

VIET NAM INTERNET NETWORK INFORMATION CENTER

REPORT ON
VIET NAM INTERNET RESOURCES
2018



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Introduction

The “Report on Viet Nam Internet Resources” was introduced in 2012 and has since become an annual publication, which would provide Internet statistics and growth achievements in Viet Nam each year.

In 2018, Viet Nam Internet Network Information Center (VNNIC), in collaboration with the Information and Communications Publishing House, continue to publish the bilingual version of the “**Report on Viet Nam Internet Resources 2018**”, to reflect the thorough picture of Viet Nam Internet resource development in 2018.

The highlight of year 2018 was the improvement of domain registration management, with the introduction of online registration system and document which still secures the validity and convenience of registrants. 2018 also witnessed the steady growth of IPv6 penetration rate in Viet Nam (21%), bringing our country to the 2nd position in ASEAN, 7th in the Asian – Pacific region, and 20th ranking globally. Especially, in the government sector, there was a significant transformation in awareness about IPv6 transition.

We expect that the “Report on Viet Nam Internet Resources 2018” would continue to benefit the authorities for all references of information and knowledge; to support enterprises and businesses to grasp the popular trend of Internet resource development in Viet Nam, for better market research and activities. Any comment and feedback for this report is definitely welcome.

Thank you!

VIET NAM INTERNET NETWORK INFORMATION CENTER



VNNIC 2018 IN FIGURES

(Updated to October 31st, 2018)

IPv6 - 20.73%: IPv6 adoption rate
- 11 billion IPv6 users

- 5,988 IPv6 enabled Websites
- 7th Asia - Pacific,
20th the world

IPv4 - 15,951,360 addresses
- 12th Asia - Pacific,
29th the world



“.vn” online registration
Public service level 4

2018



- **07** DNS Systems
(5 domestic,
2 foreign)
- 05 points in domestic
and more 70 points
in the world
- 05/07 DNS Systems
supporting IPv4/IPv6



Top 10
the Asia - Pacific

- 119,737
new registrations

- 541,008
Terabyte traffic via
VNIX
20 members



- 460,412
domains

New legislations on Internet resource registration and usage in Viet Nam

1. Regulations on the registration and usage of new gTLDs to protect sovereign and national benefit

The new gTLD Program is an initiative coordinated by ICANN, that is enabling the largest expansion of the domain name system. However, this initiative has created conflicts and impacts on national policies of many countries including Viet Nam, such as conflicts with national benefits from new gTLDs or potential conflicts by expansion of new second level domains under new gTLDs.

The Decree No. 27/2018/ND-CP dated March 01st 2018 by the Government amended and supplemented some articles of the Decree No. 72/2013/ND-CP dated July 15th, 2013 by the Government, which includes some new regulations on the registration and usage of new gTLDs to protect sovereign and national benefits, as follows:

- Principles and legal basis to protect national benefits in registration and usage of new gTLDs and second level domain under new gTLDs;
- Responsibilities of governmental authorities and Party bodies in protecting national benefits relating to new gTLDs and second level domain under new gTLDs.

2. Decision on the list of “.vn” domain names assigning right to use via auction stipulated by the Ministry of Information and Communications

The second level domain names under “.vn” domain names which have 1 or 2 characters (such as 1.vn, ab.vn) is the limited group of domain names with greater demand than assignment capacity therefore they are assigned the right to use via auction.

On March 29th, 2018, the Minister of Information and Communications signed the Decision No. 427/QĐ-BTTTT determining the list of “.vn” domain names assigned the right to use via auction. Accordingly, the list consists of:

- All ASCII second level “.vn” domain names with 1 character (one from 26 characters in the English alphabet and 10 numbers from 0 to 9)
- All ASCII second level “.vn” domain names with 2 characters (two from 26 characters in the English alphabet and 10 numbers from 0 to 9)

(Excluding all protected domain names under Article 68 Law on Information Technology, Section 1 Article 8 Circular No. 24/2015/TT-BTTTT dated August 18th, 2015 by the Ministry of Information and Communications on the management and usage of Internet resources).



PART 1

“.VN” COUNTRY CODE TOP LEVEL DOMAIN



I. “.vn” country code Top Level Domain (“.vn” ccTLD)

1. Development trend of ccTLDs in the domain name industry

Nowadays, ccTLD has gradually been becoming a preferable option of domestic market and such a trend of entering specific location in the world. Using ccTLDs has the advantage of search benefits depending on the IP address of the person doing the search.

Figure 1: Global domain marketplace

CENTRstats Global TLD Report
Market(est): 344.2M domains, 1,501 TLDs, 5.7% YOY Last updated October 2018

		TLDs	Domains	Growth Median (1Y)
ccTLDs	Africa	58	3.4M	6.2%
	Americas	54	13.9M	1.4%
	Asia	98	63.3M	2.9%
	Europe	57	71.7M	2.7%
gTLDs	-	1,232	188.9M	12.6%



Source: CENTRstats,

2. “.vn” ccTLD in the region and in Viet Nam’s domain market

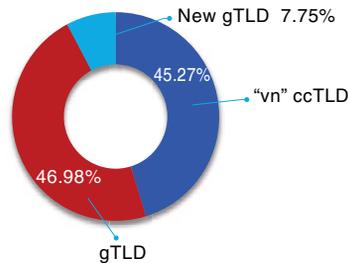
“.vn” ccTLD has kept the leading position in the number of registered domain names in ASEAN region since 2011, as well as held in Asia - Pacific top 10 ccTLDs with highest number of registrations.

Table 1: Ranking of ccTLDs in Asia - Pacific (July 2018)

Country/Territory	ccTLD	Number of domain names ccTLD	Member of ccTLD/100 Person
Australia	.au	3,154,467	25.4
Japan	.jp	1,516,616	4.5
South Korea	.kr	1,048,115	3.8
Iran	.ir	979,285	1.6
New Zealand	.nz	709,722	21.7
Taiwan	.tw	716,788	4.1
Viet Nam	.vn	444,862	1
Malaysia	.my	340,638	2.4
Hongkong	.hk	283,279	20.4
Indonesia	.id	255,726	0.4
Singapore	.sg	179,794	19.1
Kazakhstan	.kz	139,717	0.9
Thailand	.th	68,463	1.3
Uzbekistan	.uz	59,439	0.2
Sri Lanka	.lk	31,882	0.3

Source: APTLD

Figure 2: Domain market share in Viet Nam (July 2018)



Source: APTLD

3. Advantages of “.vn” ccTLD



SEO benefit



Connection through international breakout



Safety



24/7 service and support



Legal protection



Prompt query



Easy registration

4. Services on “.vn” domain names

The existing services on “.vn” domain names would provide convenience, trust and efficiency for Internet users in Viet Nam.

“.vn” domain name Online registration – Public service level 4	Registration procedure is simplified but still compliance with Vietnamese regulations and ensure the requirements of authoritative information of “.vn” domain name.
DNSSEC deployment	DNSSEC (Domain Name System Security Extensions) is a technology that was developed to strengthen trust in the Internet by helping to protect users from redirection to fraudulent websites and unintended addresses.
Registry Lock service for “.vn” domain name	Registry Lock service for “.vn” domain names would protect them from threats of potential attack or change of contact details and domain hijacking.
Transfer the right to use “.vn” domain name assigned without auction	Domain names assigned without auction now could be transferred legally and still kept the lawful right. The transaction should be secured and the domain service is not interrupted during the transaction.

5. Protecting Vietnamese brand names with “.vn” ccTLD

Domain names and intellectual property are two completely independent issues. Domain names are given out on a first-come, first-served basis. With a string of characters, only one entity can register the domain. This will be very different from trademark registration including identification of text, images, colors and groups of product. Enterprises should protect their brand value in the online environment by quickly registering related domain names to their business activities and “surrounding” multiple domain names to ensure that other organizations and individuals can not register identical or similar names to publish misleading information. This will save businesses’ money from handing domain dispute and later unexpected troubles.

II. ASCII “.vn” country code Top Level Domain name

1. ASCII “.vn” domain name development in 2018

1.1 ASCII “.vn” domain name new registrations during 2018

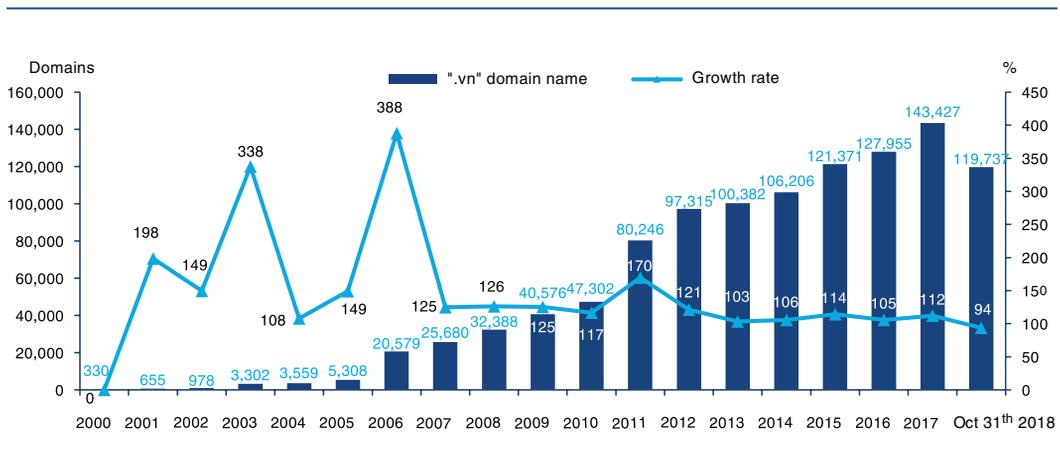
Figure 3: ASCII “.vn” domain name new registrations during 2018



1.2 ASCII “.vn” domain name new registrations over the years

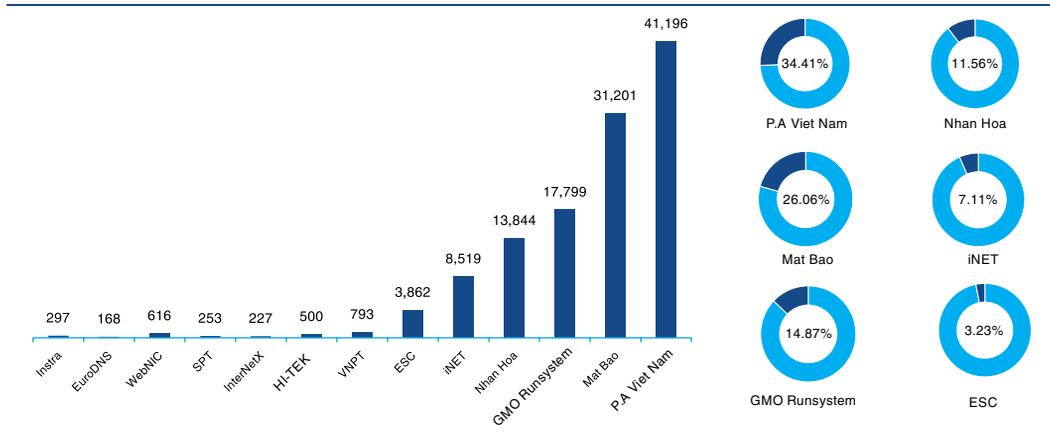
By October 2018, the number of new registrations reached 119,737 domain names, increasing 101% in comparison with last year’s period.

Figure 4: ASCII “.vn” domain name new registrations and growth rate over the years



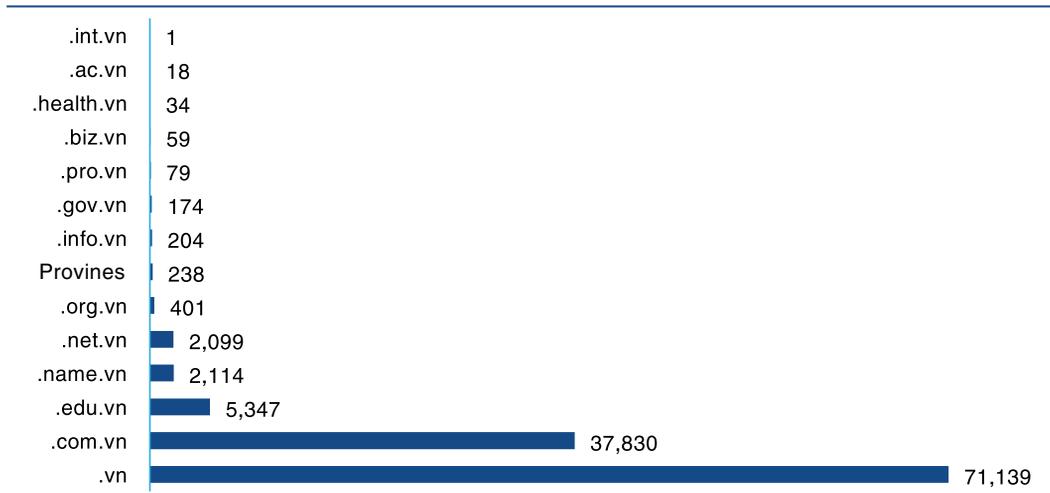
1.3 ASCII “.vn” domain name registrations by Registrar in 2018

Figure 5: ASCII “.vn” domain name new registrations by Registrar in 2018 (updated to October 31st, 2018)



1.4 ASCII “.vn” domain name new registrations by extension in 2018

Figure 6: ASCII “.vn” domain name new registrations by extension in 2018 (updated to October 31st, 2018)



Top 03 extensions with the highest number of new registrations (2014-2018)



1.5 ASCII “.vn” domain name new registrations by geographical area

From 2014 to 2018, the Northern and the Southern regions have had the highest number of ASCII “.vn” domain name new registrations with the trend of increasing in the Southern region.

