At the global level, thousands of

cyberattacks occur each year, including ransomware and other threats causing damage amounting to trillions of US dollars, with millions of accounts compromised and hundreds of millions of attacks occurring daily (Demand Sage).

To ensure routing security, the Resource Public Key Infrastructure (RPKI) provides cryptographic validation of routing information on the Internet, mitigating attacks such as route hijacking and route leaks, and has been widely adopted worldwide. According to data from MANRS and RIPE NCC, by 2025 approximately 60% of global IP prefixes had been covered by Route Origin Authorizations (ROA), significantly reducing invalid routing incidents. Viet Nam is among the global leaders in routing security, with an ROA/RPKI deployment rate of 98.4%, ranking first in ASEAN. As a result, routing incidents have declined sharply—from 19 incidents in 2024 (a reduction of 73%) to 7 incidents in 2025 (as of November 2025), representing a further 63% decrease.



# LOOKING BACK AT 2025

## 1 SHAPING THE LEGAL FRAMEWORK FOR INTERNET RESOURCES FOR A NEW PHASE



Finalizing and shaping the legal framework for Internet resources for a new phase, with the issuance of Decree No. 115/2025/ND-CP and Circular No. 48/2025/TT-BKHCN.

Comprehensively digitalizing the registration and use of Internet resources; comprehensively reducing and simplifying administrative procedures in the field of Internet resource management, thereby facilitating access for citizens, organizations, and enterprises.

Fully implementing regulations on the transfer, inheritance, and donation of rights to use the national domain name ".vn"; on the registration, use, and provision of domain name registration and maintenance services, including new gTLD registry activities in Viet Nam.

Implementing auctions for the right to use the national domain name ".vn"; defining new domain name namespaces and promoting the widespread adoption of the national domain name.



Establishing a modern, coherent legal framework that enables transparent, efficient, and practice-oriented management, registration, and use of Internet resources.

Optimizing the allocation, assignment and management, and use of Internet resources through mechanisms such as auctions, transfers, inheritance, and donation, thereby reflecting their true value and promoting appropriate and effective use by the right entities for the right purposes.

Supporting and protecting the legitimate rights and interests of agencies, organizations, enterprises, and individuals related to the registration and use of Internet resources.

## 2 PROMOTING IPv6 AND IPv6 ONLY ADOPTION ON VIET NAM'S INTERNET



Issuing the "Program on promoting, deploying, and transitioning to IPv6 only for Viet Nam during the 2026–2030 period" (Decision No. 3369/QĐ-BKHCN, dated 27 October 2025).

- Viet Nam's IPv6 adoption rate reached 67.68%, approximately 1.6 times higher than the global average and 1.6 times higher than the ASEAN average.
- Ranking second in ASEAN and seventh globally, surpassing countries such as the United States, China, Japan, the Republic of Korea, and Australia.

Deploying the first IPv6 only access network in Viet Nam based on NAT64/DNS64 transition technologies, enabling IPv6 only devices and systems to access existing IPv4 services, gradually eliminating IPv4 dependency and accelerating the transition toward the next-generation Internet.

Providing a Public DNS64 platform to support users, enterprises, and government agencies in deploying, testing, and operating IPv6 only systems in a safe, stable, and efficient manner, thereby expanding the IPv6 ecosystem and enhancing national IPv6 readiness.



Becoming the first country to issue a plan for the gradual phase-out of IPv4 and transition to IPv6 only, serving as a model for IPv6 only transformation in the region and reinforcing Viet Nam's position regionally and globally.

Developing national digital infrastructure that is ready to embrace emerging technology trends and proactively enter the next era of the Internet.

## 3 DOMAIN NAME DEVELOPMENT – ENHANCING NATIONAL DIGITAL CAPABILITIES



Promoting the national ".vn" domain name to drive the digital economy and digital society.

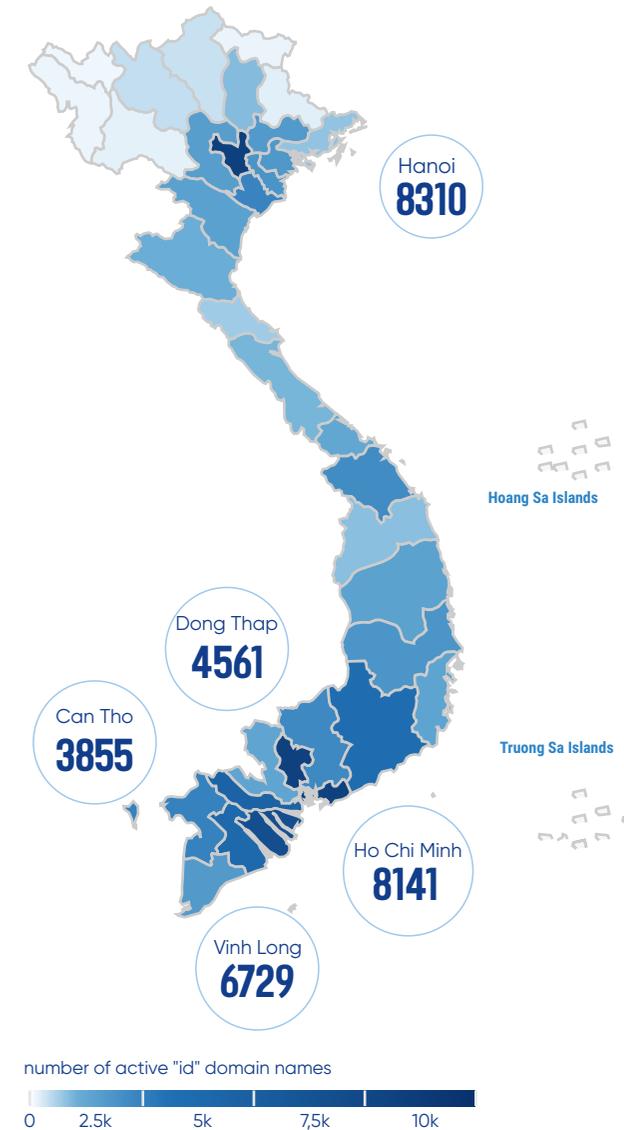
- Total cumulative domain names: 681,230, representing an 8.6% increase compared to the same period in 2024.
- Ranked 3rd in ASEAN, 11th in Asia-Pacific, and 39th globally.
- 10,413 enterprises and business households registered and are using the biz.vn domain name.
- 68,498 id.vn domain names have been registered and used by students from over 80 universities and colleges.



Promoting the widespread adoption of secure digital identity, enabling citizens and enterprises to establish a trusted online presence.

Increasing participation in the digital economy and digital society, supporting comprehensive digital transformation from enterprises and business households to individual users.

Enhancing nationwide digital capabilities through the "Digital Literacy for All" initiative—bringing digital skills and secure digital identity to every citizen in Viet Nam.



## 4 BUILDING A TRANSPARENT AND HEALTHY INTERNET ENVIRONMENT



VNNIC has completed the upgrade of the 5G mobile speed analysis and statistics system and officially published 5G mobile speed data as of 11 March 2025.



Supporting the collection, analysis, and reporting of 5G network speed data, aligned with telecommunications infrastructure development and contributing to the improvement of Internet quality in Viet Nam.

## 5 STRENGTHENING THE SECURITY AND TRUSTWORTHINESS OF INTERNET RESOURCES



Handling a large volume of malicious domain names, with the application of AI technologies for scanning and detecting harmful domains, reducing review and screening time by approximately four times.

Significantly improving the accuracy of detecting violating domain names—by nearly threefold (66.4% compared to 23.3%).

Strengthening monitoring of Internet resource usage and handling 4,881 domain names showing signs of violations.

The DNS Abuse Report Portal detected and processed 100% of incoming reports, corresponding to 2,806 domain names.

Receiving and processing information requests, and providing information in response to 1,340 requests from competent authorities.



Enhancing the security and reliability of Internet resources.

Improving the quality of management and operation of the national DNS system, with proactive monitoring and timely response to all potential risks.

Strengthening coordination mechanisms for protecting Internet resources, ensuring a legally compliant and secure usage environment for the Internet community in Viet Nam, and fostering sustainable and modern Internet resources.

## 6 DEVELOPMENT OF NATIONAL DIGITAL INFRASTRUCTURE



The national DNS system and the Viet Nam National Internet Exchange (VNIX) have been developed in accordance with the National information and communications technology infrastructure planning strategy. The DNS, VNIX, and Internet resource management systems have achieved SLA of 99.999%, and continue to comply with the international standard ISO/IEC 27001:2022 for information security management systems, as confirmed under the first surveillance audit program in 2025.



The national Internet infrastructure operates in a secure and stable manner in line with international standards, enhancing reliability and service capacity for all digital services, thereby contributing to the strengthening of digital sovereignty and the development of Viet Nam's Internet.

## 7 DEEPENING COOPERATION AND ENHANCING INTERNATIONAL STANDING



Successfully hosting APNIC 60—the largest regional forum on IP addresses and ASNs—bringing together more than 800 delegates from over 60 economies, including senior experts from APNIC, ICANN, ISOC, JPNIC, and KRNIC; as well as the ICANN APAC DNS Forum 2025, with nearly 500 participants, including approximately 400 international and 100 domestic attendees.

Signing five Memoranda of Understanding (MoU) with international partners, including two regional National Internet Registries (NIRs), thereby expanding cooperation within the regional NIR community.



Affirming and enhancing Viet Nam's position on the regional Internet map; expanding strategic cooperation and deepening integration into the global Internet ecosystem; and establishing a foundation for sharing knowledge, technology, and standards, thereby strengthening a sustainable and modern Internet resource ecosystem.

# KEY FIGURES OF 2025

Data as of December 31<sup>st</sup>, 2025

## 1. INTERNET RESOURCES IP ADDRESS AND AS NETWORK

### IP MEMBERS

**1181**  
IP address members

**1.29%**  
Growth rate

Distribution by member group

<b>7%</b> ISP	<b>1.7%</b> ISP
<b>4.2%</b> ICP	<b>6.5%</b> Finance, Banks, Securities, Insurance
<b>19.3%</b> Khác	<b>54.9%</b> IDC, Hosting, Cloud

### IPv4

**16,460,072**  
Allocated IPv4 addresses

**0.33%**  
Growth rate

**TOP 8**  
ASIA

**TOP 2**  
Asean

**TOP 27**  
Globally

### ASN

**920**  
AS Networks

**4.56%**  
Growth rate

### IPv6

**33.197** octillion  
Allocated IPv6 addresses

**1.7%**  
Growth rate

### IPv6 ADOPTION

**67.68%**  
Adoption rate

as of November 30<sup>th</sup>, 2025

**86.3%**  
Broadband Internet IPv6 user adoption rate

**TOP 7**  
Globally

**100%**  
National critical Internet infrastructures operating on IPv6

**86%**  
Broadband Internet user

**89%**  
Ministries, sectors, and local authorities transitioned to IPv6 for portals

## 2. ".VN" DOMAIN NAME AND NATIONAL DNS SYSTEM

### ".VN" DOMAIN NAME

**685,000**  
Active ".vn" domain names

**8.6%**  
Growth rate

**TOP 11**  
APAC

**TOP 3**  
ASEAN

**215,000**  
Newly registered ".vn" domain names

**11**  
Domestic Registrars

**06**  
International Registrars

**TOP 39**  
Globally

### NATIONAL DNS SYSTEM

**08**  
National ".vn" DNS system clusters

**100%**  
IPv6

**346**  
billion of DNS queries  
9.5% growth rate, compared to 2024

**03+**  
DNS Root clusters

**99.999%**  
SLA

## 3. CONNECTIVITY AND INTERNET INFRASTRUCTURE

### VIET NAM NATIONAL INTERNET EXCHANGE - VNIX

**50+**  
Connected members

**100%**  
IPv6

**500+**  
Total bandwidth

**5+ CONNECTION POINTS**  
Hanoi, Ho Chi Minh City, Da Nang

## KEY FIGURES OF 2025

Data as of December 31st, 2025

### 4. SECURE INTERNET INFRASTRUCTURES

#### SECURE DNS SYSTEM

**14,594/685,000**

".vn" domain names with  
DNSSEC

#### ROUTING & RPKI

IPv4/IPv6 prefixes signed by RPKI (ROA, ROV)  
National Routing Security Level

**98.4% IPv4, 65.9% IPv6**

ROA rate in Viet Nam

**45.5%**

ROA rate in Asia

**18.2%**

ROV rate in Viet Nam

**8.91%**

ROV rate in Asia

### 5. DIGITAL TRANSFORMATION AND IMPACT INDEX

**43,239 WEBSITES**

websites using IPv6 in Viet Nam

**22%**

".vn" domain names in total  
registered for e-commerce

#### Public services using IPv6 and HTTPS

- IPv6 adoption among online public services stands at 31%, with 5 of 16 ministerial and local public service portals supporting IPv6
- 15% of SMEs in Viet Nam have registered a ".vn" domain name.



## INTERNET RESOURCES DRIVING THE DIGITAL ERA



# 1 ONLINE PRESENCE WITH THE VIET NAM NATIONAL ".VN" DOMAIN NAME

In the Internet environment, a country-code domain name functions as a national digital identity, reflecting sovereignty, trust, and presence in cyberspace.

## national ".vn" domain name

685,000

8.6%

growth rate compared to 2024

## newly registered ".vn" domain name

215,000

23.7%

compared to 2024, average growth rate of 4.89% over the past 5 years

**TOP 3**  
ASEAN

**TOP 11**  
APAC

**TOP 39**  
Globally

(data as of 31 December 2025).

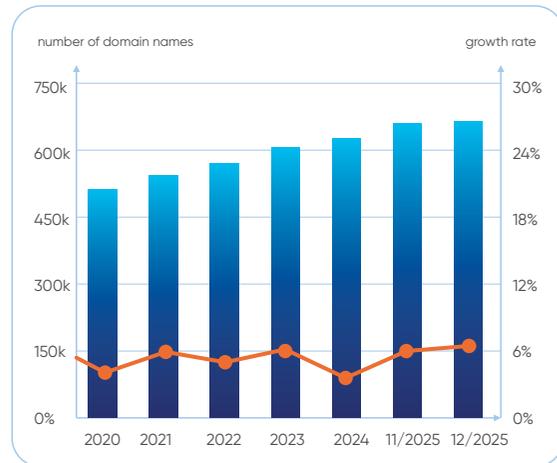


Figure No.1: Cumulative number of maintained domain names (December 2025)

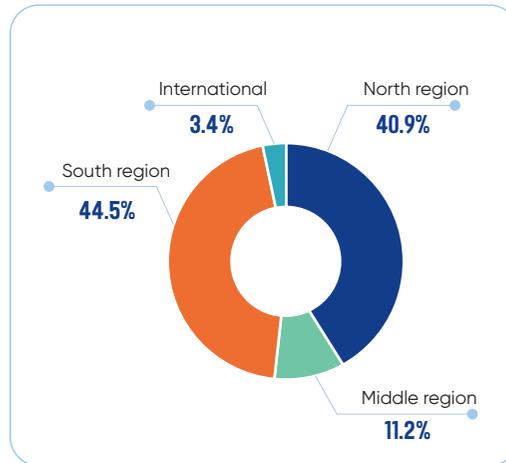


Figure No.2: Geographical distribution of cumulative maintained domain names

By the end of December 2025, Viet Nam recorded 10 localities with more than 10,000 maintained ".vn" domain names. Among them, four southern provinces—Dong Thap, Vinh Long, Lam Dong, and Dong Nai—experienced strong growth in 2025. Notably, Dong Thap rose to fourth place nationwide in terms of total domain name volume.

## 10 LOCALITIES

with more than 10,000 cumulative ".vn" domain names

Localities	cumulative number of ".vn" domain name
Ho Chi Minh City	228,667
Ha Noi	205,074
Da Nang	17,853
Dong Thap	16,865
Hai Phong	15,561
Dong Nai	13,855
Ninh Binh	12,627
Hung Yen	11,424
Vinh Long	10,970
Lam Dong	10,443

Localities with the highest cumulative number of ".vn" domain names nationwide (data as of November 30th 2025)

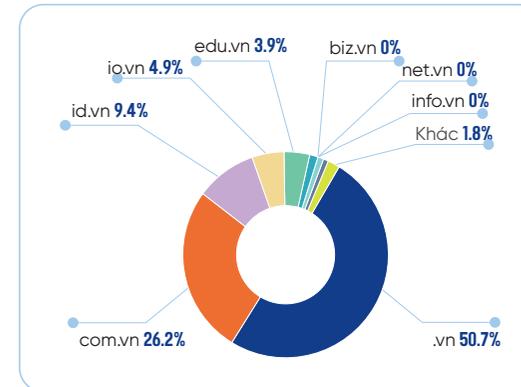


Figure No.3: Distribution of cumulative active ".vn" domain names by suffix

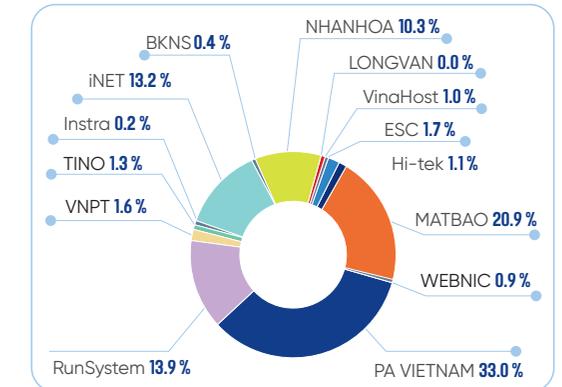


Figure No.4: Distribution of cumulative ".vn" active domain names by registrar

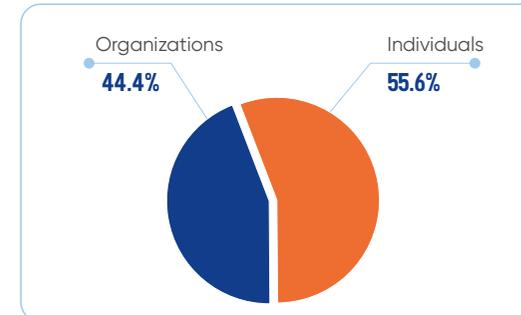


Figure No.5: Distribution of cumulative ".vn" active domain names by registrant category

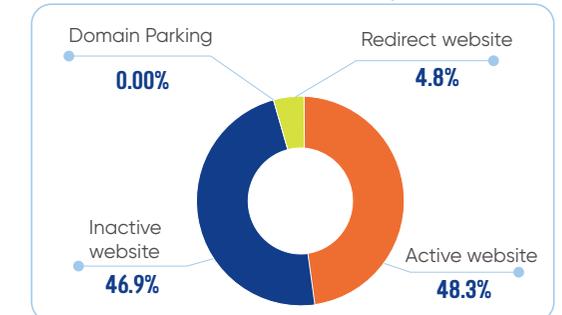


Figure No.6: Domain name utilization

## ONLINE PRESENCE WITH THE VIET NAM NATIONAL “.VN” DOMAIN NAME

Decision No. 826/QĐ-BTTTT approving the Program to promote and support citizens, enterprises, and household businesses in establishing a trustworthy and secure online presence through digital services using the national “.vn” domain name nationwide during the 2024–2025 period.



The free program applies to Vietnamese citizens aged 18–23, particularly youth and students.

The free program applies to newly established enterprises within one year and household businesses.

### FREE TWO-YEAR DOMAIN NAME REGISTRATION AND ASSOCIATED DIGITAL SERVICES



The policy on free registration of “id.vn” and “biz.vn” domain names is extended until the end of 2026 (Circular No. 64/2025/TT-BTC dated 30 June 2025). The program has been implemented nationwide.

VNNIC has deployed coordinated activities nationwide, ensuring effective implementation in line with the program and contributing to the development of the national digital economy and digital society.

As of 31 December 2025, 19 provinces and cities had issued local implementation plans. The Program has been rolled out in 10 pilot provinces and cities.

**10,413**  
enterprises and household businesses registered biz.vn domain names

**68,498**  
students from approximately 80 universities and colleges registered id.vn domain names

**54,500**  
id.vn and biz.vn domain names were registered and used in 2025

## DIGITAL LITERACY FOR ALL” FOR VIET NAM STUDENTS

Building a student community with an online presence using the Viet Nam national “.vn” domain name and digital services through the following initiatives:

Implementation of the Unitour Program at 30 universities nationwide, combined with the organization of competitions for students.

- Digital Business Competitions (DBC) featuring creative and diverse digital products, targeting students majoring in e-commerce and the digital economy nationwide.
- 03 website design competitions, including:
  - The Best Web Design Competition, attracting approximately 400 student participants;
  - The “VietNam Digital Pride 2025” website design competition, with around 100 student participants;
  - The Brand ID – Digital Citizen with ID.VN competition, attracting approximately 500 student participants.

Universities	Usage rate
Dong Thap Medical College	88%
Dong Thap Community College	56%
Can Tho Medical College	25%
Gia Dinh University (Ho Chi Minh City)	16%
Dong Thap University	50%
University of Finance – Marketing	50%
Cuu Long University	50%
Tra Vinh University	50%
Vinh Long University of Technology Education	50%
Thai Nguyen University of Information and Communication Technology	10.5%

Table No.2: Adoption rate of “id.vn” domain names at selected universities and colleges

A total of **68,498 “id.vn”** domain names have been used by students at approximately 80 universities and colleges to develop digital capacity profiles, personal websites, project portfolios, and coursework assignments.