Figure 7: ASCII “.vn” domain name new registrations by geographical area

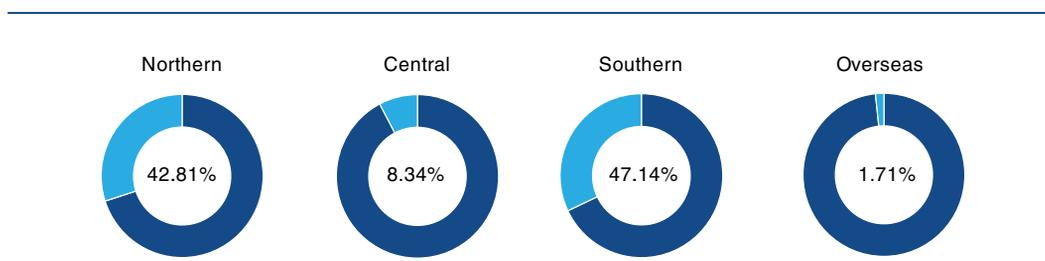
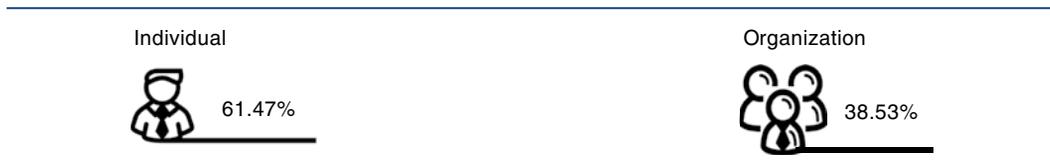


Table 2: ASCII “.vn” domain name new registrations by province and city under the central government (updated to October 31st, 2018)

Province/city	.vn new registration	Province/city	.vn new registration	Province/city	.vn new registration
An Giang	418	Ha Giang	51	Ninh Thuan	258
Ba Ria - Vung Tau	834	Ha Nam	505	Phu Tho	477
Bac Giang	672	Ha Noi (city)	40,664	Phu Yen	249
Bac Kan	37	Ha Tinh	400	Quang Binh	223
Bac Lieu	74	Hai Duong	888	Quang Nam	569
Bac Ninh	823	Hai Phong (city)	1,486	Quang Ngai	461
Ben Tre	326	Hau Giang	137	Quang Ninh	650
Binh Dinh	587	Ho Chi Minh (city)	46,154	Quang Tri	126
Binh Duong	1,673	Hoa Binh	214	Soc Trang	127
Binh Phuoc	293	Hung Yen	815	Son La	72
Binh Thuan	336	Khanh Hoa	971	Tay Ninh	236
Ca Mau	146	Kien Giang	419	Thai Binh	870
Can Tho (city)	682	Kon Tum	76	Thai Nguyen	499
Cao Bang	34	Lai Chau	20	Thanh Hoa	1,371
Da Nang (city)	2,169	Lam Dong	795	Thua Thien - Hue	358
Dak Lak	666	Lang Son	110	Tien Giang	456
Dak Nong	91	Lao Cai	188	Tra Vinh	155
Dien Bien	31	Long An	723	Tuyen Quang	106
Dong Nai	1,660	Nam Dinh	996	Vinh Long	164
Dong Thap	248	Nghe An	1,410	Vinh Phuc	526
Gia Lai	312	Ninh Binh	370	Yen Bai	136

1.6 ASCII “.vn” domain name new registrations by registrant type

In the period of 5 years (2014-2018), there was a fall in the share of organization registrants and a rise in the share of individual registrants which increased from 48.54% in 2014 to 61.47% in 2018.

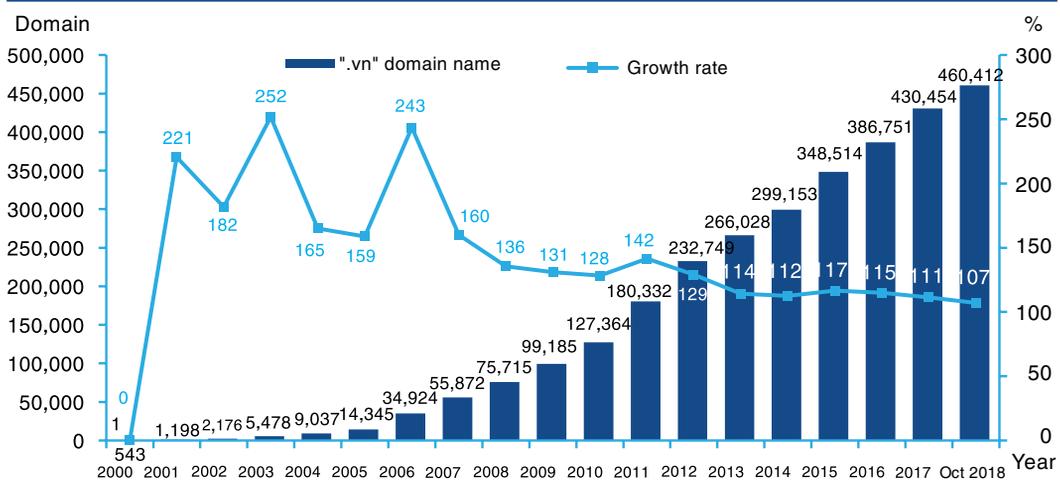


2. ASCII “.vn” domain name growth over the years

2.1 Cumulative number of ASCII “.vn” domain name registrations and growth rate

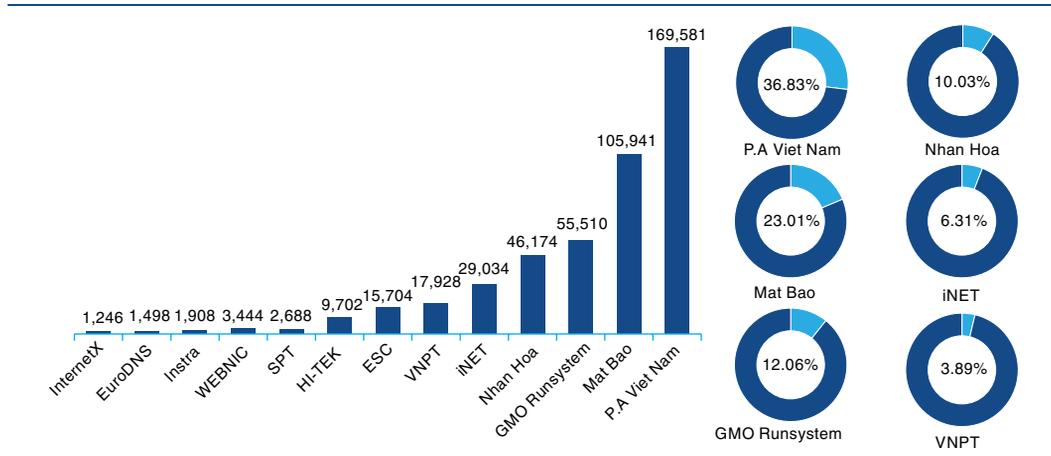
By October 2018, the growth rate of ASCII “.vn” domain name increased stably to 109% in comparison with the same period last year.

Figure 8: Cumulative number of ASCII “.vn” domain name registrations and growth rate over the years



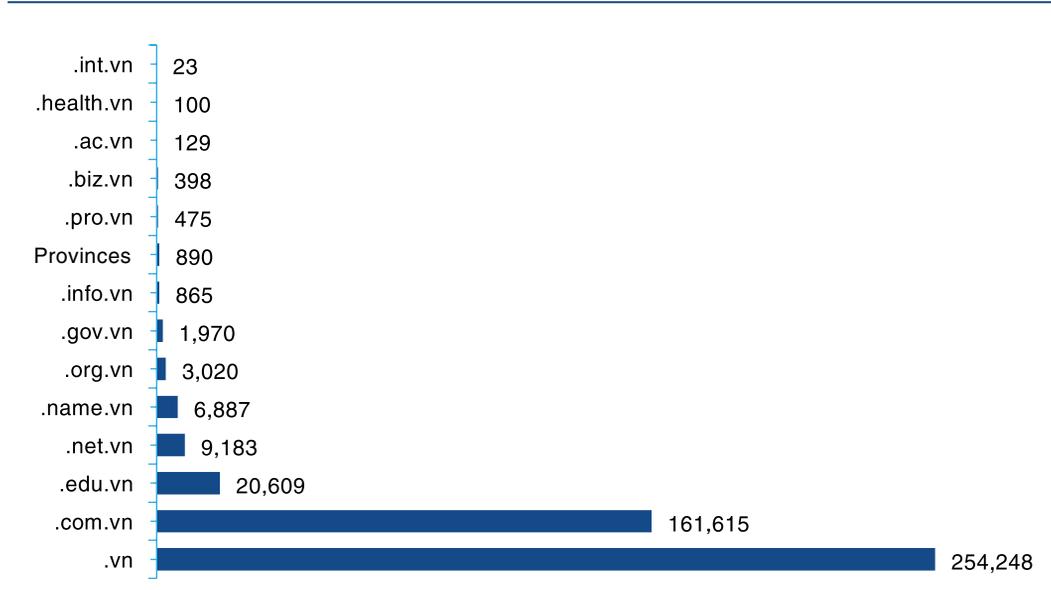
2.2 Cumulative number of ASCII ".vn" domain name by Registrar

Figure 9: Cumulative number of ASCII ".vn" domain name by Registrar (updated to October 31st, 2018)



2.3 Cumulative number of ASCII ".vn" domain name by extension

Figure 10: Number of ASCII ".vn" domain name by extension (updated to October 31st, 2108)



Top 03 extensions with the highest cumulative number (2014-2018)



2.4 Cumulative number of ASCII “.vn” domain name by geographical area

The foreign registration of ASCII “.vn” domain was available since 1999. Currently, the overseas market share of “.vn” has still remained relatively small. In 2014, domestic market share accounted for 94.46% of the total ASCII “.vn” domain name, by October 2018 this number was 95.85%.

Figure 11: Cumulative number of ASCII “.vn” domain name by geographical area

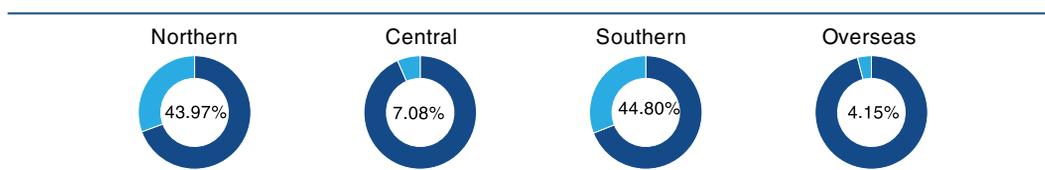


Table 3: Total ASCII “.vn” domain name by provinces and city under the central government (updated to October 31st, 2018)

Province/city	“.vn” domain	“.gov.vn” domain	Province/city	“.vn” domain	“.gov.vn” domain	Province/city	“.vn” domain	“.gov.vn” domain
An Giang	1,194	7	Ha Giang	165	4	Ninh Thuan	622	6
Ba Ria - Vung Tau	2,968	14	Ha Nam	1,407	16	Phu Tho	1,199	16
Bac Giang	1,787	16	Ha Noi (city)	169,142	650	Phu Yen	610	12
Bac Kan	130	14	Ha Tinh	1,247	29	Quang Binh	799	18
Bac Lieu	237	9	Hai Duong	2,722	12	Quang Nam	1,942	98
Bac Ninh	2,550	11	Hai Phong (city)	5,608	39	Quang Ngai	1,246	20
Ben Tre	1,117	11	Hau Giang	295	2	Quang Ninh	2,220	27
Binh Dinh	2,140	19	Ho Chi Minh (city)	172,629	250	Quang Tri	483	28
Binh Duong	6,272	19	Hoa Binh	792	11	Soc Trang	437	7
Binh Phuoc	855	32	Hung Yen	2,376	17	Son La	271	18
Binh Thuan	1,170	13	Khanh Hoa	3,791	51	Tay Ninh	772	4
Ca Mau	411	6	Kien Giang	1,278	13	Thai Binh	2,369	13
Can Tho (city)	2,464	16	Kon Tum	246	11	Thai Nguyen	1,426	21
Cao Bang	114	11	Lai Chau	91	3	Thanh Hoa	3,867	51
Da Nang (city)	8,129	30	Lam Dong	2,448	15	Thua Thien -Hue	1,289	12
Dak Lak	1,792	25	Lang Son	332	9	Tien Giang	1,223	10
Dak Nong	244	5	Lao Cai	579	11	Tra Vinh	687	4
Dien Bien	176	24	Long An	2,093	9	Tuyen Quang	337	29
Dong Nai	5,753	29	Nam Dinh	3,036	14	Vinh Long	533	3
Dong Thap	786	9	Nghe An	3,962	42	Vinh Phuc	1,686	8
Gia Lai	807	7	Ninh Binh	1,377	14	Yen Bai	397	14

2.5 Cumulative number of ASCII “.vn” domain name by Registrant type



3. “.vn” ASCII domain name most queried on the national DNS

No.	Domain	No.	Domain
01	google.com.vn	06	shopee.vn
02	vnpt.vn	07	zing.vn
03	dantri.com.vn	08	vietinbank.vn
04	tiki.vn	09	viettel.vn
05	fpt.vn	10	kenh14.vn

4. ASCII “.vn” domain name usage in 2018

Figure 12: ASCII “.vn” domain name usage in 2018 (updated to October 31st, 2018)

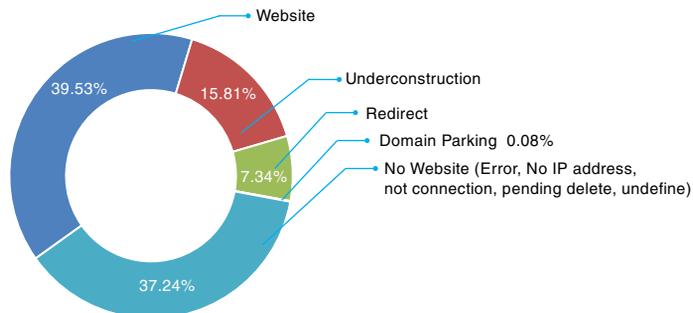
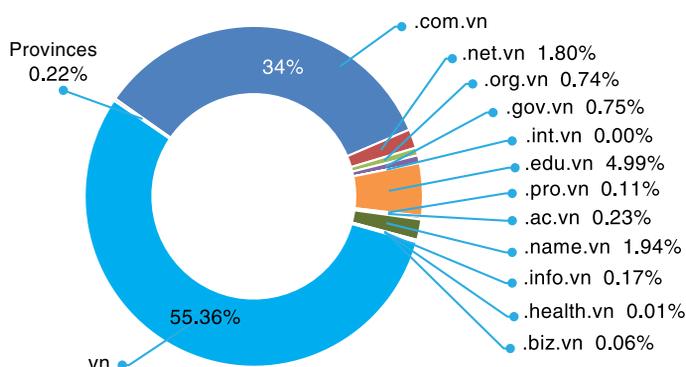


Table 4: ASCII “.vn” domain name usage in 2018

	January	February	March	April	May	June	July	August	September	October
Website	173,944	169,114	172,551	175,178	177,637	177,179	178,923	179,000	178,427	179,159
Under construction	67,494	66,740	72,559	71,970	69,830	71,346	66,792	72,282	72,834	72,653
Redirect	31,263	31,031	32,237	32,840	33,359	33,268	33,141	33,079	33,331	33,509
Domain Parking	347	341	337	345	344	339	337	329	334	333
No Website	159,407	163,505	158,938	161,148	163,454	166,208	171,499	169,289	171,045	174,758

Figure 13: ASCII “.vn” domain name having Website by extension in 2018 (updated to October 31st, 2018)

 Table 5: ASCII “.vn” domain name usage by extensions (updated to October 31st, 2018)

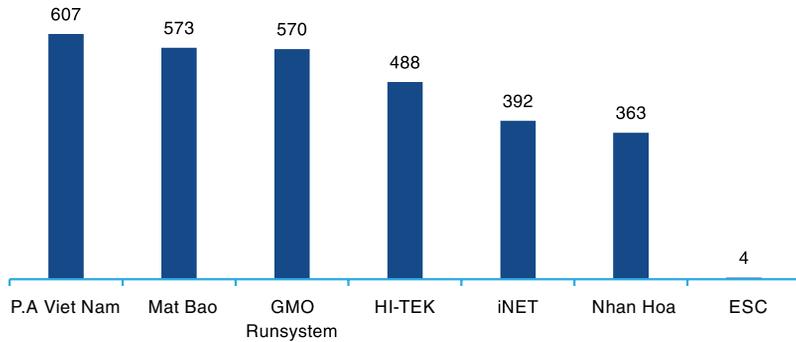
Extensions	Website	Under Construction	Redirect	Domain Parking	No Website
.vn	104,239	37,816	17,752	162	94,279
.com.vn	57,699	25,210	13,517	165	65,024
.net.vn	2,990	1,280	684	5	4,224
.org.vn	1,528	349	176	1	966
.gov.vn	1,313	178	125	0	354
.int.vn	2	5	2	0	14
.edu.vn	10,178	2,493	1,001	0	6,937
.pro.vn	167	88	26	0	194
.ac.vn	51	17	6	0	55
.name.vn	258	4,807	47	0	1,775
.biz.vn	79	49	45	0	225
.health.vn	20	21	2	0	57
.info.vn	257	139	64	0	405
Provinces	384	192	53	0	261

III. Vietnamese Internationalized Domain Name

Since year 2017, Vietnamese Internationalized Domain Name (Vietnamese IDN) was applied major changes in fee band and adopted of ASCII “.vn” domain name policies and management model, together with its value added services (Registry Lock service, domain name transfer of rights without auction, DNSSEC). 2,997 Vietnamese IDN were registered in 2018.