Digital Business Competitions 2025



Website design competitions using “.vn” domain names recorded strong student participation

With an aim to support the development and maintenance of websites using the “.vn” domain name, VNNIC published website directories at <https://danhba.id.vn> and <https://danhba.biz.vn>.

These directories provide sector-based sample pages and representative websites, offering practical references for implementation and supporting systematic information lookup and connectivity.



## PROMOTING THE ADOPTION OF THE “.VN” DOMAIN NAME TO LOCAL ECONOMIES: FROM SUPPORT PACKAGES TO PRACTICAL VALUE

Implementation of the Program “Promoting and supporting citizens, enterprises, and household businesses in establishing a trustworthy online presence through digital services using the Viet Nam national “.vn” domain name” under Decision No. 826/QĐ-BTTTT has marked a significant shift by bringing national Internet resources, particularly the Viet Nam national “.vn” domain name, directly to the grassroots level, supporting local digital economic development and contributing to the nationwide “Digital Literacy for All” movement.

### 1

Promoting the “Digital Literacy for All” movement to disseminate basic digital awareness and skills to every citizen, household business, and student, enabling people to understand, utilize, and master digital tools - from websites, email to online personal branding - thereby fostering an inclusive and comprehensive digital society.

### 2

Supporting enterprises and household businesses in transitioning to the digital environment, building local digital brands, protecting Vietnamese brands on the Internet, and promoting OCOP products, regional specialties, and local digital tourism nationwide and internationally.

### 3

Supporting digital transformation for household businesses, traditional markets, and craft villages, enabling each business household to operate an online storefront using the “.biz.vn” domain name, promote local products, enhance competitiveness, and contribute to the nationwide digital economy.

## NATIONWIDE INNOVATIVE, PRACTICAL, AND SYNCHRONIZED IMPLEMENTATION

In coordination with provincial and municipal People’s Committees for enterprises and household businesses, and with provincial and city Youth Unions to organize implementation at the local level.

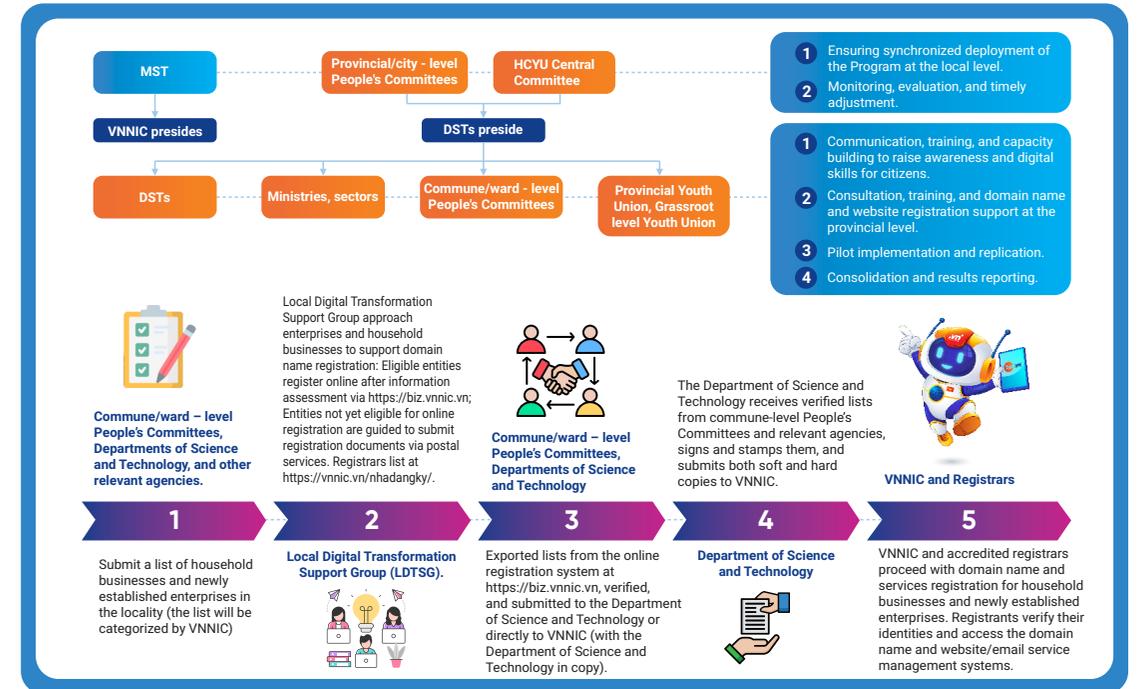


Diagram No. 1: Local “.vn” domain name popularization implementation model

Signing the Memoranda of Understanding (MoUs) with 8 out of 9 Departments of Science and Technology in southern provinces to promote domain name adoption among individuals, organizations, enterprises, and household businesses; support online presence and comprehensive digital transformation; and contribute to improvements in Digital Transformation Index (DTI), Global Innovation Index (GII), and E-commerce Business Index (EBI) at the local level.

In coordination with the Departments of Science and Technology of Hai Phong City and Dong Nai Province to provide solution packages to support enterprises, household businesses, and young people in establishing a free online presence, building personal brands, and accessing digital business opportunities.

- Hai Phong and Dong Thap: deployment of support packages including 150,000 biz.vn domain names and 93,000 id.vn domain names with accompanying digital services.
- Dong Nai: support for 36,000 free domain names.

## DRIVING LOCAL ECONOMIC DEVELOPMENT

As of 31 December 2025, the Program had been implemented in 10 pilot provinces and cities, recording more than 10,000 enterprises and household businesses registering biz.vn domain names and associated digital services. ".vn" websites are used to promote products, standardize information, and expand customer reach. In many localities, maintaining a ".vn" website has become a new practice, laying the foundation for household businesses to participate in e-commerce in a stable and transparent manner.

Registrations of ".vn" domain names in pilot localities



The "Four-Stakeholder" model in disseminating and developing the Viet Nam national ".vn" domain name

Support packages for ".vn" domain names are increasingly becoming simple and effective digital solutions for local economic development. They enable citizens, household businesses, and small enterprises to easily establish a digital identity and develop online business capabilities. This approach is aligned with the spirit of the "Digital Literacy for All" movement, bringing digital skills and online presence to all segments of society.

The biz.vn support package plays a central role by providing websites, email services, and digital tools at appropriate costs. It helps household businesses build a professional image and expand their market reach, particularly in local priority sectors such as OCOB products, agriculture, tourism, and services.

increased by 30–50% compared to previous periods. Several localities recorded outstanding growth, including Dong Thap (+1300%), Vinh Long, Can Tho City, Ho Chi Minh City, Lam Dong, Dong Nai, Tay Ninh, An Giang, and Ca Mau (+200–400%), Dak Lak and Hue City (>135%).

An innovative and exemplary implementation approach based on the "Four-Stakeholder" model—Central Government, Local Authorities, Enterprises, and the Community—ensures coordination, progress monitoring, and transparent implementation through digital tools, enabling rapid, focused, and sustainable deployment.

Data generated from websites using the biz.vn domain name contributes to the formation of a "local digital business directory", supporting management agencies in monitoring business sectors, scale, and levels of activity. This, in turn, serves trade promotion efforts and enables data-driven policy formulation.

Accordingly, the ".vn" domain name delivers value beyond registration figures, serving as a trusted digital identity infrastructure that enhances credibility, expands business opportunities, and supports deeper participation of household businesses and local enterprises in the digital economy. When implemented in a synchronized manner, the ".vn" domain name provides a solid foundation for digital commerce, transparency, and sustainable local economic growth.

## 2 IPv6 ONLY OPENING A NEW ERA FOR VIET NAM'S INDUSTRIAL INTERNET

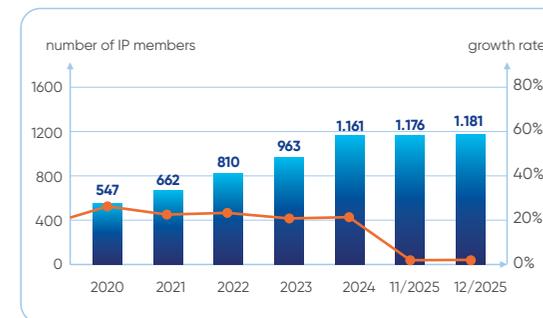


Figure No.7: IP address members growth over the years

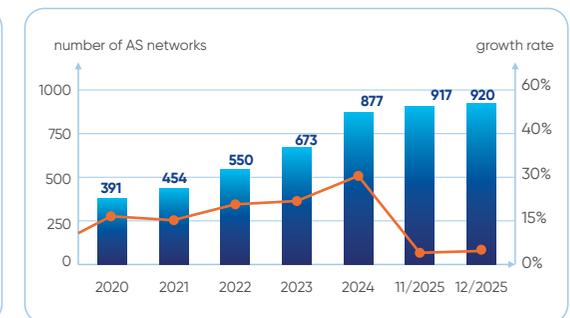


Figure No.8: ASN Network growth over the years

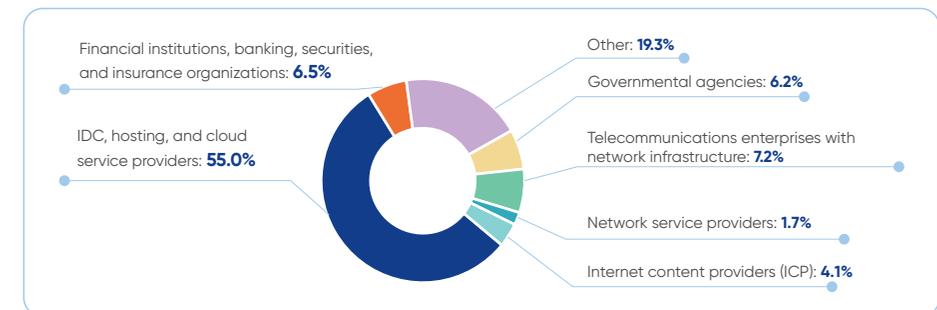


Figure No.9: Structure of Viet Nam's IP address members

## IPv6 ONLY ADOPTION – THE FUTURE OF THE INTERNET

**67.68%**

IPv6 adoption rate  
(as of November  
30th, 2025)

**86.3%**

Broadband Internet IPv6  
user adoption rate

**TOP 2**

ASEAN

**TOP 7**

Globally

**100%**

National critical  
Internet infrastructures  
operating on IPv6  
(DNS, VNIX)

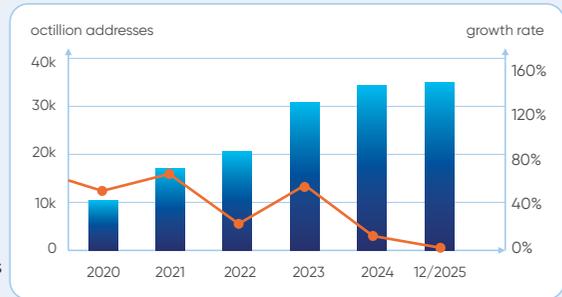


Figure No.10: IPv6 addresses growth by year

### ACCESS NETWORK

**83.8%** **18.8 / 22.5** FTTH IPv6 users

**86.9%** **77/88 MILLION** Mobile IPv6 users

### CONTENT, IDC, CLOUD:

**6.5%** **44,462** **21.5%**

“vn” domain names associated  
with websites operating on IPv6  
growth rate

### IPv6 FOR GOV:

**53/56** **95%** Ministries, sectors, and local  
authorities having developed and  
implemented IPv6 plans

**50/56** **89%** Public portals and online public  
services having completed IPv6  
adoption

**40/56** **71%** Organizations with independent  
IP/ASN, deployed in accordance  
with reference models

### TRAINING

(2008 - November 2025)

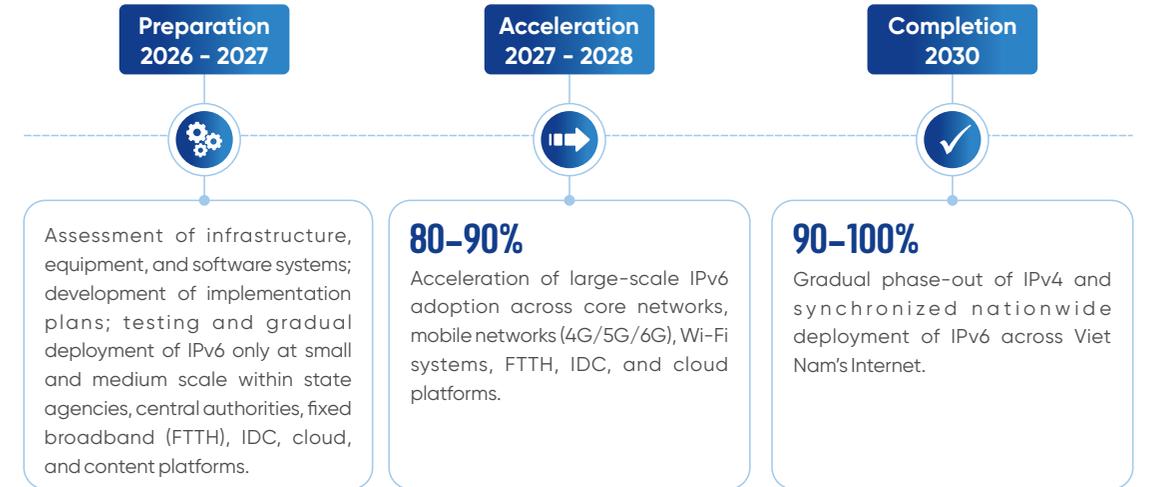
**112 COURSES** **5,993**  
IPv6 training students

NO.	ASN	AS NAME	IPv6
1	AS7643	VNPT-VN	92.66%
2	AS131429	MOBIFONE-VN	76.14%
3	AS18403	FPT-VN	67.48%
4	AS131365	BNNMT-VN	66.20%
5	AS7552	VIETTEL-VN	65.62%
6	AS24086	VIETTEL-VN	58.77%
7	AS45899	VNPT-VN	53.65%
8	AS56141	DSP-VN	52.54%
9	AS140810	MEGACORE-VN	48.92%
10	AS153830	UPNET-VN	33.43%

Table No.3: Top ASNs with strong IPv6 adoption results in Viet Nam (Source: APNIC)

## VIET NAM IPv6 ONLY PROGRAM

On October 27th 2025, the Minister of Science and Technology issued the “Program on promoting, deploying, and transitioning to IPv6 only for Viet Nam during the 2026–2030 period” under Decision No. 3369/QĐ-BKHCN. The Program provides national orientation for synchronized IPv6 adoption and application nationwide, aiming to build a modern, unified, and sustainable digital and Internet infrastructure.

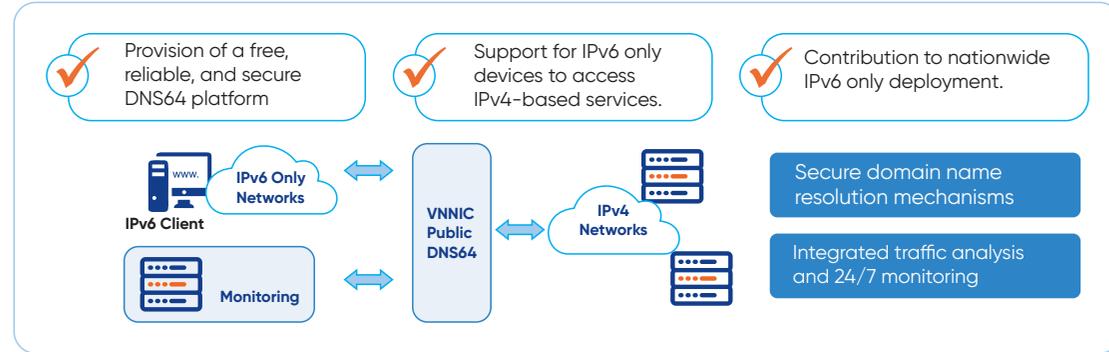


\* 2026–2030 phase: Accelerating IPv6 adoption and IPv6 only deployment



## VNNIC ACCOMPANYING ORGANIZATIONS, AGENCIES, AND ENTERPRISES IN ACHIEVING NATIONAL IPv6 ADOPTION OBJECTIVES

To support organizations, agencies, and enterprises in aligning with national IPv6 objectives, VNNIC has developed and provided the free VNNIC Public DNS64 service platform. This provides a foundation for deploying the first IPv6-only services in Viet Nam and for scaling IPv6-only connectivity across core networks, services, cloud platforms, and IDC infrastructure.



Based on practical experience in deploying IPv6 only within its internal network, VNNIC published the book "IPv6 Comprehensive Guide – Mastering the Next-Generation Internet Protocol" to provide guidance and support for agencies and organizations in implementing IPv6 and IPv6 only.

**Read full document at:**  
[https://thuvientientu.mst.gov.vn/books/IPv6\\_output/web/index.html](https://thuvientientu.mst.gov.vn/books/IPv6_output/web/index.html)

## VIET NAM'S IPv6 JOURNEY – FROM EARLY ADOPTION TO IPv6 ONLY ORIENTATION

In response to IPv4 exhaustion and the need to migrate to next-generation addressing, Viet Nam began deploying IPv6 as early as 2008 under Directive No. 03/CT-BTTTT. In 2009, the National IPv6 Promotion Task Force was established, chaired by Ministry leadership with VNNIC serving as the standing body. In 2011, the National IPv6 Action Plan (2011–2019) was issued, defining a roadmap for research, testing, and IPv6 adoption. By 2013, Viet Nam officially launched the national IPv6 network on the VNIX and national DNS platforms, with participation from six major ISPs.

During the initial phase, IPv6 adoption progressed slowly. To address this, VNNIC advised Ministry leadership to organize international experience-sharing programs. As a result, by 2016, Viet Nam officially appeared on the global IPv6 map, with adoption increasing from 0% to 5%, ranking 45th worldwide. In 2017, VNPT expanded IPv6 deployment across its 4G/LTE mobile network. By 2019, Viet Nam launched large-scale IPv6 services, exceeding the National Action Plan targets with an adoption rate of 40%, 1.6 times the global average, ranking 10th worldwide.

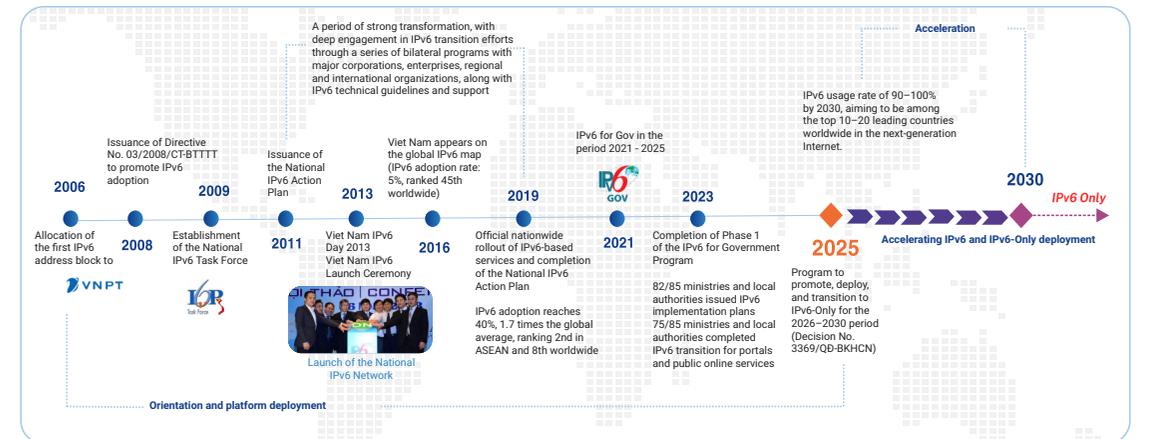
From 2019 to the present, Viet Nam has consistently remained among the world's top 10 countries in IPv6 adoption. By 2025, IPv6 usage on Viet Nam's Internet reached approximately 65–67%, 1.6 times the global and ASEAN averages, ranking second in ASEAN and seventh globally. National infrastructures such as VNIX and the national DNS system are fully IPv6 ready. On access networks, 86% of broadband users are using IPv6. The digital service ecosystem has also rapidly transitioned, with major enterprises such as VNPT, Viettel, FPT, CMC, Vinahost, BizFly, and CloudFly announcing IPv6

support. Major content platforms such as tuoitre.vn and Zalo have completed IPv6 adoption, further strengthening IPv6 service capability across Viet Nam's Internet.

For the government sector, the IPv6 for Gov Program (2021–2025) marked significant progress. To date, 53 out of 56 ministries, sectors, and local authorities have issued and implemented IPv6 plans (95%), while 50 out of 56 have completed IPv6 adoption for portals and online public services (89%), representing a 6.5-fold increase compared to 2020.

Aligned with global trends, Viet Nam is well positioned to advance further thanks to high IPv6 adoption rates, ready infrastructure, and over a decade of experience. In 2025, Viet Nam issued the Program on promoting, deploying, and transitioning to IPv6 only for the 2026–2030 period (Decision No. 3369/QĐ-BKHCHN), setting a target to phase out IPv4 by 2030. The Program provides synchronized direction across policies, infrastructures, and device markets, including deployment of NAT64/DNS64, mandatory IPv6 support and IPv6 only/CLAT-capable devices, compulsory IPv6 adoption in public IT systems, and planning of data centers and cloud platforms based on IPv6-only models.