1. Vietnamese IDN new registration in 2018

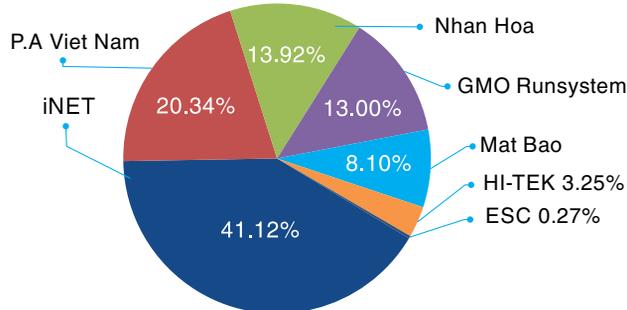
Figure 14: Vietnamese IDN new registration by Registrar in 2018 (updated to October 31st, 2018)



2. Vietnamese IDN growth

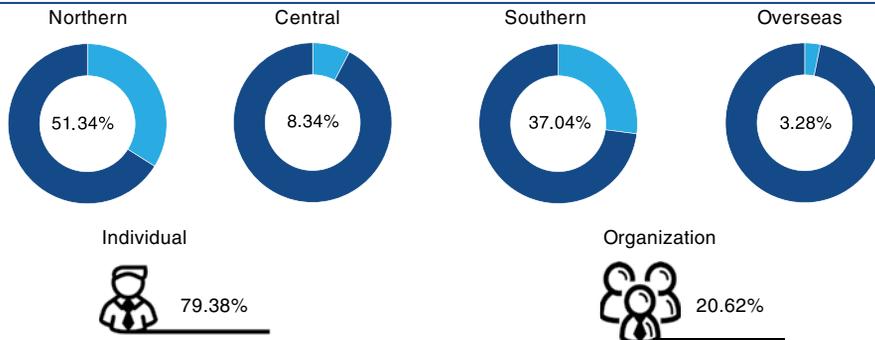
2.1 Cumulative number of Vietnamese IDN by Registrar

Figure 15: Cumulative number of Vietnamese IDN by Registrar (updated to October 31st, 2018)



2.2 Cumulative number of Vietnamese IDN by geographical area and registrant type

Figure 16: Cumulative number of Vietnamese IDN by geographical area and registrant type



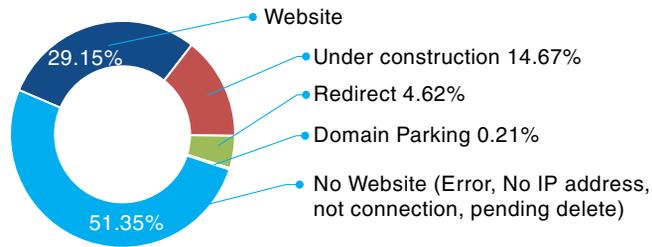
2.3 Vietnamese IDN: new registration in 2018 and cumulative number

Figure 17: Vietnamese IDN: new registration in 2018 in comparison with cumulative number



3. Vietnamese IDN usage

Figure 18: Vietnamese IDN usage in 2018 (updated to October 31st, 2018)



4. Vietnamese IDN most queried on the national DNS

No.	Domain	No.	Domain
01	thoátvĩđịađệm.vn	06	máytarô.vn
02	dạđày.vn	07	sòithận.vn
03	nờicơmđiệncuckoohànquốc.vn	08	quảngninhskyline.vn
04	phúcancity.vn	09	toán.vn
05	bệnhgout.vn	10.	miềntây.vn

IV. Statistics of value - added services on “.vn” domain name

1. Registry Lock Service

Until now, Registry Lock service is deployed for both ASCII “.vn” domain name and Vietnamese IDN. By October 2018, there were 3,685 ASCII “.vn” domain names and 09 Vietnamese IDN using this service.

Figure 19: ASCII “.vn” domain name using Registry Lock service by extension (updated to October 31st, 2018)

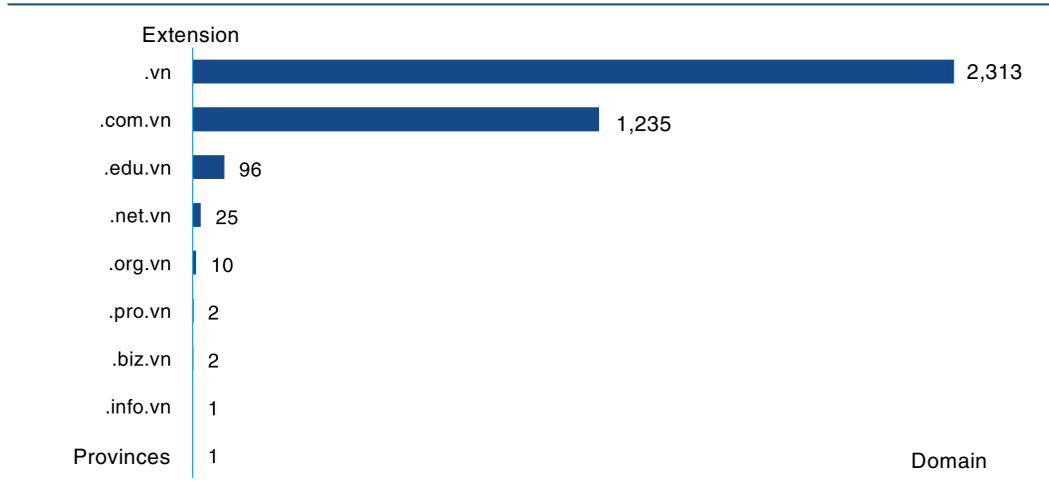
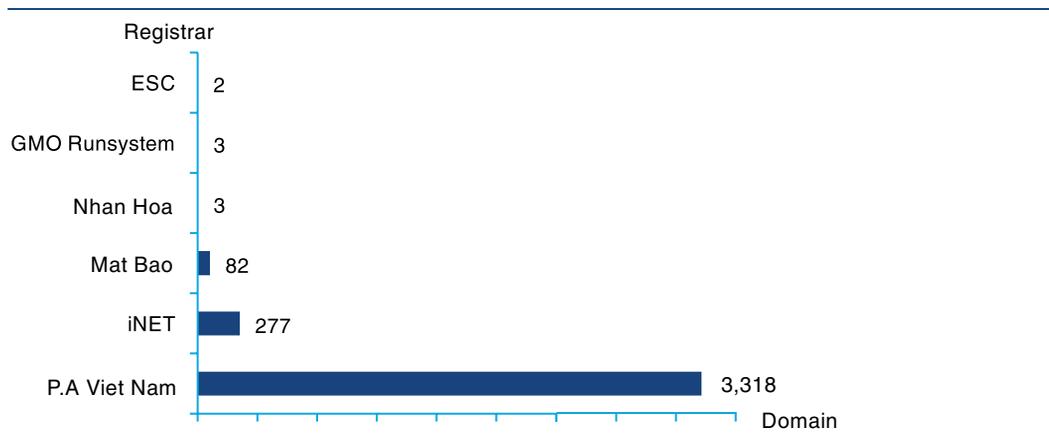


Figure 20: ASCII “.vn” domain name using Registry Lock service by registrar (updated to October 31st, 2018)



2. DNSSEC extension on the national DNS system

In March 2018, after the successful deployment of DNSSEC for “.vn” domain name zone on the national DNS system since 2016, VNNIC extended the specifications to all DNS systems for second level domain extension (.net.vn, .com.vn, .gov.vn, .hanoi.vn, .danang.vn, .thanhphohochiminh.vn, etc.). Consequently, all systems managed by VNNIC have been deployed with DNSSEC, connecting the national DNS with DNS Root and international DNS systems. DNSSEC implementation has brought about the safety, precision and trust to the Internet in Viet Nam, marking a breakthrough in the infrastructure development, and proving the readiness for e-commerce and e-government. By October 31st, 2018, there were 114 domain signed with DNSSEC.

Figure 21: Number of “.vn” domain name registered DNSSEC by Registrar

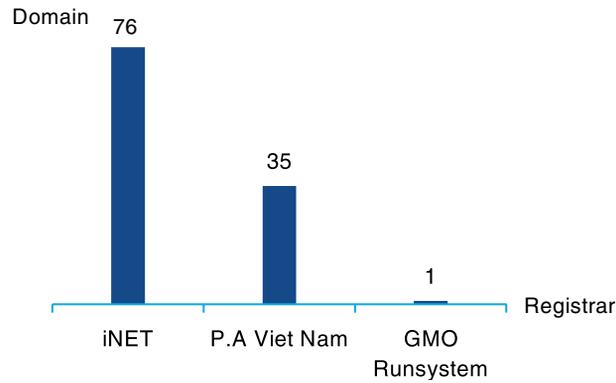
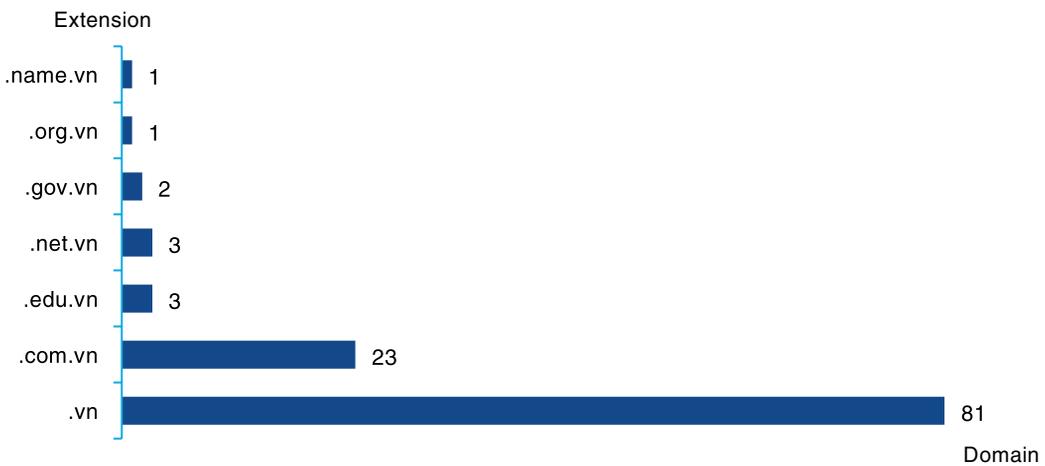


Figure 22: Number of “.vn” domain name with DNSSEC by extension



3. “.vn” domain name transfer

By October 2018, there were 2,037 requests to transfer “.vn” domain name, which doubled the number of transfers in 2017. All domestic Registrars could provide efficient and stable transfer service for customers.

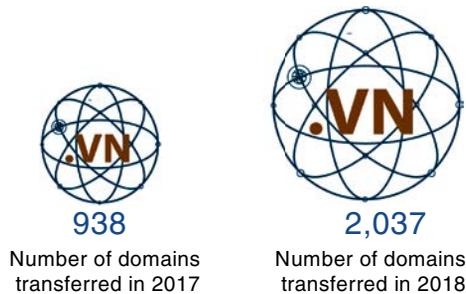


Figure 23: “.vn” domain name transferred by extension in 2017 and 2018

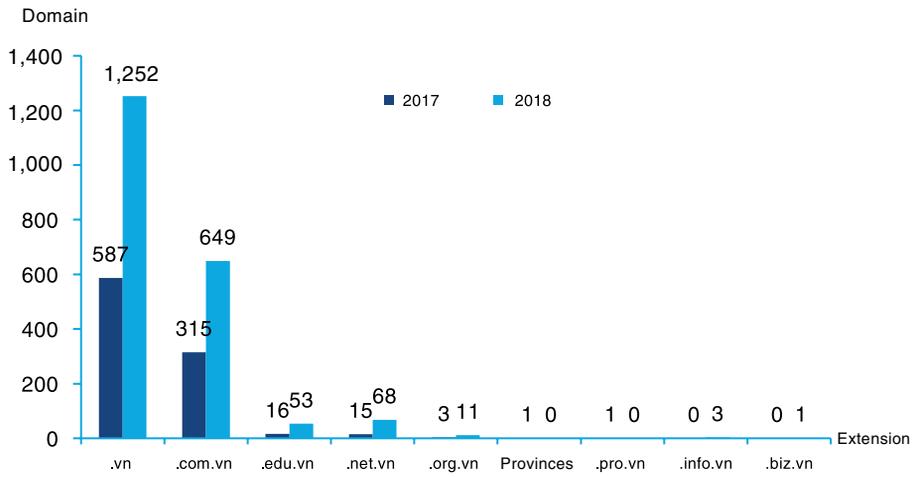
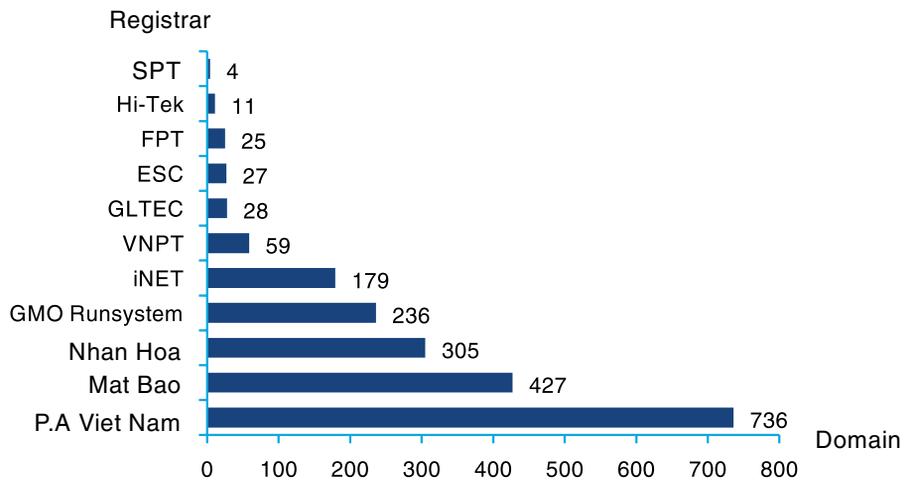