Viet Nam's IPv6 journey demonstrates effective coordination among regulatory authorities, telecommunications enterprises, and the technical community. Transitioning to IPv6 only not only addresses IPv4 limitations but also broadens space for the digital economy, IoT/IoT, and big data, while strengthening national digital sovereignty. This transition will form a critical foundation for building a modern, secure, and sustainable Internet for Viet Nam in the coming decade.



# 3 SECURE AND TRUSTED INTERNET INFRASTRUCTURE AND THE VIET NAM NATIONAL ".VN" DOMAIN NAME

## 3.1 SUSTAINABLE AND RELIABLE DEVELOPMENT OF NATIONAL INTERNET INFRASTRUCTURE

### Viet Nam National Internet Exchange - VNIX

The Viet Nam National Internet eXchange (VNIX) is the national Internet exchange point built, managed, and operated by VNNIC. VNIX plays a critical role in interconnecting Internet service providers, reducing reliance on international routing, lowering latency, ensuring connection quality, and promoting the development of Viet Nam's Internet.

- 5+** Connection points (IDC POP, Hanoi, Ho Chi Minh City, Danang)
- 50+** Connected members (diverse in sectors)
- 500+** Gbps connection bandwidth
- 100% IPv6**
- ISO: 27001:2022**



### CONVENIENT AND DIVERSE CONNECTION

- Multiple types of peering arrangements: Multilateral peering (MLPA), bilateral peering (BLPA), or hybrid (HLPA).
- Port: 1/10/40/100 Gbps.
- Multiple connection points nationwide



### VNIX PEERING

- Connect and exchange traffic with other ISP networks**  
Multiple types of connections: Public Peering, Private Peering and Hybrid Peering
- Optimize costs**  
Connect to multiple networks with a single connection
- Improve network performance and network redundancy**  
Direct connection, no transit, reducing latency Multi-directional connection, redundant load sharing between networks
- Supported DDoS Mitigation**  
Free services

- Member Portal
- DNS .VN
- DNS Root
- i-Speed by VNNIC
- DDoS Mitigation
- Network Time Protocol
- Looking Glass



### JOIN THE FREE COMMERCIAL ENVIRONMENT

- Allows members to proactively promote, negotiate, purchase/sell connection services via Peering VNIX port

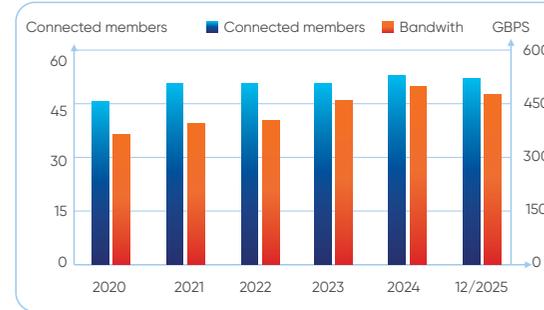
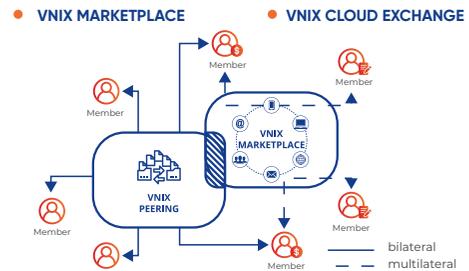


Figure No. 11: VNIX members and interconnection bandwidth growth over the years

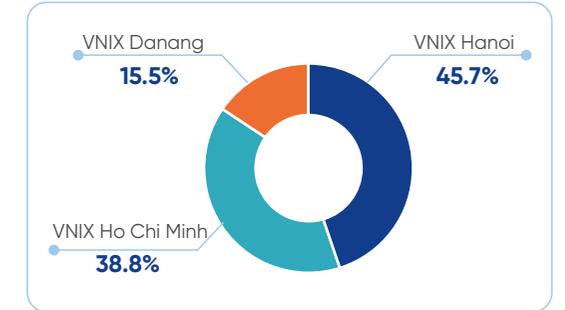


Figure No. 12: Interconnection bandwidth by VNIX location (Gbps)

## 3.2 ENSURING REDUNDANCY AND ROUTING SECURITY

RPKI (Resources Public Key Infrastructure), developed by IETF, is implemented to authenticate routing information and mitigate various routing security issues, including prefix hijacking or route leaks



### REGISTRATION AND USE OF INDEPENDENT IP ADDRESS AND AS NUMBERS

#### IP/ASN FOR MODERN NETWORK PLANNING

- Reduce latency
- Ensure continuous network redundancy
- Be proactive and flexible in connecting to other ISPs
- Routing security

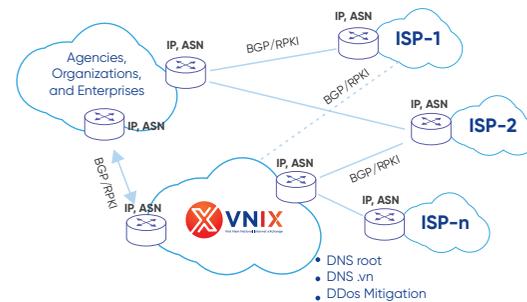
Online registration at: <https://dichvucong.gov.vn>



### DEPLOYMENT OF RPKI TO ENSURE ROUTING SECURITY

#### HOW TO DEPLOY RPKI

- Verify Internet resources
- Mitigate risks of IP address spoofing, routing attacks
- Ensure routing security, improve network quality



A multi-home network model (using BGP multi-home, RPKI)

RPKI-based routing validation consists of two key processes: ROA/VPKI and ROV/VPKI:

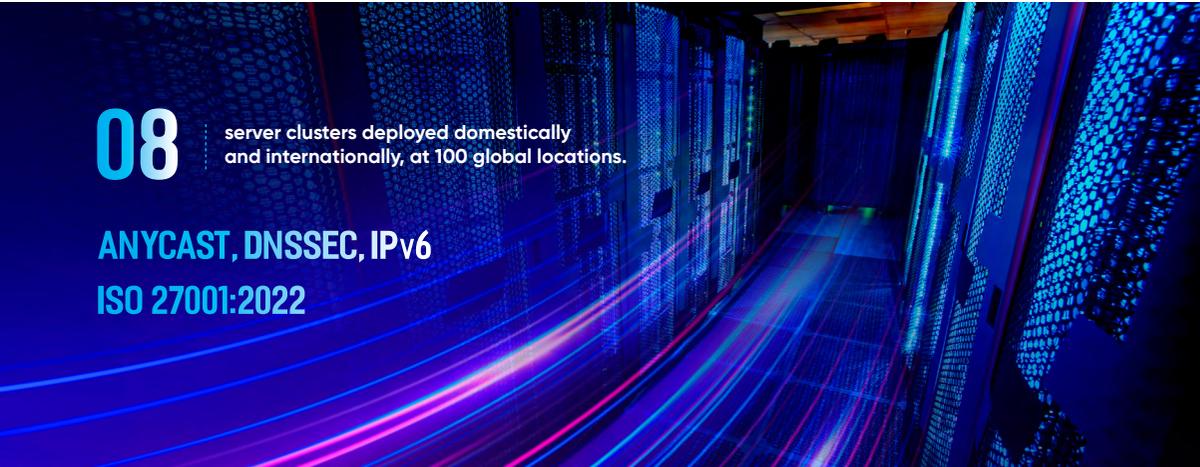
Route Origin Authorization (ROA) using cryptographic signing of Internet number resources

- 98.4% IPv4** ROA rate in Viet Nam (APNIC)
- 65.9% IPv6** ROV rate in Viet Nam (APNIC)

• DNS root  
• DNS.vn  
• DDoS Mitigation

### 3.3 NATIONAL DNS SERVER SYSTEM

The national “.vn” DNS system is a core and critical Internet infrastructure of Viet Nam. It is responsible for managing the national “.vn” domain name space, ensuring that “.vn” domain names and related services are accessed and operated safely and reliably on the global Internet.



#### NATIONAL DNS TRAFFIC

**346 BILLIONS** DNS queries | Increased by **9.5%** compared to the same period in 2024

#### EFFECTIVE UTILIZATION OF DNS ROOT TRAFFIC

Since 2020, VNNIC has deployed DNS Root server clusters in Viet Nam, connecting to the Viet Nam National Internet eXchange (VNIX), reducing dependence on international connections, increasing the access speed to services using local domain names in Viet Nam.

**12 Mbps** M-Root | **14Mbps** K-Root | **13 Mbps** F-Root



### 3.4. SECURITY AND TRUST OF THE “.VN” DOMAIN NAME



#### “.VN” DOMAIN NAME SERVICES

Comprehensive protection of the digital ecosystem with Registry Lock



- ✓ Help prevent loss of control caused by compromised administrator accounts, operational errors, or third-party vulnerabilities – common causes of unauthorized domain name modifications.
- ✓ Provide comprehensive protection for an organization's digital ecosystem, including critical services such as websites, email, payment systems, and public service portals operating on the domain name platform, maintaining system stability and integrity.
- ✓ Play a vital role in safeguarding brand reputation.

**i Who should use Registry Lock?**

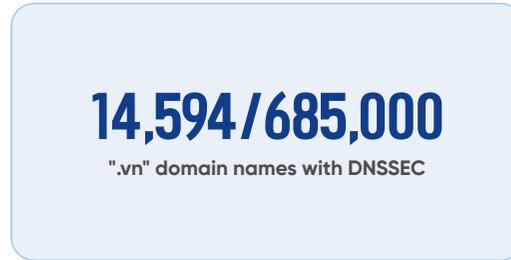
- ✓ Large enterprises, e-commerce platforms, banks, securities firms, insurance companies, e-wallets, and online payment systems
- ✓ Government agencies, public organizations, media, education, and healthcare institutions
- ✓ Organizations with high-value digital assets and premium brand domain names



**3.316 DOMAIN NAMES**  
Number of “.vn” domain names activated with Registry Lock

## TRUSTED “.VN” DOMAIN NAME WITH DNSSEC (DOMAIN NAME SYSTEM SECURITY EXTENSIONS)

DNSSEC is a set of specifications that extend the DNS protocol to strengthen the authentication and integrity in DNS, thereby enhancing accuracy and reliability in “.vn” domain name. DNSSEC was first deployed in the national DNS system in 2017, connecting with the international DNS Root system.



## DOMAIN NAME SECURITY WITH eKYC

The “.vn” domain registration process was authenticated through eKYC solution which facilitates online registration and use of “.vn” domain name, making the whole process safer and more convenient.



## DOMAIN NAME INFORMATION LOOKUP SERVICES

VNNIC provides domain name information lookup services via hotline 156 and online portals at <https://whois.vn> and <https://tracuutenmien.gov.vn>, enabling citizens, organizations, and enterprises to proactively identify and verify domain name and website registrant information.



## INTERNATIONAL DOMAIN NAME USAGE PLATFORM

The international domain name usage platform at [thongbaotenmien.vn](http://thongbaotenmien.vn) provides information on relevant policies and regulations, reporting procedures, and lookup of international domain names, registrars operating in and across Viet Nam, and gTLD operators in Viet Nam.



## DNS ABUSE MITIGATION FOR INTERNET COMMUNITY

VNNIC operates the DNS Abuse Report Portal for both national “.vn” and international domain names, enabling individuals and organizations to report domain-related online abuse and helping improve the online environment, strengthen user trust, and support digital transformation.



## VIET NAM NATIONAL “.VN” DOMAIN NAME: A SECURE AND TRUSTED DIGITAL IDENTITY PLATFORM FOR VIET NAM’S CYBERSPACE

The Viet Nam national “.vn” domain name, managed by the State through VNNIC, has affirmed its role as a core component ensuring national digital security, sovereignty, identity, and trust. The distinction of the “.vn” domain name compared to international domain names (.com, .net, etc.) lies in its robust legal framework, transparent governance model, strict registrant verification, and responsible operational ecosystem, providing a secure foundation for online activities.

## ROBUST LEGAL FRAMEWORK ENSURING USER RIGHTS AND INTERESTS

The “.vn” domain name is operated in accordance with the Law on Telecommunications and relevant specialized legal documents of Viet Nam. All activities related to the registration, maintenance, and use of “.vn” domain names are subject to unified supervision by VNNIC. In cases of disputes, impersonation, or legal violations, the regulatory authority possesses sufficient jurisdiction and legal instruments to ensure timely handling and protection of the legitimate rights and interests of domain name registrants—an assurance that most international domain names are unable to provide.



### TRANSPARENT ALLOCATION PROCESS WITH CLEAR IDENTITY VERIFICATION

The registrant verification mechanism for the “.vn” domain name requires registration information to be cross-checked and validated through the official registrar system. Each domain name is associated with an identified registrant bearing legal responsibility, thereby minimizing anonymous registrations, which are a common source of fraud and domain name abuse in cyberspace.

### MODERN TECHNICAL INFRASTRUCTURE – ENHANCED PROTECTION LAYERS

The “.vn” domain name is operated on a national Anycast-based DNS infrastructure with DNSSEC and 24/7 monitoring, ensuring high reliability and strong protection against cyberattacks. Registrants may also use the Registry Lock service to prevent unauthorized changes to domain information, DNS servers, or administrative control. In the coming period, VNNIC will continue to develop and deploy advanced services to further enhance the level of security and trustworthiness of the Viet Nam national “.vn” domain name.

### HIGH-STANDARD REGISTRAR ECOSYSTEM

The “.vn” domain name Registrar system is required to meet strict standards in technology, security, data management, and customer service. VNNIC conducts regular evaluations and enforces full compliance throughout the entire domain name lifecycle, ensuring stable, transparent, and secure services for users.



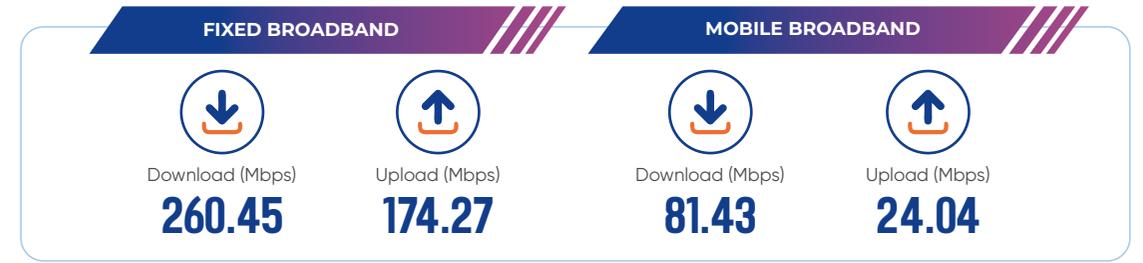
### BUILDING DIGITAL TRUST FOR VIET NAM

Using the national “.vn” domain name is more than a technical choice; it reflects participation in Viet Nam’s digital ecosystem. With clear legal accountability and strong protection of legitimate rights, “.vn” helps build a transparent, secure, and trusted cyberspace, supporting e-commerce and the digital economy. Backed by a robust legal framework, transparent registrant verification, and modern infrastructure, “.vn” domain name remains the safest and most trusted digital identity for organizations and individuals in Viet Nam’s digital transformation.



### 3.5. I-SPEED – PROMOTING NATIONAL INTERNET QUALITY

The Viet Nam Internet Speed Measurement System i-Speed (VNNIC Internet Speed, <https://speedtest.vn>), developed and operated by the Viet Nam Internet Network Information Center (VNNIC) under the Ministry of Science and Technology, enables users to independently measure and assess their Internet access speed, thereby proactively selecting Internet service providers and service packages that best meet their needs.



Fixed and Mobile Broadband Network Speeds in Viet Nam, 2025 (as of November 2025)

NetName	Download (Mbps)	Upload (Mbps)	Ping (ms)
CMC Telecom	269.42	111.45	9.2
FPT Telecom	160.36	103.91	8
HTC	64.11	77.33	8.45
NETNAM	69.46	68.88	8.5
SCTV	84.97	30.6	16.9
SPT	90.33	96.39	7.05
Viettel	316.76	262.4	7.5
VNPT	248.19	166.67	8.12

Table No. 4: Fixed broadband Internet speeds by ISP in Viet Nam (data as of November 2025)

NetName	Download (Mbps)	Upload (Mbps)	Ping (ms)	Jitter (ms)
Mobifone	65.86	18.71	31.7	7.13
Viettel	95.06	24.64	33.04	7.15
Vinaphone	67.13	26.62	30.95	12.75
Vietnamobile	9.54	4.85	46.37	13.7

Table No. 5: Mobile broadband Internet speeds by ISP in Viet Nam (data as of November 2025)

### IPv6 ACCESS RATE BY SERVICE PROVIDER (DATA FROM I-SPEED)

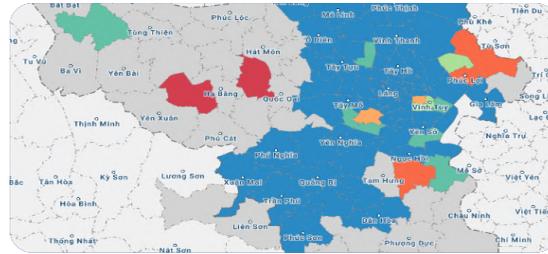


VNNIC has developed the i-Speed application for mobile platforms, with automatic measurement feature for Android users. This feature allows users to automatically and periodically measure Internet access speed under different times, locations, and connection conditions without manual operation.

Since 2024, VNNIC has upgraded the system to publicly disclose Internet access speed data by locality and by service provider, down to the provincial/city and commune/ward levels.

The public disclosure of detailed Internet speed measurement data contributes to:

- Enhancing transparency and public interest in the provision of Internet access services.
- Enabling citizens, organizations, and enterprises to select Internet services providers based on needs and conditions.
- Promoting competition among service providers, improving service quality, and supporting the development of Viet Nam's Internet.



Internet Access Speed Assessment by Commune/Ward (November 2025)

Province/City	Fixed broadband		Mobile broadband	
	Download (Mbps)	Upload (Mbps)	Download (Mbps)	Upload (Mbps)
Hanoi	336,92	335,08	65,76	20,87
Cao Bang Province	331,34	330,58	60,53	27,55
Lai Chau Province	329,62	328,57	71,75	28,51
Lang Son Province	324,7	288,12	95,86	39,14
Dong Thap Province	321,21	258,52	140,17	31,05
Vinh Long Province	315,14	256,7	145,29	29,3
Dien Bien Province	312,04	204,11	126,81	31,81
Ca Mau Province	293,74	202,01	139,64	29,92
Son La Province	286,88	208,53	79,55	27,47
Hai Phong	273,06	184,13	96,23	28,67
Ho Chi Minh City	269,07	164,42	110,53	26,91
Can Tho	265,99	192,08	168,4	31,77
Phu Tho Province	261,72	176,93	86,02	25,11
Khanh Hoa Province	261,69	176,34	120,57	33,94
Gia Lai Province	261,3	175,7	89,84	29,35
Hung Yen Province	261,2	175,79	75,56	29,29
Ha Tinh Province	260,16	173,65	61,41	22,74

Table No. 6: Fixed broadband Internet speeds by province/city nationwide (data as of November 2025)

Province/City	Fixed broadband		Mobile broadband	
	Download (Mbps)	Upload (Mbps)	Download (Mbps)	Upload (Mbps)
An Giang Province	258,74	193,11	144,08	30,7
Lam Dong Province	258,57	169,06	114,35	38,32
Hue	258,05	170,33	334,67	60,23
Ninh Binh Province	257,38	168,94	63,43	20,89
Quang Ngai Province	254,74	171,19	149,6	40,53
Quang Tri Province	253,82	165,59	99,7	35,66
Da Nang	253,66	165,25	130,11	40,21
Lao Cai Province	253,45	221,05	76,87	25,06
Dak Lak Province	251,68	166,57	90,49	29,43
Tay Ninh Province	249,71	174,88	124,15	34,25
Tuyen Quang Province	241,46	158,39	85,17	31,44
Quang Ninh Province	219,74	144,52	89,56	28,35
Thanh Hoa Province	213,11	160,25	86,98	31,57
Dong Nai Province	179,9	134,67	136,32	26,92
Thai Nguyen Province	167,36	107,62	51,91	15,41
Nghe An Province	162,17	104,44	88,67	26
Bac Ninh Province	107,24	99,72	88,93	21,62

Province/City	Fixed broadband		Mobile broadband	
	Download (Mbps)	Upload (Mbps)	Download (Mbps)	Upload (Mbps)
Hue	258,05	170,33	334,67	60,23
Can Tho	265,99	192,08	168,4	31,77
Quang Ngai Province	254,74	171,19	149,6	40,53
Vinh Long Province	315,14	256,7	145,29	29,3
An Giang Province	258,74	193,11	144,08	30,7
Dong Thap Province	321,21	258,52	140,17	31,05
Ca Mau Province	293,74	202,01	139,64	29,92
Dong Nai Province	179,9	134,67	136,32	26,92
Da Nang	253,66	165,25	130,11	40,21
Dien Bien Province	312,04	204,11	126,81	31,81
Tay Ninh Province	249,71	174,88	124,15	34,25
Khanh Hoa Province	261,69	176,34	120,57	33,94
Lam Dong Province	258,57	169,06	114,35	38,32
Ho Chi Minh City	269,07	164,42	110,53	26,91
Quang Tri Province	253,82	165,59	99,7	35,66
Hai Phong	273,06	184,13	96,23	28,67
Lang Son Province	324,7	288,12	95,86	39,14

Table No. 7: Mobile broadband Internet speeds by province/city nationwide (data as of November 2025)

### 3.6. SECURING VIET NAM'S INTERNET INFRASTRUCTURE IN THE DIGITAL ERA

The Internet has become essential infrastructure, playing a vital role in the digital economy and digital society. Increasing dependence on Internet connectivity heightens the need for stability, security, safety, and digital sovereignty.