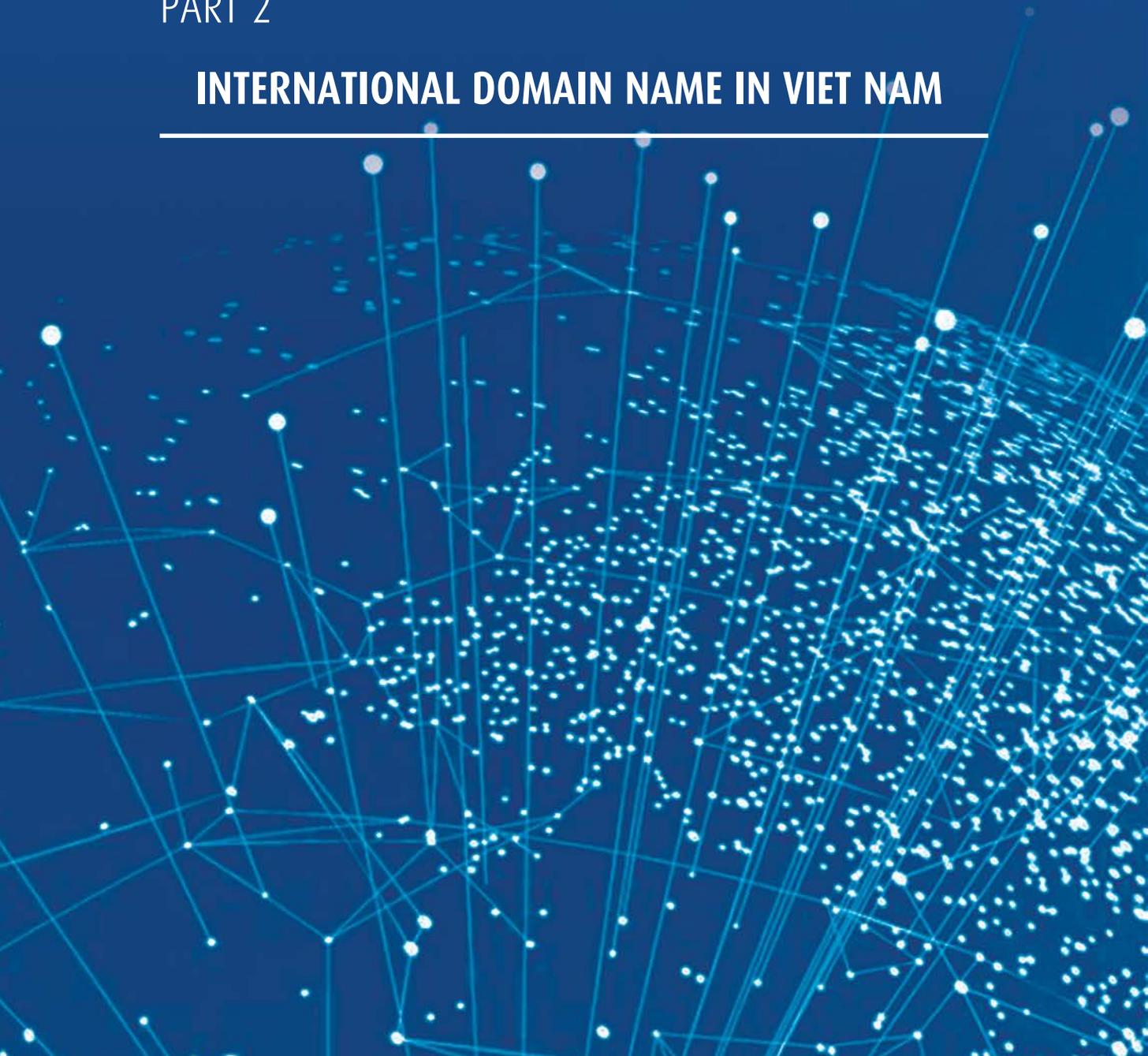
Figure 24: “.vn” domain name transferred by registrant 2018





PART 2

INTERNATIONAL DOMAIN NAME IN VIET NAM



The registration and the use of international domain name in Viet Nam must comply with Vietnamese laws and regulations which are stipulated in Decree No. 72/2013/ND-CP dated July 5th, 2013 on the management, provision and use of Internet services and online information, Decree No. 27/2018/ND-CP dated March 1st, 2018 on amendments to Decree No. 72/2013/ND-CP on management, provision and use off Internet services and online information, Circular No. 24/2015/TT-BTTTT dated August 18th, 2015 on the management and use of Internet resources and other document of information technology laws and telecommunications laws.

For registrants, they have obligations to submit the registration application and provide adequate information as stipulated in Vietnamese laws regulations, update their information if there is any change. Before and international domain name is in use, registrants have obligations to inform their use of international domain name to Ministry of Information and Communications (MIC) via the Website www.thongbaotenmien.vn. Both international domain name and “.vn” domain name is under the same regulations of information management in Viet Nam.

For international domain name Registrars in Viet Nam, they have obligations to manage registration data, instruct registrants to inform their use of international domain name, provide information and cooperate with competent authorities to settle dispute cases related to international domain names under their management.

I. The list of international domain name Registrars in Viet Nam

Table 6: The list of international domain name Registrars in Viet Nam

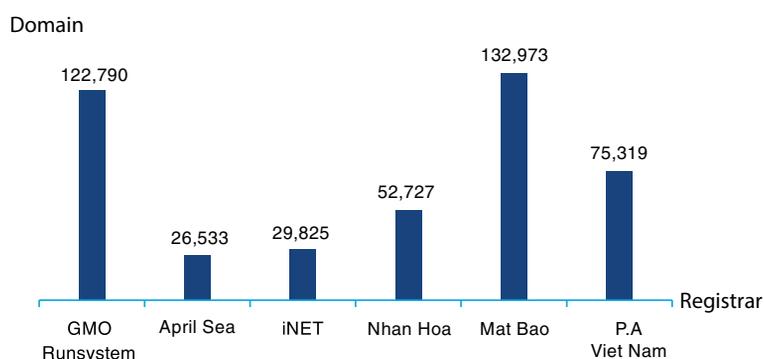
No.	Registrar	Website
1	April Sea Information Technology Company Limited	maprilis.com.vn
2	Viet light Technology Joint Stock Company	hostvn.net
3	BITS Co., LTD	bits.vn
4	Bachkim Network Solution Joint Stock Company	www.bkns.vn
5	Nguyen Ngoc Thanh Trading Limited Company	www.tnd.vn
6	Son Viet Software Co., LTD	vnts.vn
7	Digistar Company Limited	www.digistar.vn
8	DOT VN INC Joint Stock Company	it.vn
9	Digital Storage Company Limited	123host.vn
10	Digital World Data Online Company Limited	tgs.com.vn

No.	Registrar	Website
11	Online Solutions Company Ltd	http://www.esc.vn
12	GMO-Z.Com Runsystem Joint Stock	www.runsystem.net
13	HT&Ecom Online Business Development Company Limited	www.htecom.vn
14	Hong Son Technology Joint Stock Company	viethost.net
15	Huu Nhan Online Solutions Company Limited	huunhan.vn ; hnvietnam.vn
16	Im Develop and Investment Corporation	www.imgroup.vn
17	Inet Corporation	iNET.com.vn
18	Trang Web Vang Company	www.trangwebvang.com
19	L.P.V.N Informatics – Design Co., LTD	lpvietnam.com
20	Viet Hosting Co., LTD	https://www.viethosting.com
21	Mat Bao Corporation	www.matbao.vn
22	MinhTriet Network Administrator Company Limited	www.adonlead.com
23	NetNam Corporation	www.netnam.vn
24	New Vision Technology Service Trading Company Limited	www.vdata.vn
25	Online Data Services Joint Stock Company	https://www.ods.vn
26	P.A Viet Nam Company Limited	pavietnam.vn
27	Powernet Co., LTD	http://powernet.vn
28	SGC Company LTD	www.sgc.vn
29	Tan Duc Technical Development and Trading Joint Stock Company	tdt-tanduc.com
30	Tech Hanoi JSC	techhanoi.com
31	Center of Informatics and Communications	www.truongthanhdhdesign.com
32	Vietnext	vietnext.vn
33	Viet Nam Future Technology Joint Stock Company	https://www.fttech.vn
34	Viet Nam Online Software Solutions Joint Stock Company	vinaweb.vn
35	VietNam., ISC	vietnap.vn
36	Vietnix Solution and Technology JSC	www.vietnix.vn
37	Vietweb	vietweb.vn
38	Vi Nam Informatics Technology Solution and Business Company Limited	vinabits.com.vn

No.	Registrar	Website
39	Vinahost Company Limited	vinahost.vn
40	Vipcom Company Limited	vipcom.vn
41	Nhan Hoa Software Company Limited	www.nhanhoa.com
42	Viet Arrow Company	www.vietarrow.com
43	Vietnam Muntimedia Service Joint Stock Company	www.vmmms.vn
44	Viet Solution E-commerce Company Limited	vietsol.net
45	Viettel IDC	viettelidc.com.vn
46	Vinacis Corporation	www.vinacis.com
47	Vinno Viet Nam Joint Stock Company	vinno.vn
48	Viet Khanh Company	telnet.vn; vietkhanh.net
49	Viet Net Nam Co., Ltd	vietnetnam.vn
50	iNET Software Co., Ltd	iNET.vn

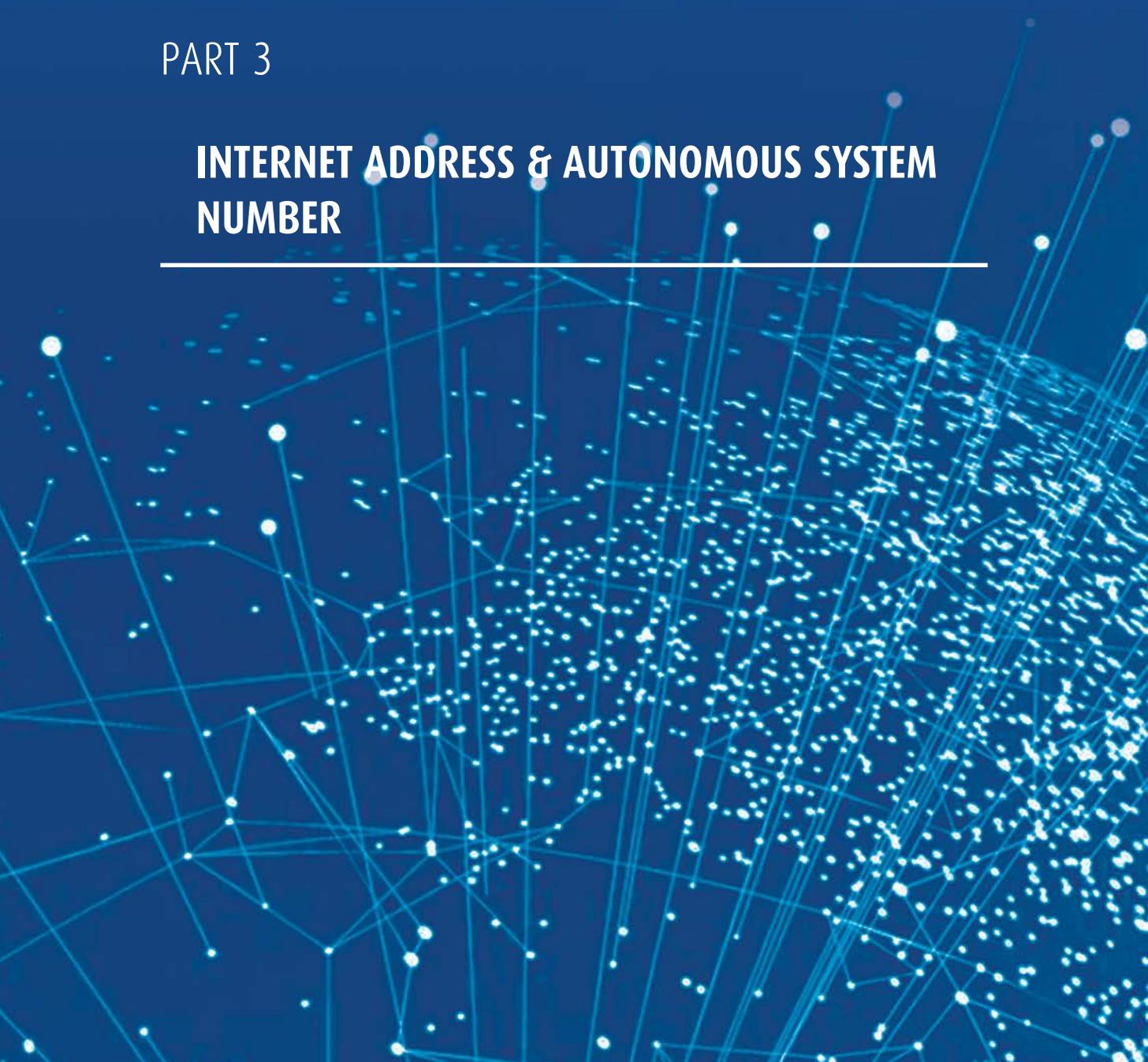
II. International domain name statistics in Viet Nam

Figure 25: Statistics of some international domain name Registrars in Viet Nam (updated to October 31st, 2018)



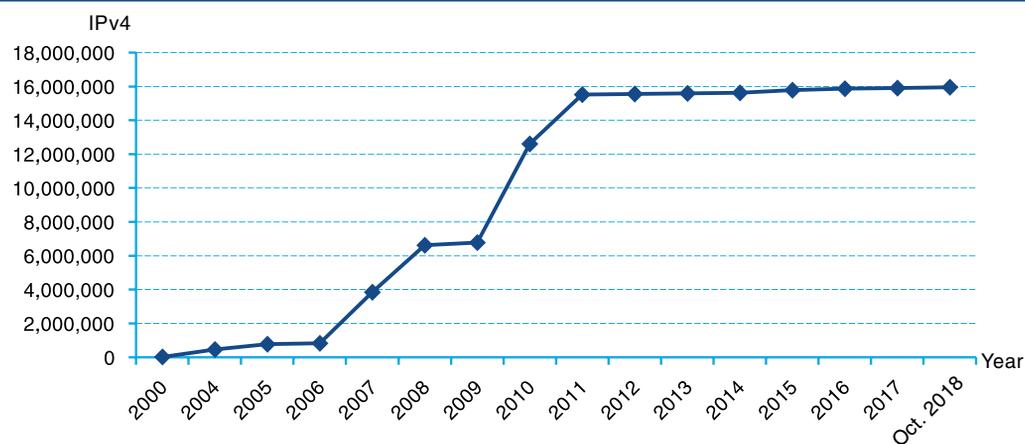
PART 3

**INTERNET ADDRESS & AUTONOMOUS SYSTEM
NUMBER**



I. IPv4 address growth over the years

Figure 26: IPv4 address growth over years



From 16,896 IPv4 addresses, in 2000, the number of IPv4 address increased significantly and reached 1 million in 2007 and reach 10 million in 2010. By October 2018, the number of IPv4 address reached 15,951,360, Viet Nam ranked the 2nd in the ASEAN region, the 8th in Asia region and the 29th in the world.

II. Countries ranking by IPv4 address allocation

According to Potaroo.net, Viet Nam ranked the 2nd in the ASEAN region, the 8th in Asia region and the 29th in the world in term of IPv4 addresses.