Key infrastructure risks include submarine optical cable disruptions causing service interruptions due to continued reliance on international connectivity, and BGP misconfigurations leading to traffic misrouting. Viet Nam recorded 117 routing incidents during 2022–2023 and 26 incidents during 2024–2025 (MANRS).

Overall, Viet Nam's Internet infrastructure has achieved a high level of security, stability, and reliability, with increasing national control over critical infrastructure components. Maintaining leading indicators in routing security and IPv6 adoption enables Viet Nam's Internet to operate sustainably, minimize external risks thus build digital trust, serving as a solid foundation for the development of the digital economy, digital society, and national digital sovereignty in the coming period.

The modernization of Viet Nam's Internet infrastructure has enabled greater control over core components:

- VNIIX shortens routing paths, reduces international dependency, and ensures access quality.
- The national DNS system operates under the Anycast model, with DNSSEC deployed for nearly 15,000 ".vn" domain names (as of November 2025).
- A domestic CDN ecosystem localizes the majority of Internet traffic.
- Viet Nam ranks among global leaders in routing security, with an ROA/RPKI adoption rate of 98.4%, ranking first in ASEAN. As a result, routing incidents have declined significantly:
  - 70 incidents in 2023
  - 19 incidents in 2024 (down 73%)
  - 7 incidents in 2025 (as of November 2025), down 63%
- Alongside IPv6 adoption, Viet Nam is among countries with the highest IPv6 usage rates globally, and is gradually moving toward IPv6 only. VNNIC plays a central role in building a secure and sovereign Internet ecosystem by:
  - Managing IP addresses, AS Numbers, Viet Nam national ".vn" domain name, safeguarding national digital identity sovereignty.
  - Operating VNIIX, the national DNS system, and the ".vn" ecosystem.
  - Leading RPKI/ROA deployment.
  - Operating monitoring systems such as Internet Atlas, i-Speed, and DNS and routing monitoring platforms.

## DEVELOPMENT COOPERATION – ELEVATING VIET NAM'S POSITION ON THE GLOBAL INTERNET MAP



The year 2025 marked an important phase in VNNIC's international integration journey. While previous stages primarily focused on capacity building and expanding partnerships, 2025 represented a significant transition as Viet Nam emerged as a convergence point for the Asia–Pacific Internet community.

Over the past year, VNNIC took a leading role in the regional Internet community by successfully hosting three major international events: APNIC 60, APIX 32, and the ICANN APAC DNS Forum 2025. APNIC 60 recorded a 2.3-fold increase in delegates compared to previous editions, with the participation of leaders and experts from 53 countries, along with international organizations such as ICANN, RIRs, and NIRs, and many major technology enterprises. At this forum, Viet Nam presented outstanding achievements in IPv6, DNSSEC, and RPKI, and was recognized as a regional model for IPv6 only deployment. VNNIC representatives continued to be elected as NIR SIG Chair, demonstrating Viet Nam's credibility and technical leadership.

At APIX 32, the VNIX model was highly regarded by the international community as a successful case of a neutral, sustainable, and efficient Internet Exchange Point (IXP). The model received recognition from leading IXP operators in Japan, Singapore, the Republic of Korea, and India. At the ICANN APAC DNS Forum 2025, Viet Nam shared its experience in managing and operating the DNS system and

the national domain name ".vn", the DNS Abuse Mitigation Program, and the strategy for promoting widespread adoption of the national ".vn" domain name as a model to support secure online presence and digital economic development.

Alongside international events, VNNIC also strengthened bilateral cooperation by signing Memoranda of Understanding with CNNIC (China), JPNIC (Japan), NIXI (India), MCMC (Malaysia), and CCRC/KGRI (Keio University), expanding collaboration in IPv6, DNSSEC, Internet resources, and Internet security. At the same time, VNNIC implemented an intensive four-week training program for the Lao National Internet Center (LANIC), focusing on domain name management in accordance with SRS/EPP standards, national DNS operations, IPv6, and Internet resource policy.

Looking back the year 2025, VNNIC firmly demonstrated Viet Nam's leading role in the region and on the global Internet map. Large-scale international events, extensive cooperative relationships, and substantive technical contributions at global forums have shown that Viet Nam is actively shaping key regional Internet trends, laying a solid foundation for the next phase of development toward IPv6 only, secure routing, and next-generation DNS, thereby supporting the sustainable development of the Internet.



IV.

STRENGTHENING INTERNET  
COMMUNITIES AND KNOWLEDGE SHARING  
IN VIET NAM AND WORLDWIDE

# 1 DEVELOPING THE VIET NAM INTERNET COMMUNITY IN THE ERA OF SMART INTERNET

## VNNIC INTERNET CONFERENCE 2025

Theme: **"Breakthrough Era with the development of the Industrial Internet"**

Time: **22–25 July 2025** | Location: **Hanoi**

Scale: **~400 participants from domestic and international**

### Key activities:

- 03 workshops: Youth's role in Internet Governance and the development of Industrial Internet, Workshop DNS, Workshop IPv6 Only
- High-level conference with participation of experts from national and international Internet communities such as APNIC, ICANN, APAC IPv6 Council, etc



## VNIX-NOG 2025 – 10-YEAR JOURNEY OF VNIX-NOG

VNIX-NOG marks its 10th anniversary as a professional forum contributing significantly to IPv6 only transition, network automation, network security, and Internet quality enhancement in Viet Nam.

Theme: **"Peering 2.0: IPv6 only, Automation, Driving the Next Leap"**

Time: **16–17 October 2025** | Location: **Khanh Hoa**

Scale: **~160 participants from domestic and international communities**

### Key activities:

- Peering and Securing Internet Routing in IPv6 Only Network Infrastructure
- Plenary conference with keynote speakers from Akamai Technologies, TREX, Globe Telecom, and domestic & international organizations



Over the past 10 years, VNIX-NOG has significantly enhanced the technical capacity of the Viet Nam Internet community through conferences, in-depth workshops, hands-on lab models, and open forums. Notable figures include 1,600 participants over the years, more than 100 speakers, and 30+ leading international experts from organizations such as APNIC, Meta, Akamai, AWS, and the Internet Society. The events have been held in seven cities nationwide (Hanoi, Da Nang, Ho Chi Minh City, Nha Trang, Quy Nhon, Hue, Da Lat, etc.), enabling outreach and engagement with emerging technical communities across the country.

**1600**  
participants

**>100**  
speakers

**30+**  
domestic &  
international  
experts

**07**  
events across 7  
provinces/cities  
nationwide



10-year journey of VNIX-NOG

Key topics such as IPv6 and IPv6-only deployment, DNSSEC, RPKI, routing security, the Industrial Internet, and next-generation Internet Exchanges (IXs) have been discussed in depth, helping network operators adopt new technologies more quickly and effectively and narrowing the gap between Viet Nam and leading Internet nations.

VNIX-NOG has helped project Viet Nam as an open and collaborative country with strong technical capabilities. Through active engagement in the international Internet community, it has showcased Viet Nam's technical competence and cooperative spirit, enhancing the credibility and competitiveness of the national Internet infrastructure in the region.

Over the past decade, community-led initiatives have delivered tangible results, including improved VNIX connectivity, more efficient peering, higher DNS quality, and stronger routing security. VNIX-NOG's training and knowledge-sharing programs have also helped build core engineering teams across enterprises, supporting the stable and sustainable development of Viet Nam's digital infrastructure.

Over the past decade, VNIX-NOG's journey reflects the steady strengthening of Viet Nam's Internet technical capacity. Building on this foundation, Viet Nam can continue to advance modern Internet infrastructure, expand IPv6-only deployment, strengthen network resilience, and increase its contributions to the regional and global Internet community.

## ICANN APAC DNS FORUM



Under the theme “Inclusive Internet: Connecting People – Shaping the Future,” the conference reaffirmed the critical role of the national domain name system and DNS infrastructure, while focusing discussions on strategic directions for developing an inclusive, secure, and universally accessible Internet ecosystem for all.



The event was held in conjunction with Universal Acceptance Day, creating opportunities for networking, connection, and the promotion of deeper collaboration within the regional and global Internet community.

Time: 08–09 May 2025 | Location: Hanoi

Scale: **~400 participants from domestic and international communities**

## ASIA PACIFIC NETWORK INFORMATION CENTER CONFERENCE (APNIC 60)



As the highest-level conference in the region on IP/ASN policy development, the forum discussed key messages related to IPv6 transition, IPv6 only deployment, community participation in policy development, global Internet technology advancement, open-source adoption, network automation, and the application of emerging technologies (AI, IoT, 5G/6G, IPv6, etc.) in building the Internet and digital infrastructure.



Time: 09–11 September 2025 | Location: Da Nang

Scale: **~800 participants (onsite & online)**

## DEVELOPING HUMAN RESOURCES IN INTERNET INDUSTRY



Enhancing Digital Capacity Nationwide via VNNIC Internet Academy

**09+**  
main topics

**65+**  
courses

**33**  
articles

VNNIC Internet Academy (<https://academyvnnic.vn>) is an open learning platform aimed at enhancing digital skills and promoting the effective and secure use of Internet resources for the entire Internet user community in Viet Nam.

**5,858**  
participants

**11.71%**  
growth rate compared to 2024

## VNNIC INTERNET SCHOOL FOR YOUTH

VNNIC has officially standardized its annual student training activities into the “VNNIC Internet School for Youth” (VISY) program, implemented continuously from May to November 2025. The training curriculum is systematically designed and delivered in collaboration with regional and international Internet organizations such as ICANN, APNIC, and SOI Asia.

The program includes in-depth Internet training activities – such as webinar series and workshops – equipping Vietnamese students with knowledge of Internet technologies, Internet operations, and digital literacy.