Table 7: Countries ranking by IPv4 address allocation

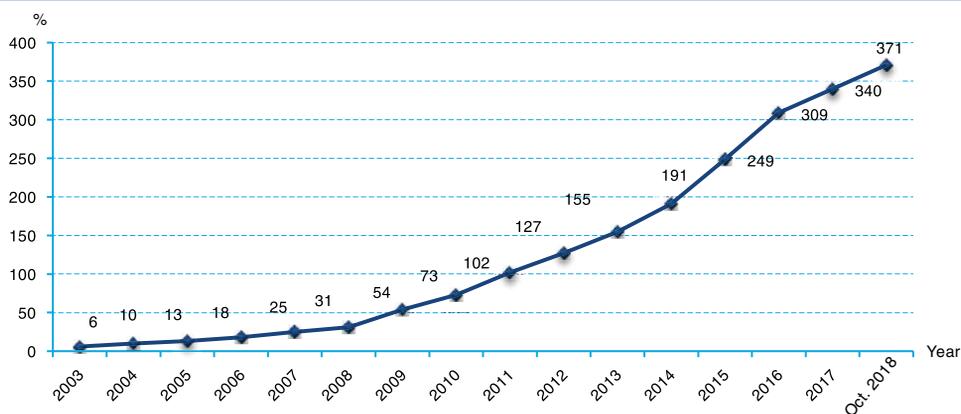
No.	Country/Territory	Number of IPv4 addresses	% of IPv4 space
1.	United States of America	1,605,638,912	37.38%
2.	China	340,384,512	7.93%
3.	Japan	204,076,288	4.75%
4.	Germany	122,395,264	2.85%
5.	United Kingdom of Great Britain and Northern Ireland	122,355,736	2.85%
6.	Republic of Korea	112,453,120	2.62%
7.	Brazil	84,953,088	1.98%
8.	France	82,826,800	1.93%
9.	Canada	70,284,032	1.64%

No.	Country/Territory	Number of IPv4 addresses	% of IPv4 space
10.	Italy	54,946,112	1.28%
11.	Australia	48,563,968	1.13%
12.	Netherlands	48,550,632	1.13%
13.	Russian Federation	45,641,984	1.06%
14.	India	40,971,264	0.95%
15.	Taiwan	35,624,192	0.83%
16.	Spain	31,230,784	0.73%
17.	Sweden	30,318,696	0.71%
18.	South Africa	29,260,800	0.68%
19.	Mexico	28,895,232	0.67%
20.	Belgium	28,514,688	0.66%
21.	Egypt	22,816,256	0.53%
22.	Poland	21,006,152	0.49%
23.	Switzerland	20,447,672	0.48%
24.	Argentina	19,298,048	0.45%
25.	Indonesia	18,423,808	0.43%
26.	Colombia	17,379,584	0.40%
27.	Turkey	16,558,336	0.39%
28.	Norway	16,028,304	0.37%
29.	Viet Nam	15,951,360	0.37%
30.	Finland	13,571,776	0.32%

Source: <http://resources.potaroo.net>

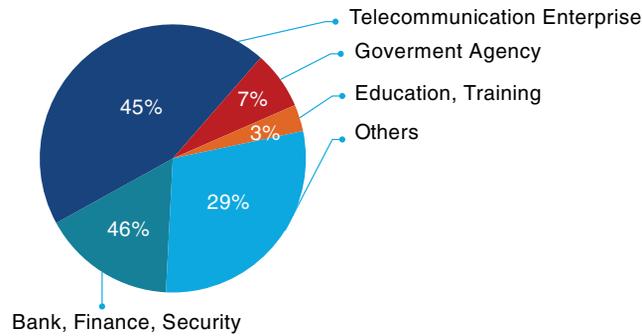
III. VNNIC's IP members

Figure 27: VNNIC's IP members over the years



The demand of IP addresses increases to follow the Internet development. The number of VNNIC's IP members grew steadily over the years, approximately 30 - 40 new members per year. There were 371 VNNIC's IP members as of October, 2018.

Figure 28: VNNIC's IP members by category



IV. Autonomous System Number (ASN)

Regarding the development of independent networks and multi-homed networks, the number of ASNs grew steadily over the years. There were 299 ASNs delegated to VNNIC's IP members in Viet Nam by October, 2018.

Figure 29: Number of ASNs over the years



PART 4:

**IPv6 DEPLOYMENT TOWARD THE TARGET OF
VIET NAM IPv6 ACTION PLAN**

I. Viet Nam National IPv6 Action Plan

On March 29th, 2011, Minister of Information and Communications issued Viet Nam National IPv6 Action Plan which determined the objectives and a specific roadmap for IPv6 deployment in Viet Nam; with the main target is to ensure the stable operation of Viet Nam Internet within IPv6 technology’.

Preparation Phase (2011-2012)

- Making the assesment of the network, conducting IPv6 test and training.
- ISPs issue their own IPv6 action plans as following on the Viet Nam National IPv6 Action Plan.

Implementation Phase (2013-2015)

- Network transition for supporting IPv4/IPv6.
- Forming National IPv6 Network Infrastructure; Providing IPv6 services to customers.

Accomplishment Phase (2016-2019)

- Completing IPv6 transition for networks, services, applications, software and network equipments in over the Viet Nam Internet; Providing officially IPv6 services to end users.
- Ensuring the stable operation of Viet Nam Internet within IPv6 technology.

The tasks of Viet Nam National IPv6 Action Plan

Internet Enterprises	<ul style="list-style-type: none"> • To provide IPv6 services to their customers. • To reach the global IP average IPv6 adoption rate. • To deploy IPv6 for their internal networks.
Organizations with their internal network	<ul style="list-style-type: none"> • To enable IPv6 for infrastructure and network system. • To enable IPv6 for their Websites. • To enable IPv6 for internal networks.
Government Agencies	<ul style="list-style-type: none"> • IPv6 deployment for Websites and public services level 3 and level 4. • To enable IPv6 for their internal networks. • To enable IPv6 for State-Private Networks. • To encourage government agencies to register independent IPv6 blocks and ASN.

II. Viet Nam National IPv6 Task Force

On January 06th, 2009, Viet Nam National IPv6 Task Force (VNIPv6TF) was established by Minister of Information and communications and adjusted the members of VNIPv6TF as following up the requirements during IPv6 promotion process, with main functions to carry out research, plan and schedule for implementing IPv6 transition in Viet Nam.

Members:

- Deputy Minister of Information and Communications (MIC) - Chairman.
- Director General of Viet Nam Internet Network Information Center (VNNIC) - Vice Chairman.
- VNNIC is the Standing Committee for the Task Force, cooperating and organizing the Task Force's activities as following Viet Nam National IPv6 Action Plan and the annual IPv6 promotion plans.
- High position officials of units from MIC, Office of the Party Central Committee, Ministry of Education and Training, Ministry of Science and technology, ISPs and CPs.

Main IPv6 promotion activities of VNIPv6TF:



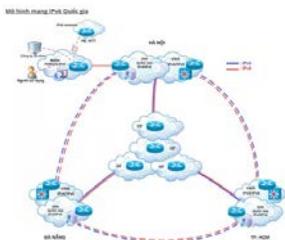
Policies



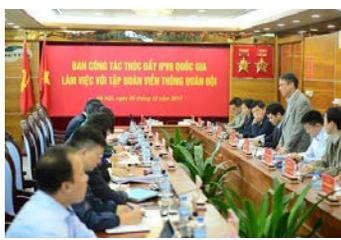
Communications



IPv6 Training Courses and transition analytics



Viet Nam National IPv6 Network



Working visits with enterprises and supporting enterprises



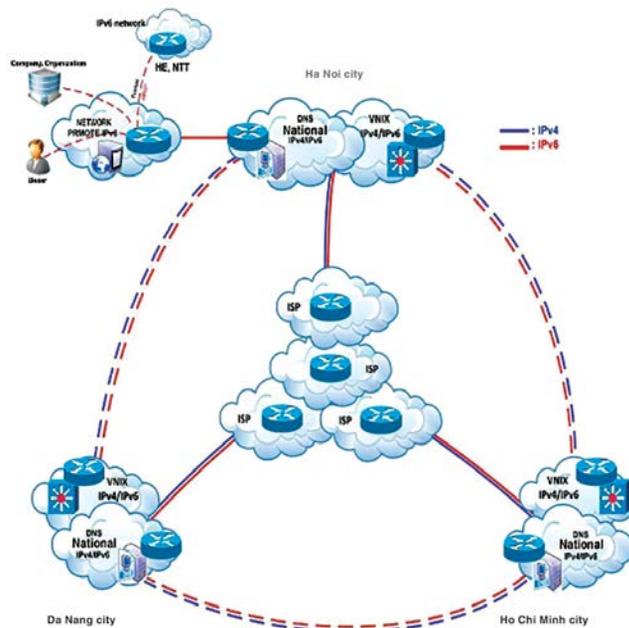
International Cooperation

III. Completing National IPv6 Action Plan together

1. National IPv6 Network

In order to accomplish successfully the national IPv6 targets as following Viet Nam National IPv6 Action Plan, the National IPv6 Network was launched on Viet Nam IPv6 Day 2013 (May 6th, 2013) with the connection of VNNIC and 05 ISP (including: Viettel Group, VNPT Group, FPT Telecom, NetNam and VTC). The Network based on the national Domain Name System (DNS) and Viet Nam Network Internet Exchange (VNIX) has maintained and developed since the official launch. As of October, there are 5/7 DNS Servers supporting IPv4/IPv6 and 17/20 ISPs connecting VNIX via IPv4/IPv6. The National IPv6 Network is a main platform infrastructure for deploying IPv6 in Viet Nam.

Viet Nam National IPv6 Network Model



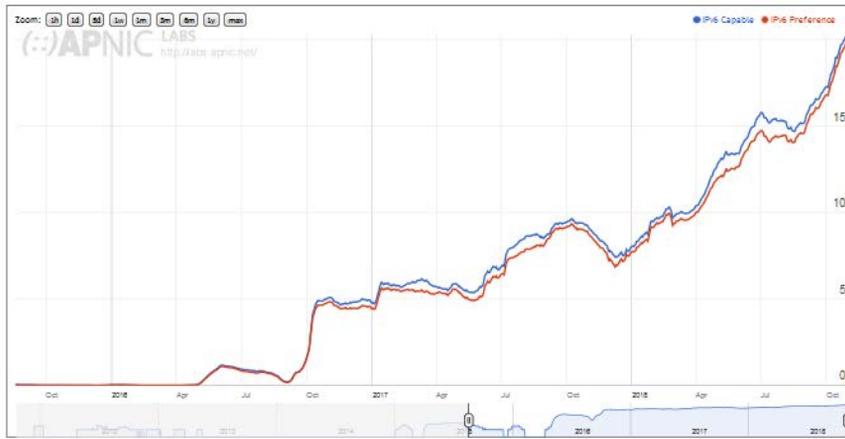
2. The use of IPv6 for Viet Nam

IPv6 deployment in Viet Nam has increased rapidly. As of October 2018, IPv6 adoption rate on Viet Nam reached approximately 20.73%⁽¹⁾, with more than 11,000,000 IPv6 users⁽²⁾.

⁽¹⁾ Source: APNIC

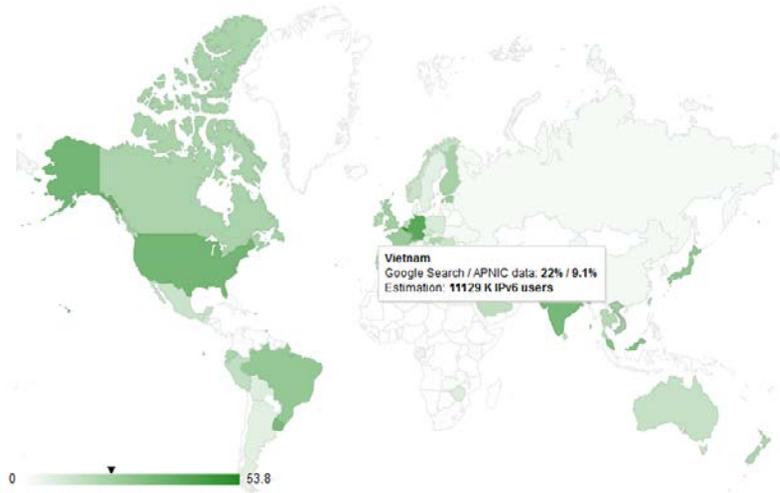
⁽²⁾ Source: Cisco

Figure 30: The use of IPv6 for Viet Nam



Source: APNIC

Figure 31: The number of IPv6 users



Source: Cisco

Viet Nam ranked the 2nd in ASEAN region and 7th in Asia - Pacific Region (after India, USA, Malaysia, Japan, Taiwan and Canada) and passed Australia and New Zealand to reach 20th in over the world⁽¹⁾.

Table 8: Top 20 countries/territory on deploying IPv6

No.	Country/Territory	The use of IPv6	No.	Country/Territory	The use of IPv6
1	Belgium	57.81%	4	Germany	40.97%
2	India	48.03%	5	Malaysia	37.96%
3	United States	45.38%	6	Greece	35.30%

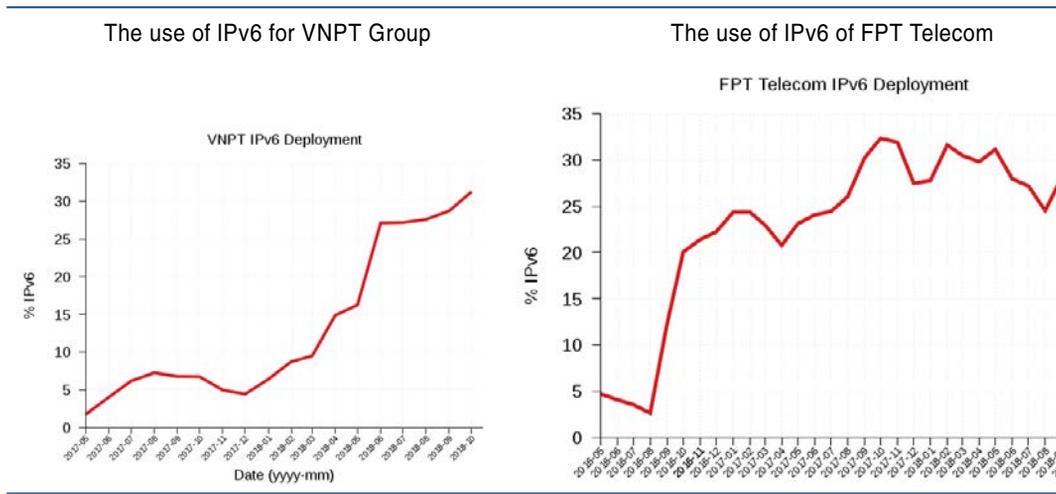
⁽¹⁾ Source: APNIC

No.	Country/Territory	The use of IPv6	No.	Country/Territory	The use of IPv6
7	Uruguay	31.08%	14	Taiwan	25.48%
8	Luxembourg	29.64%	15	Estonia	24.94%
9	Switzerland	28.91%	16	Canada	23.38%
10	Brazil	27.52%	17	France	23.12%
11	United Kingdom	27.01%	18	Finland	21.97%
12	Japan	26.28%	19	Trinidad and Tobago	21.01%
13	Aland Islands	26.27%	20	Viet Nam	20.73%

Source: APNIC

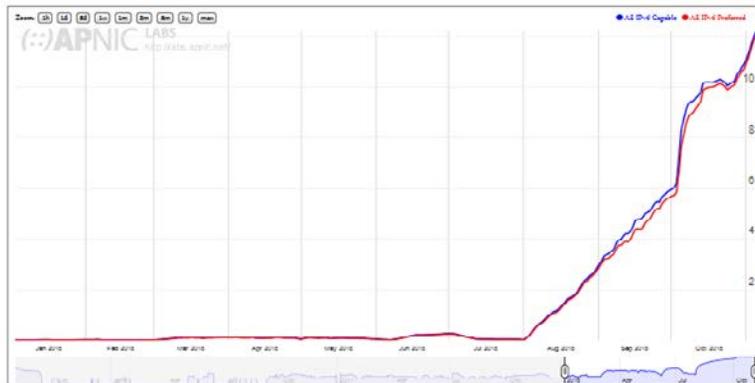
3. IPv6 deployment for Internet services

Figure 32: IPv6 deployment status of 03 biggest ISPs in Viet Nam



Source: World IPv6 Launch

The use of IPv6 for Viettel Group



Source: APNIC

- FTTH Service: FTTH networks have contributed greatly to the Viet Nam IPv6 adoption rate with the contribution of 03 large ISPs, including:

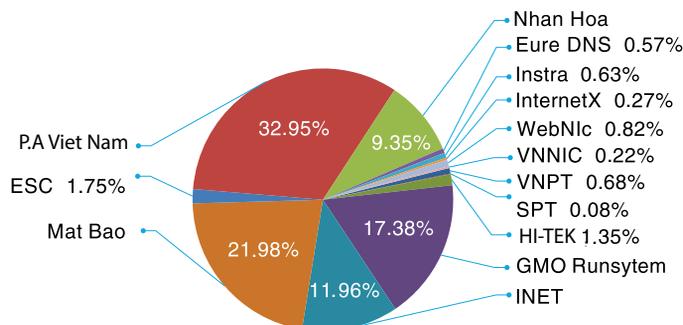
- + VNPT Group deployed IPv6 for 2,700,000 subscribers.
- + FPT Telecom provided their IPv6 service for 1,300,000 subscribers.
- + Viettel Group deployed officially IPv6 for 1,900,000 subscribers.