**240** | students participated in training programs in 2025

## WORKSHOP: “YOUTH’S ROLE IN INTERNET GOVERNANCE AND THE DEVELOPMENT OF INDUSTRIAL INTERNET”

July 22<sup>nd</sup>, 2025

Telecommunications and IT students from Posts and Telecommunications Institute of Technology (PTIT) and universities across three regions of Viet Nam



## PARTNERING WITH LOCALITIES & AGENCIES TO PROMOTE DIGITAL TRANSFORMATION

### June 9<sup>th</sup>, 2025

Training and capacity-building program on IPv6 transition and IPv6 only deployment for government agencies, focusing on guidance for the final three steps of the three-phase, ten-step IPv6 implementation roadmap for government agencies, as well as planning IPv6 only deployment for access networks.



### July 23<sup>th</sup> - 24<sup>th</sup>, 2025

A series of DNS and IPv6 only workshops for management officials and technical specialists from IT management units of Departments of Science and Technology, held within the framework of VNNIC Internet Conference 2025



### August 2025

VNNIC signed Memoranda of Understanding (MoUs) with multiple Departments of Science and Technology in southern Viet Nam, committing to the promotion of domain name adoption among individuals, organizations, enterprises, and household businesses, while supporting online presence and comprehensive digital transformation.



### October 2<sup>nd</sup>, 2025

VNNIC organized a working program with key enterprises on IPv6 implementation in 2025, with the participation of leading ISPs and mobile network operators, jointly committing to ensuring the completion of national IPv6 deployment targets.



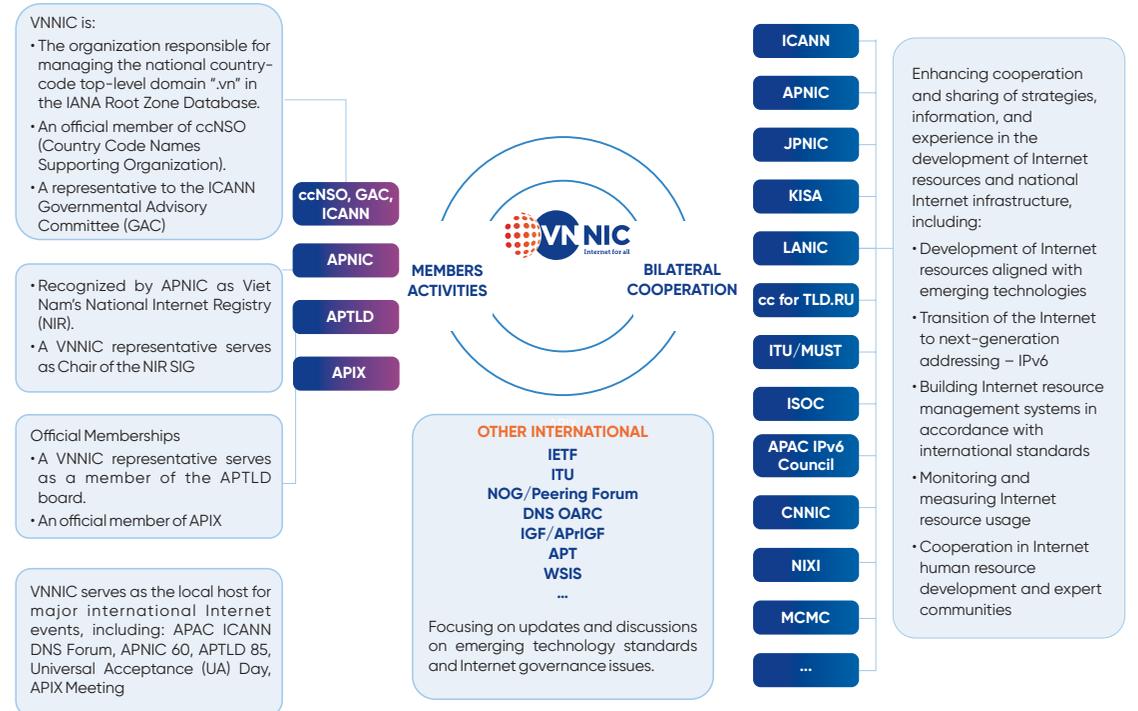
### November 4<sup>th</sup>, 2025

In coordination with the DST in Hai Phong, VNNIC provided a comprehensive solution package, including 150,000 free ".biz.vn" domain names and 93,000 free ".id.vn" domain names, along with accompanying digital services. This initiative supports enterprises, household businesses, and young people in establishing a free online presence, building personal brands, and creating opportunities in the digital economy.



## 2 EFFECTIVE INTERNATIONAL INTEGRATION – STRENGTHENING VIET NAM'S NATIONAL INTERNET POSITION

As a NIC, VNNIC identifies its leading role in engaging with international organizations to safeguard national interests, contribute to global discussions and initiatives, demonstrate commitment and responsibility in promoting international standards, and build effective cooperative relationships with countries and regional and global organizations.



## VNNIC - HIGHLIGHTED ACTIVITIES

### INTERNATIONAL MEMBERSHIP ACTIVITIES

VNNIC continues to serve as Chair of the NIR SIG for the 2025–2027 term, reaffirming the trust and confidence of members.



VNNIC, as a local host, organized the Asia Pacific Regional Internet Conference on Operational Technologies (APAC DNS Forum 2025) in Hanoi.



### BILATERAL COOPERATION ACTIVITIES

**January 16<sup>th</sup>, 2025**

Bilateral working session with the delegation of the Malaysian Communications and Multimedia Commission (MCMC).



**March 2<sup>nd</sup> - 5<sup>th</sup>, 2025**

Bilateral working sessions with the Asia Pacific Network Information Centre (APNIC).



### May 2025

VNNIC conducted bilateral meetings and working sessions with international Internet organizations within the framework of APAC DNS Forum 2025



Bilateral working session with the Internet Corporation for Assigned Names and Numbers (ICANN).



Bilateral working session with the Indonesia Domain Name Registry (PANDI).



Bilateral working session with the Australian Domain Administration (auDA).



Bilateral working session with the Lao National Internet Center (LANIC).



Bilateral working session with the China Internet Network Information Center (CNNIC).

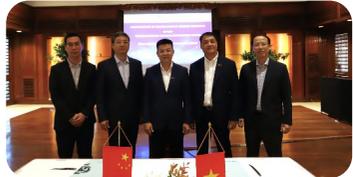
22<sup>nd</sup>, 2025

VNNIC signed a MoU with the Center for Cybersecurity Research and Innovation (CCRI) – Keio University, Japan.



September 2025

VNNIC conducted bilateral working sessions with international Internet organizations and the regional NIRs within the framework of APNIC 60



Signing of MoU with CNNIC



Signing of MoU with NIXI



Signing of MoU with APAC IPv6 Council



Signing of MoU with MCMC



Bilateral working session with KISA



Bilateral working session with JPNIC

October 2025 – November 2025

In 2025, VNNIC and LANIC jointly organized an on-the-job training program focused on sharing practical experience in the development, management, and operation of national Internet resources and infrastructure in Lao PDR.



August 4<sup>th</sup>, 2025

The VNNIC collective and its leadership across different periods have been honored with the Medal of Friendship by the State of the Lao People's Democratic Republic, in recognition of VNNIC's outstanding, sustained, and effective contributions over the years.



VI. VIET NAM INTERNET NETWORK INFORMATION CENTER - VNNIC

The Viet Nam Internet Network Information Center (VNNIC), an organization under the Ministry of Science and Technology, is responsible for managing and promoting the use of Internet resources in Viet Nam; establishing, managing, and operating national critical Internet infrastructure systems, including the national DNS server system and the Viet Nam National Internet Exchange (VNIX).

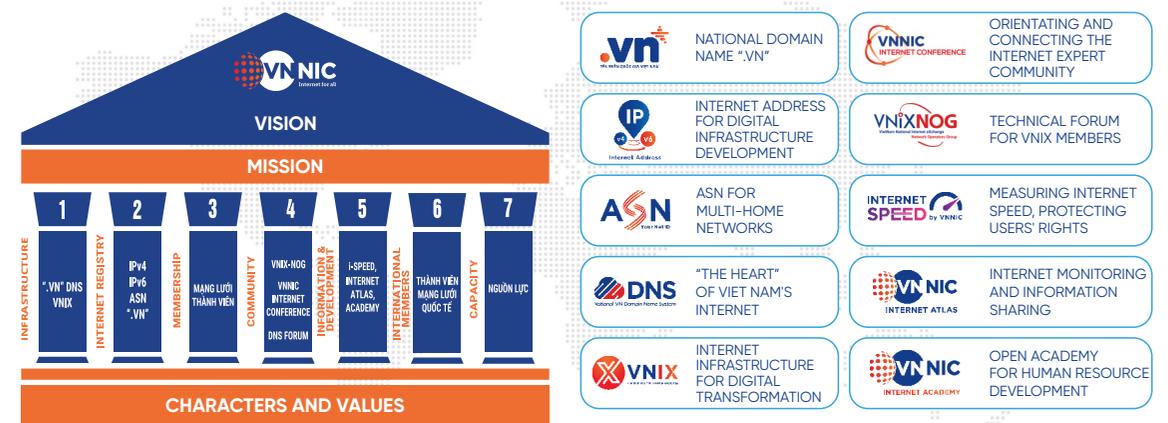
Having completed the 2021–2025 strategic phase with clearly defined results and targets achieved, VNNIC has effectively fulfilled its role as the national Internet Network Information Center (NIC). VNNIC provides critical infrastructure platforms, services, and Internet resources—such as the ccTLD, NIR, DNS, Internet Exchange, and WHOIS—to support the stable, secure, and sustainable development of Viet Nam's Internet, safeguard national digital sovereignty, and act as a key driver in shaping strategy, connecting communities, fostering growth, and strengthening Internet security, in line with the vision of "Internet for All."

As a pioneer in the development of Viet Nam's Internet, VNNIC has actively driven the transition to new Internet technologies, including IPv6 and IPv6-only. These efforts have helped position Viet Nam as a regional leader and a global frontrunner in the IPv6 transition roadmap. Beyond technical progress, this transition has created new space for the growth of the digital society and digital economy, while fostering a safer and more trusted Internet environment for citizens, enterprises, and society at large.

By developing Internet resources in a secure and sustainable manner, VNNIC has promoted the widespread use of Viet Nam's national ".vn" domain name, supporting online presence and enabling citizens and enterprises to access the digital space with greater trust and security.

Viet Nam's Internet resources are operated securely through the application of protection and authentication technologies such as Registry Lock, DNSSEC, eKYC, and routing security via RPKI. The national DNS system maintains a 99999% service level agreement (SLA) and complies with the international standard ISO/IEC 27001:2022, having been assessed at Level 5—the highest level of information security assurance.

VNNIC plays a central role in building major technology forums and nurturing Viet Nam's Internet expert community, notably through the VNNIC Internet Conference (VIC) and VNIX-NOG. These initiatives support the development of a secure and sustainable Internet, contributing to the growth of the digital economy and the safeguarding of national digital sovereignty.



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