- Mobile Service: There was a huge step towards IPv6 deployment in 2018 in Viet Nam when Mobile operators officially to deploy IPv6 within their networks and their subscribers. VNPT Viet Nam Group is the first mobile operator to deploy officially IPv6 for Vinaphone’s subscribers and there were more than 470,000 subscribers working dual-stack IPv4/IPv6 as of October, 2018. Viettel Group also had approximately 700,000 subscribers working dual-stack IPv4/IPv6 as of October, 2018.

- Content service and IPv6 enabled Websites:

- + FPT Online: They are the leading enterprise on deploying IPv6 for VnExpress, one of the biggest electronic media in Viet Nam. They have been actively deployed IPv6 within their network and connecting to IPv6 users outside since 2017 with 3 million IPv6 users per day.
- + IPv6 enabled Websites: There are 5,988 websites within “.vn” enabled IPv6, 259 of them are Vietnamese IDN.

Figure 33: Websites within “.vn” domains enable IPv6 by Registrar



Deploying IPv6 for Websites was one of main targets in 2018. The increase of IPv6 enabled Websites within “.vn” was good news for Viet Nam IPv6 deployment. P.A Viet Nam, Mat Bao, GMO Runsystem are the top 3 registrars managing the highest number of IPv6 enabled Websites (P.A Viet Nam: 1,973 domains; Mat Bao: 1,316 domains; GMO Runsystem: 1,041 domains).

- IPv6 enabled Websites within “.gov.vn” - government Websites:

Table 9: List of IPv6 enabled “.gov.vn” Websites

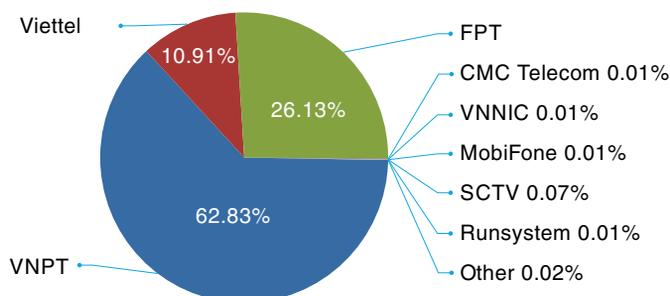
No.	Website	Registrant
1	mic.gov.vn	Ministry of Information and Communications
2	ipv6tf.gov.vn	Viet Nam Internet Network Information Center
3	benhvien09.gov.vn	Hospital 09
4	bqldannpntbinhduong.gov.vn	Binh Duong Department of Agriculture and Rural Development
5	bqlrphbinhduong.gov.vn	Binh Duong Department of Agriculture and Rural Development
6	ccklbinhduong.gov.vn	Binh Duong Department of Agriculture and Rural Development
7	cctlbinhduong.gov.vn	Binh Duong Department of Agriculture and Rural Development
8	ccttbvtvbinhduong.gov.vn	Binh Duong Department of Agriculture and Rural Development
9	daln.gov.vn	The Management Board for Forestry Project
10	financepublishinghouse.gov.vn	Financial Publishing House
11	nhaxuatbanbotaichinh.gov.vn	Financial Publishing House
12	nhaxuatbantaichinh.gov.vn	Financial Publishing House
13	nxbtc.gov.vn	Financial Publishing House
14	nxbtcbotaichinh.gov.vn	Financial Publishing House
15	qlclbinhduong.gov.vn	Binh Duong Department of Agriculture and Rural
16	sachnxbtc.gov.vn	Financial Publishing House
17	ttknbinhduong.gov.vn	Binh Duong Department of Agriculture and Rural
18	xbtaichinh.gov.vn	Financial Publishing House
19	xbtc.gov.vn	Financial Publishing House
20	xuatbantaichinh.gov.vn	Financial Publishing House
21	xuatbanc.gov.vn	Financial Publishing House

4. The category of enterprises’ contribution on IPv6 deployment

According to APNIC statistics, in 2018, Viet Nam was on the top 3 economies with highest level of IPv6 users in Asia-Pacific region, with approximately 11,000,000 IPv6 users as of October 2018⁽¹⁾.

⁽¹⁾ Source: Cisco

Figure 34: The percentage of contribution on IPv6 deployment by category



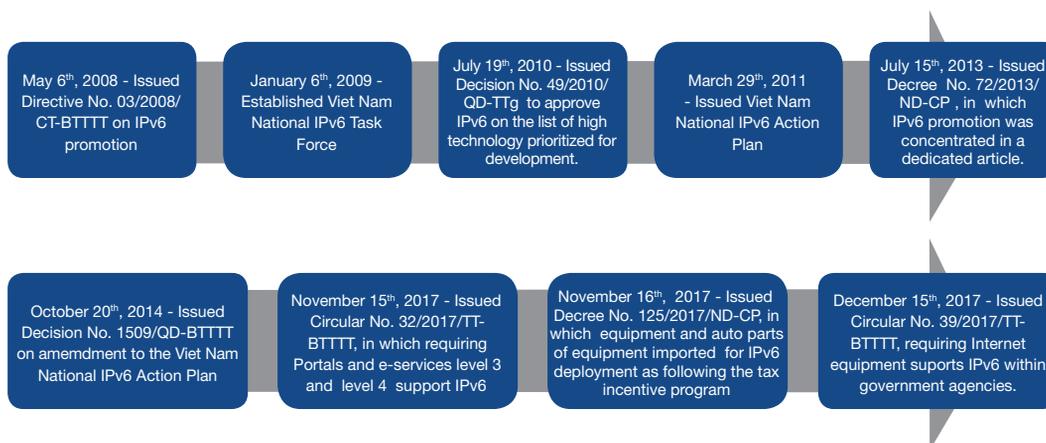
Source: APNIC

VNPT Group is the leading enterprise on deploying IPv6, which contributed more than 62.83% into the use of IPv6 for Viet Nam. Following VNPT Group, FPT Telecom, Viettel Group, SCTV, VNNIC (internal network), MobiFone, Runsystem and CMC Telecom contributed to the IPv6 traffic in Viet Nam.

IV. Main IPv6 promotion activities in 2018

Promoting IPv6 in 2018	February 2018 - IPv6 Promotion and Development Plan in 2018 promulgated.
	May 2018 - A series of conference (Ha Noi city) and workshop (Ho Chi Minh city) held in commemoration of Viet Nam IPv6 Day 2018
	June 2018 - Decision No. 32/2017/TT-BTTTT of Minister of Information and Communications to promote IPv6 deployment within government agencies
	June 2018 - Made a presentation for IPv6, DNSSEC on the meeting of CIO Council of State Agencies.
	July 2018 - VNNIC IP members meeting and an advanced routing course.
	August 2018 - VNIX-NOG 2018.
	September 2018 - IPv6 Training for 10 Departments of Information and Communications in the North of Viet Nam in Hai Duong Province.
	September 2018 - "IPv6 Deployment on the I.R 4.0 with new Internet Services" at the Viet Nam ICT Investment Forum 2018
	October 2018 - IPv6 training for Ha Noi Department of Information and Communications.
	November 2018 - Working visits of VNIPv6TF with 03 enterprises to assest and promote IPv6 deployment within their networks and their services.

V. Major IPv6 promotion policies

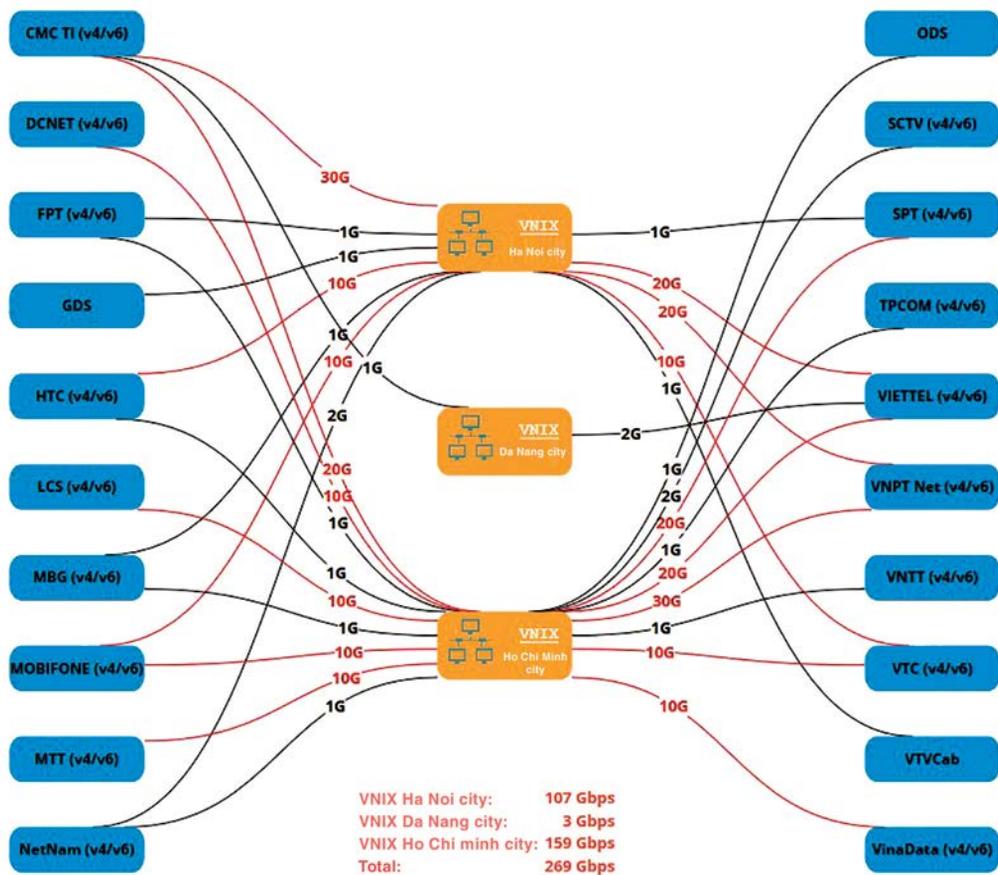


PART 5

VIET NAM NATIONAL INTERNET EXCHANGE



Internet eXchange Point (IX) which is a physical infrastructure plays a crucial role for the development of Internet, allows different type of independent networks to interconnect traffic between independent networks (ASN). Viet Nam National Internet eXchange (VNIX) was established in November, 2003, and now is operated and managed by VNNIC to develop, enhance and improve the quality and security of Internet in Viet Nam. Throughout the development, as a neutral and non-profit system interconnecting local ISPs via 3 Internet eXchange points (in Ha Noi city, Da Nang city and Ho Chi Minh city), VNIX has been contributing greatly to the growth of Internet in Viet Nam that helps to improve the quality of service, reduce Internet connection cost and help to ensure the Internet security in Viet Nam.



I. VNIX members

Starting from 02 members (VNPT and Viettel) at the beginning in 2003, VNIX now has 20 members with connection bandwidth reaching 269 Gbps.

Table 10: List of VNIX members

No.	Member	VNIX in Ha Noi city	VNIX in Ho Chi Minh city	VNIX in Da Nang city
1	CMC TI	30 Gbps	20 Gbps	1 Gbps
2	VNPT	20 Gbps	30 Gbps	
3	VIETTEL	20 Gbps	20 Gbps	2 Gbps
4	SPT	1 Gbps	20 Gbps	
5	MobiFone	10 Gbps	10 Gbps	
6	VTC	10 Gbps	10 Gbps	
7	HTC	10 Gbps	1 Gbps	
8	DCNET		10 Gbps	
9	LCS		10 Gbps	
10	MTT		10 Gbps	
11	VinaData		10 Gbps	
12	NetNam	2 Gbps	1 Gbps	
13	FPT Telecom	1 Gbps	1 Gbps	
14	MobiFone Global	1 Gbps	1 Gbps	
15	SCTV		2 Gbps	
16	GDS	1 Gbps		
17	ODS		1 Gbps	
18	TPCOM		1 Gbps	
19	VNTT		1 Gbps	
20	VTVCAB	1 Gbps		

II. Connection bandwidth

Figure 35: Bandwidth of VNIX members (Gbps)

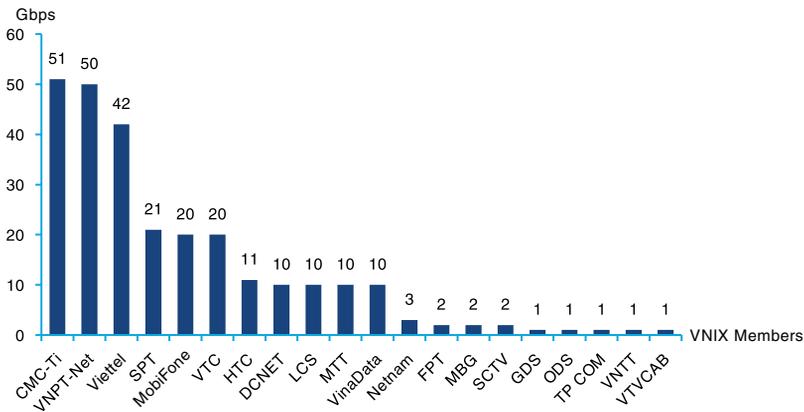
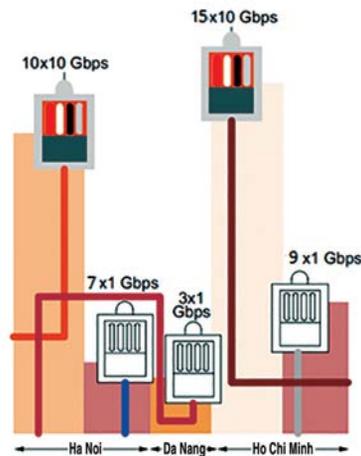


Figure 36: % bandwidth by area



In order to satisfy the demand of Internet development, as well as to enhance the availability, capacity of connection and compatibility of new technology standards, and to ensure the safety and the better quality of Internet service, VNIX have supported many different kinds of high-speed SFP/SFP+ ports like 1G, 10G, 40G and 100G ones. In recent years, with the demand for higher bandwidth, many ISPs have upgraded their ports to 10G ones. There are now 25 10G ports in a total of 44 ports of VNIX.

Figure 37: Number of ports of VNIX



III. Traffic via VNIX

The traffic via VNIX has been continuously increasing in recent years. By October 31st, 2018, the total cumulative traffic via VNIX was 541,008 Terabyte. Within 10 months of 2018, the traffic via VNIX reached 61,048 Terabyte with weekly average traffic reaching 6,105 Terabyte.

Figure 38: Annual traffic volume via VNIX by October 2018 (GB)

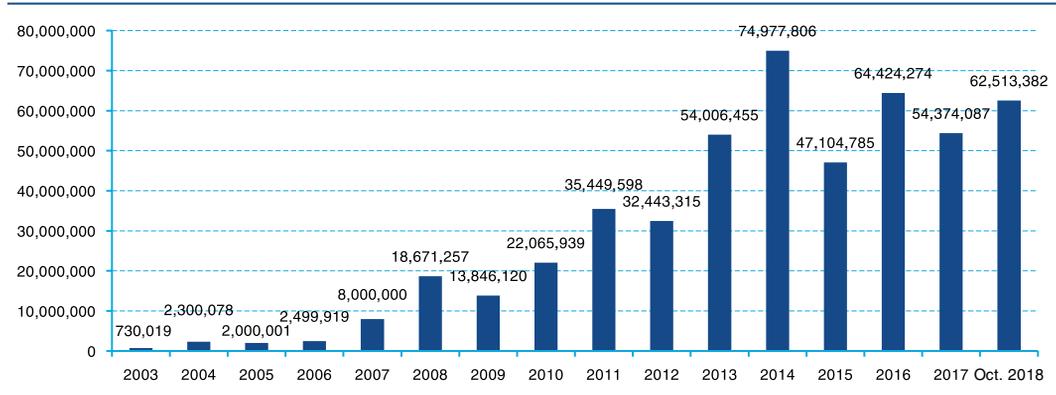


Figure 39: Cumulative traffic volume via VNIX by October 2018 (GB)

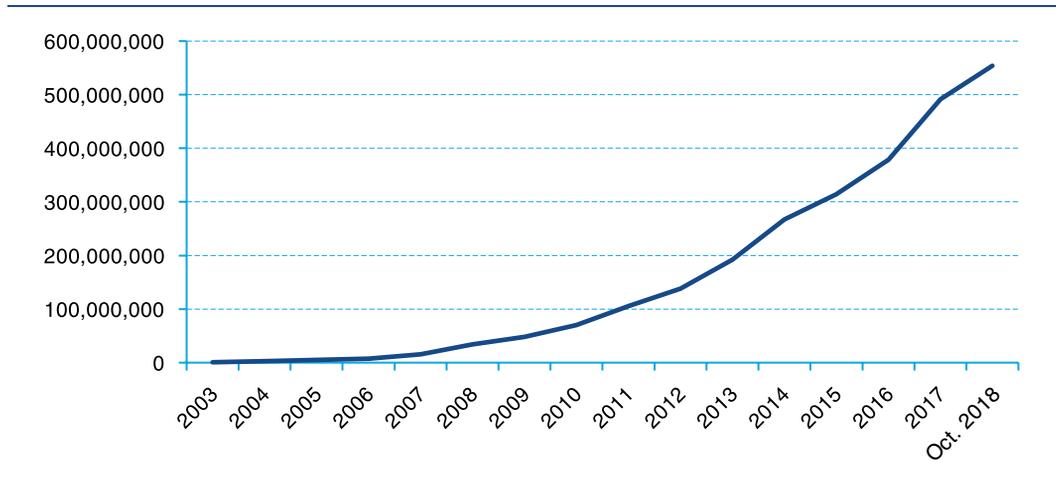


Figure 40: Max peak of traffic via VNIX by October 2018 (GB)

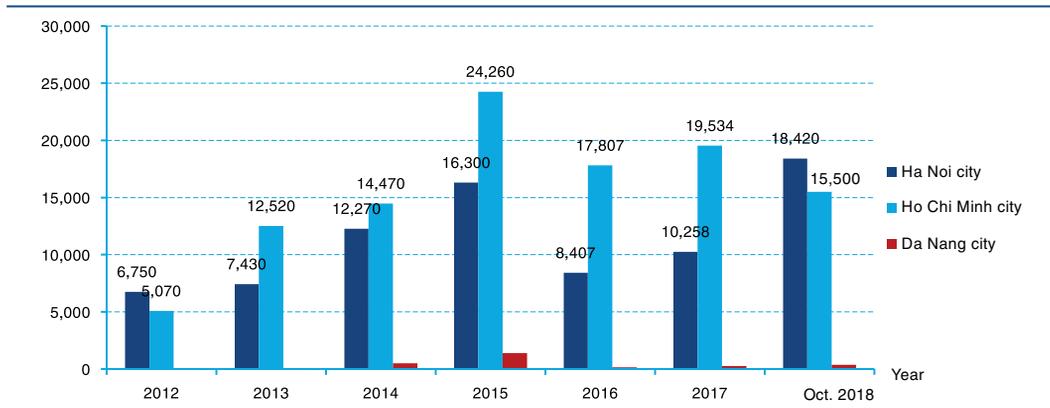
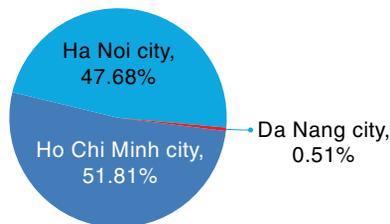
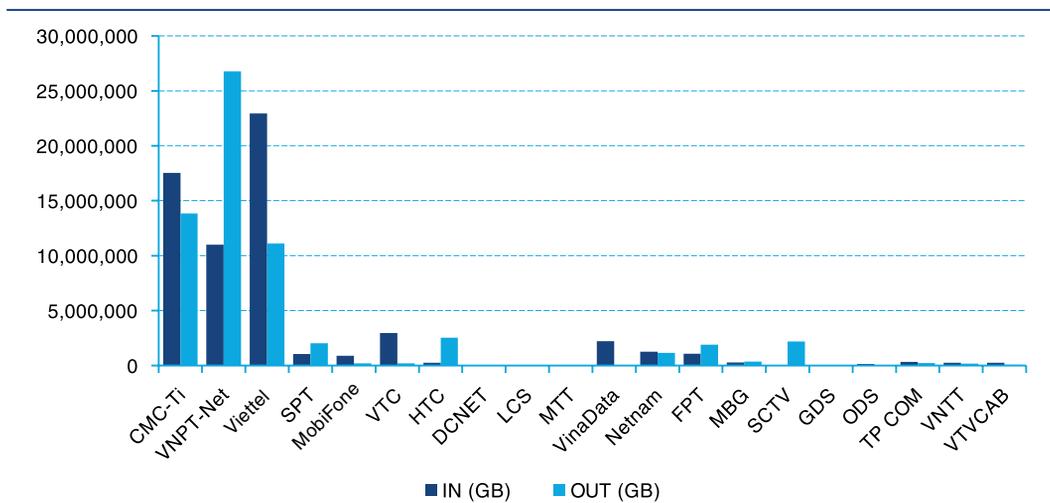


Figure 41: % Traffic via VNIX points by October 2018



With four VNIX points in Ha Noi city (Yen Hoa, Hoa Lac), Da Nang city and Ho Chi Minh city, the highest traffic of all was in Ho Chi Minh city with 51.81%, followed by Ha Noi city (47.68%) and Da Nang city (0.51%).

Figure 42: Traffic (Inbound/Outbound) of VNIX members in 2018 by October 2018 (GB)



IV. IPv6 traffic via VNIX

By October 2018, there are 17 members in total of 20 VNIX members peering over IPv6 via VNIX, including VNPT, VIETTEL, CMC TI, VTC Intecom, MobiFone, VinaData, LCS, NetNam, SCTV, FPT Telecom, SPT, HTC, MobiFone Global, VNTT, TPCOM, MTT, DCNET. However, due to the limitation in IPv6 deployment for application services and content services, the traffic over IPv6 via VNIX is still low.

Figure 43: IPv6 IN/OUT traffic by VNIX members (Mbytes)

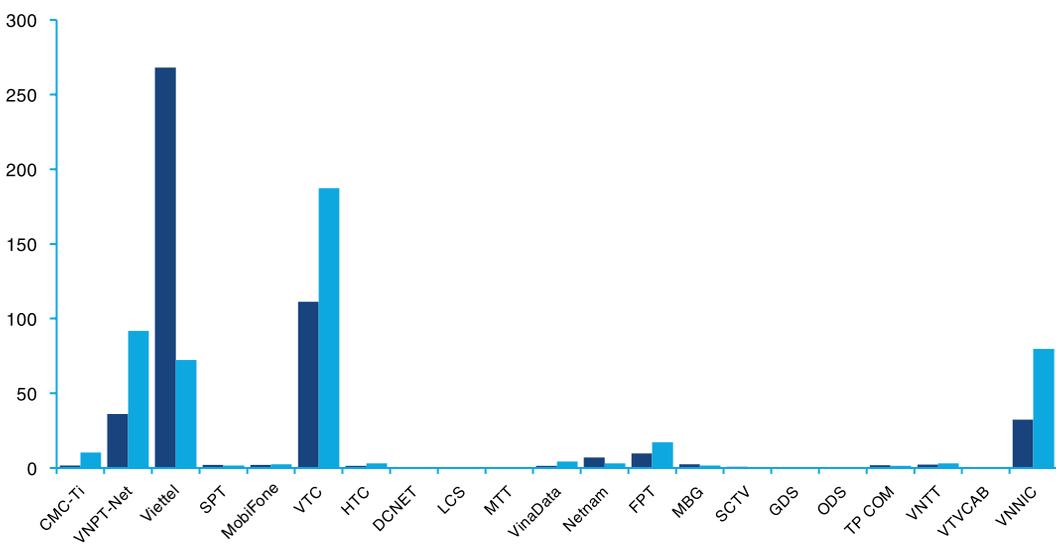
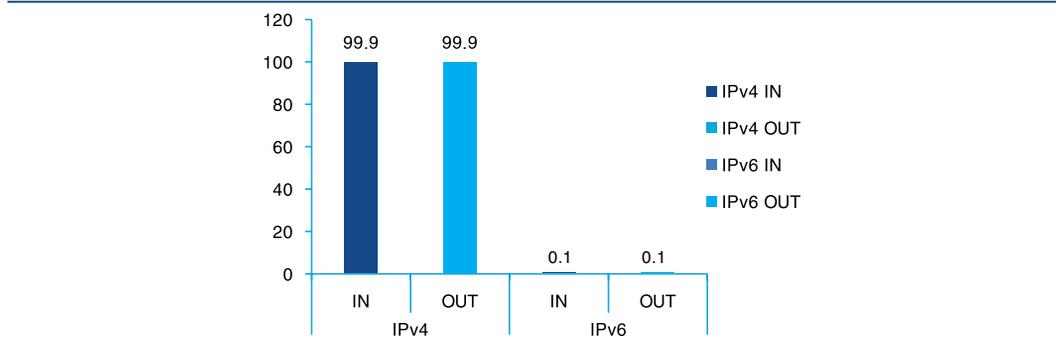


Figure 44: % IPv4-IPv6 traffic via VNIX



V. Service traffic via VNIX

Figure 45: Percentage of 10 services with highest IN traffic via VNIX

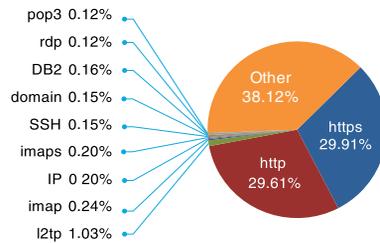
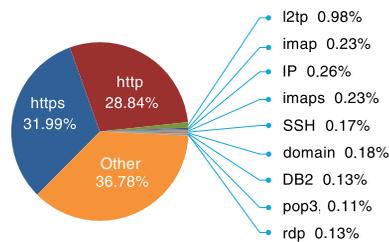


Figure 46: Percentage of 10 services with highest OUT traffic via VNIX



VI. IPv4/IPv6 prefix advertised via VNIX

Figure 47: % Prefix IPv4 advertised via VNIX

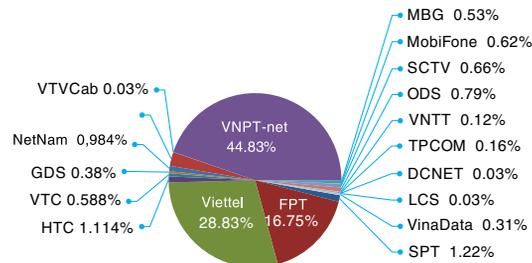
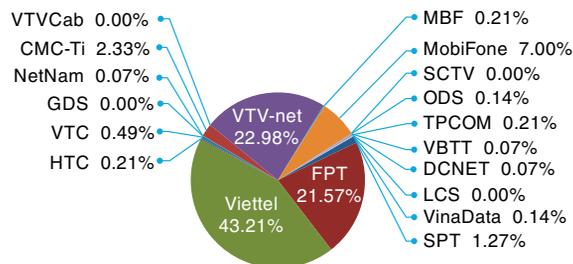
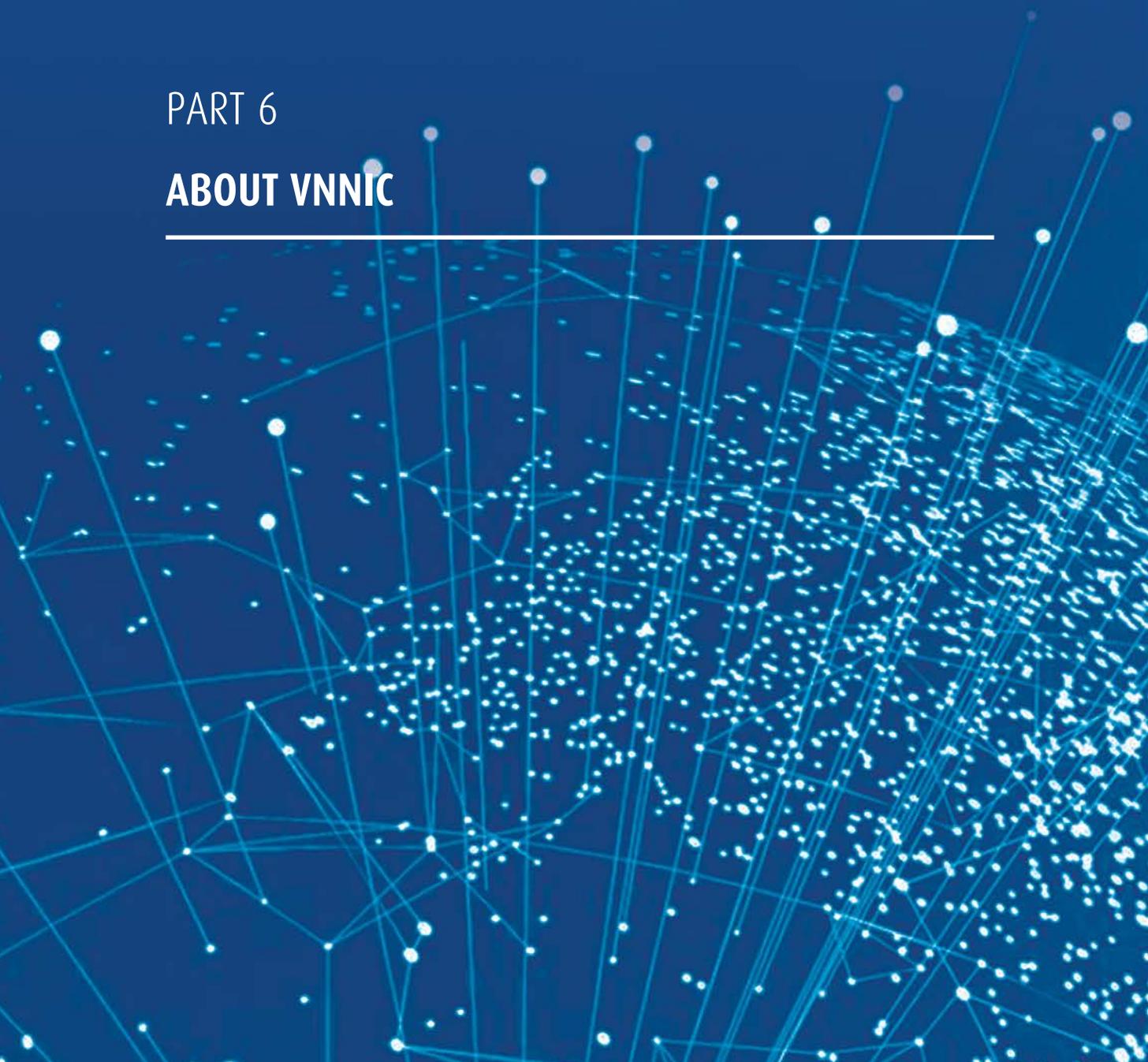


Figure 48: % Prefix IPv6 advertised via VNIX



PART 6

ABOUT VNNIC



VNNIC's history

2000

VNNIC was established and took over the functions of management and provision of “.vn” domain name

2001

- VNNIC became a member of Asia Pacific Top Level Domain Name Association (APTLD)



- Took over the functions of management of operation of DNS system from VNPT

2003

- Viet Nam Network Internet eXchange (VNIX) was established;
- Recognized by Asia Pacific Network Information Center (APNIC) as National Internet Registry of Viet Nam (NIR)



2004

- Experimentally deployed Vietnamese Internationalized Domain Name service which project was granted VIFOTECH awarded in 2013

2006

- The registration for second level domain name under “.vn” was officially provided to community.

2007

- Applied fully the Registry-Registrar model for “.vn” domain name;
- IDN “.vn” registration was opened.

2009

- The Vietnamese IPv6 Task Force (VNIPv6TF) was established, VNNIC acting as the Standing Committee.



2010

- The number of “.vn” reached 100,000 domains that made Viet Nam become the second largest country in ASEAN in terms of ccTLD registrations.

2011

- Opened free registration period for IDN “.vn” domain name.

2012

- May 6th was officially chosen as the national IPv6 Day by MIC, with the first annual IPv6 event organized by VNNIC



2013

- Became the 143rd official member of ccNSO (ICANN);
- VNNIC was granted the certificate of ISO TCVN 9001:2008 by Quacert;
- Officially launched IPv6 services in Viet Nam.



2014

- Launched the domain management system for “.vn” with EPP standards.

2015

- Received the ISO/IEC 27001:2013 certificate valid for 3 years (2015-2018)



2016

- Launched 2 DNS servers “.vn” which supports IPv6.
- The annual VNIX-NOG conference was held for the first time in Viet Nam



2017

- Launched IDN “.vn” domain management system with EPP standards and Registry-Registrar model;
- Officially deployed DNSSEC for national DNS system “.vn”.



- The transfer was officially allowed for “.vn” domain names assigned without auction.
- The number of “.vn” reached 400,000 domains.

2018

- VNNIC released logo for “.vn” domain name;



- Launched the new improved online registration system for “.vn”
- VNNIC maintained and extended the validity of the ISO/IEC 27001:2013 certificate valid for next 3 years (2018-2021)

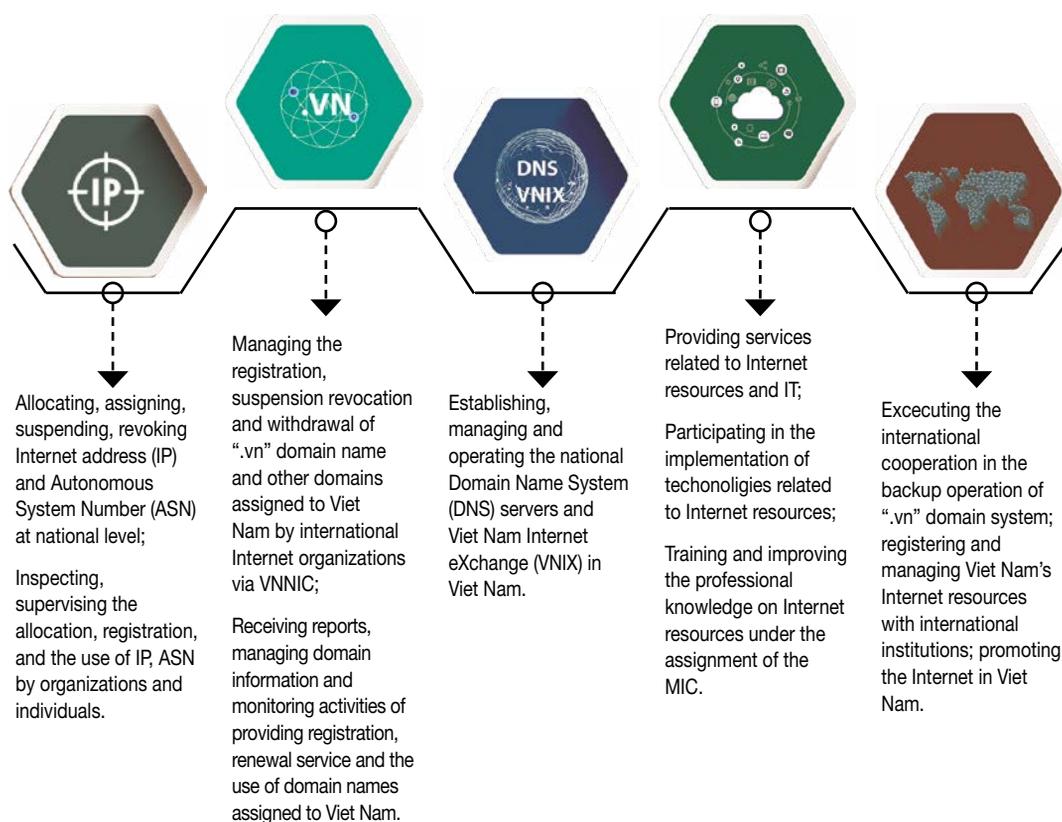


- VNNIC extended the specification of DNSSEC to all DNS systems for second level domain extension

VNNIC - Functions and missions

Viet Nam Internet Network Information Center, a government authority belongs to Ministry of Information and Communications, was established on April 28th, 2000 with the functions of managing and promoting the development of Internet resources in Viet Nam, managing and operating the national Domain Name System servers and Viet Nam Internet eXchange.

Since establishment, VNNIC has fulfilled their tasks in managing and developing Internet resources in Viet Nam, by all means to promote the integration of national Internet into the global and regional Internet.



VNNIC - Main activities in 2018

I. Activities to promote the development of national Internet resources

Launched the new improved online registration system for “.vn” domain name

Following the guidance of the Resolution No. 36a/NQ-CP dated November 14th, 2015, VNNIC cooperated with “.vn” Registrars to launch the new improved online registration system for “.vn” domain name. This improvement helps to simplify administrative formality and ensure the benefits of community. Even processed online, the new registration system still ensures the requirements of authoritative information for obtaining and using “.vn” domain name.

VNNIC cooperated with “.vn” Registrars to promote the essential role of “.vn” domain name in e-commerce



VNNIC launched the online training courses for “.vn” Registrars

Along with holding training workshops, VNNIC launched the online training courses for “.vn” Registrars on the website <https://elearning.vnnic.vn>. The training courses include 17 sessions to provide critical knowledge of management of “.vn” domain name.



VNNIC hosted CEO Registrars Meeting

The annual CEO Registrars Meeting is hosted by VNNIC with the aims to connect “.vn” Registrars and discuss about new management policies, strategies to promote the stable development for “.vn” domain name. The main topic of conference in 2018 is to improve the quality of service and deploy more value-added services to increase the commercial value of “.vn” domain name.



Activities to enhance the management role of IP members and promote the use of IP/ASN

VNNIC organized IP member meeting 2018 and collaborated with APNIC to hold a training workshop on Routing (July 10th-12th,2018)





Training workshops and advisory meetings to promote IPv6 deployment in Viet Nam



In order to promote IPv6 deployment in Viet Nam, VNNIC has organized about 40 basic and advanced training workshops for more than 1000 participants from ISPs, CPs, banks... and government agencies, some main activities in 2018 are as follows:

- IPv6 Advanced workshop for SPT in January 2018;
- IPv6 seminars for authorities of ICT in southern region on the occasion of Viet Nam IPv6 Day in May, 2018.
- IPv6 seminars for authorities of ICT in northern region on the occasion of Viet Nam IPv6 Day in September, 2018.
- IPv6 seminar for IT staffs of Department of ICT in Ha Noi city in October 2018.
- Advisory and promotion activities of IPv6 deployment for agencies of MIC and authorities of ICT in Da Nang city, Long An province and Dong Thap province.

Developing legal frameworks and guidances of IPv6 deployment, IPv6 assignment and allocation

- VNNIC cooperated with Authority of Information Technology Application to amend and develop guidances for IPv6 deployment in Circular No. 32/2017/TT-BTTTT date November 15th, 2017 of MIC prescribing the provision of online public services and assurance of convenient access to websites or portals of state agencies.
- In order to promote IPv6 usage in Viet Nam, VNNIC had simplified the application procedure and encourage agencies to apply for IPv4 and IPv6 address in one IP application form. Under this policy, there will be no additional costs for agencies to get IPv6 address blocks that is dedicated for the IPv4 space.

Other promotion activities for IPv6 deployment



- VNNIC organized Viet Nam IPv6 Day conference on May 4th, 2018.
- Promoted IPv6 deployment at IP Member Meeting 2018 and VNIX-NOG conference 2018;
- Issued official letter for digital content providers on deploying IPv6..

II. Promotion activities to enhance government management role in Internet resources

VNNIC signed agreements with Depts of ICT of Provinces about the management of domain names at local level

VNNIC signed agreement with Dept of ICT in Ha Noi city on March 19th, 2018



VNNIC signed agreement with Dept of ICT in Long An Provinces on April 27th, 2018



VNNIC signed agreement with Dept of ICT in Hai Duong Province on June 14th, 2018



VNNIC signed agreement with Dept of ICT in Ninh Binh Province on August 1st, 2018



Collaboration with authorities of ICT in local to enhance government management role in Internet resources

VNNIC held several training workshops and conference on the topic of laws and regulations on Internet resources management in Viet Nam



At local level on June 14th, 2018 and August 16th, 2018.



VNNIC held a workshop on “IPv6 Deployment for e-government and online public services” for staffs of authorities of ICT in the northern region in Viet Nam.



VNNIC held workshops and conferences on the topic of laws and regulations on international domain names in Viet Nam

With the aim to support and instruct international domain name Registrars in Viet Nam about laws and regulations on the management, provision and use of international domain name in Viet Nam, VNNIC hosted several workshops in Ho Chi Minh city (on November 1st, 2018) and in Ha Noi city (on November 7th, 2018).



III. International cooperation activities

VNNIC representative was nominated as a Board member of Asia Pacific Top Level Domain Association (APTLD Board).



Mr. Le Nam Trung, Deputy Director of VNNIC was nominated as a member of APTLD Board with the term of 2 years (2018-2019)

VNNIC and CC for TLD .RU partnership

VNNIC delegations participated in the 9th Russian Internet Governance Forum (RIGF) and had a bilateral meeting with Coordination Center for TLD .RU on the topic of security for domain name and DNSSEC deployment for national DNS system.



VNNIC and LANIC partnership

Under the agreement between the Ministry of Information and Communications (Viet Nam) and the Ministry of Post and Telecommunications (Laos), in collaboration with LANIC, VNNIC conducted the IPv6 training workshop and ccTLD training one for IT staffs of LANIC, ISPs and Registrars in Laos.



The ccTLD training workshop in Laos from 10th September to 14th September, 2018



The advanced IPv6 deployment training workshop in Viet Nam from October 29th to November 1st, 2018

VNNIC and KISA partnership

Under the MoU between VNNIC and Korea Internet & Security Agency (KISA), VNNIC delegations participated in Asia Pacific Internet Governance Academy (APIGA 2018) which is organized by KISA on July, 2018 and paid a working visit to Korea on November 2018. The bilateral meeting focused in the issues of ccTLD Registry operation and management and the impact of the Industry 4.0 on Internet resources management.



VNNIC and JPNIC partnership

In order to promote the Resource Public Key Infrastructure (RPKI) deployment, as well as to enhance routing security in Viet Nam, VNNIC had collaborated with JPNIC in some promotion activities in 2018. At VNIX-NOG conference organized by VNNIC on August 2018, JPNIC's representative had contributed a presentation on JPNIC's experience in RPKI implementation. Following this first step, in the collaboration with JPNIC, VNNIC will hold a seminar on RPKI deployment on December 12th, 2018.



JPNIC representative delivered a presentation on “JPNIC’s experience in deploying PRKI” at VNIX-NOG 2018 conference (August 24th, 2018)

IV. Activities to enhance information and network security

DNSSEC extension on the national DNS system

On March 23rd, 2018, after the successful deployment of DNSSEC for “.vn” domain name zone on the national DNS system late 2016, VNNIC extended the specifications to all DNS systems for second level domain extension (.net.vn, .com.vn, .gov.vn, .hanoi.vn, .danang.vn, .thanhphohochiminh.vn, etc.).

Consequently, all systems managed by VNNIC have been deployed with DNSSEC, connecting the national DNS with DNS Root and international DNS systems. DNSSEC implementation has brought about the safety, precision and trust to the Internet in Viet Nam, marking a breakthrough in our infrastructure development, and proving the readiness for e-commerce and e-government.

VNNIC maintain and extend the validity of the ISO/IEC 27001:2013 certification standard (August 7th, 2018)

On August 7th, 2018, VNNIC achieved ISO/IEC 27001:20013 certification within the scope of operation and management of essential network systems in Viet Nam including the national DNS .VN, the Internet eXchange system and Internet data centers (IDCs) in Ha Noi Capital, Da Nang city and Ho Chi Minh city.



VNNIC held the 3rd VNIX-NOG 2018 Conference on August 24th, in Da Nang city, Viet Nam

Following the success of VNIX-NOG in 2016 and in 2017, with the aim to create an opportunity for Viet Nam Internet community to exchange technical information, interact frequently with local and international experts in the issues of network operation and management, Internet breakdown, traffic and network connectivity, VNNIC held VNIX-NOG 2018 conference on August 24th, 2018 in Da Nang City, Viet Nam. The conference this year brought together many professionals from biggest ISPs in Viet Nam (VNPT, FPT Telecom, Viettel, NetNam, etc.), Viet Nam's Internet Exchange members, content and network equipment providers (Facebook, Cloudflare), regional and international organizations (APNIC, ISOC, JPNIC) and other interested groups.



VNIX-NOG 2018 focused on Routing Security matters to find causes and solutions to prevent BGP hijacking.

