



TWNIC Update

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APNIC 52

Outline

- Statistics of TWNIC's IP members
- TWNIC's activities and training programs
- TWNIC RPKI Update
- Conclusions & Future Works

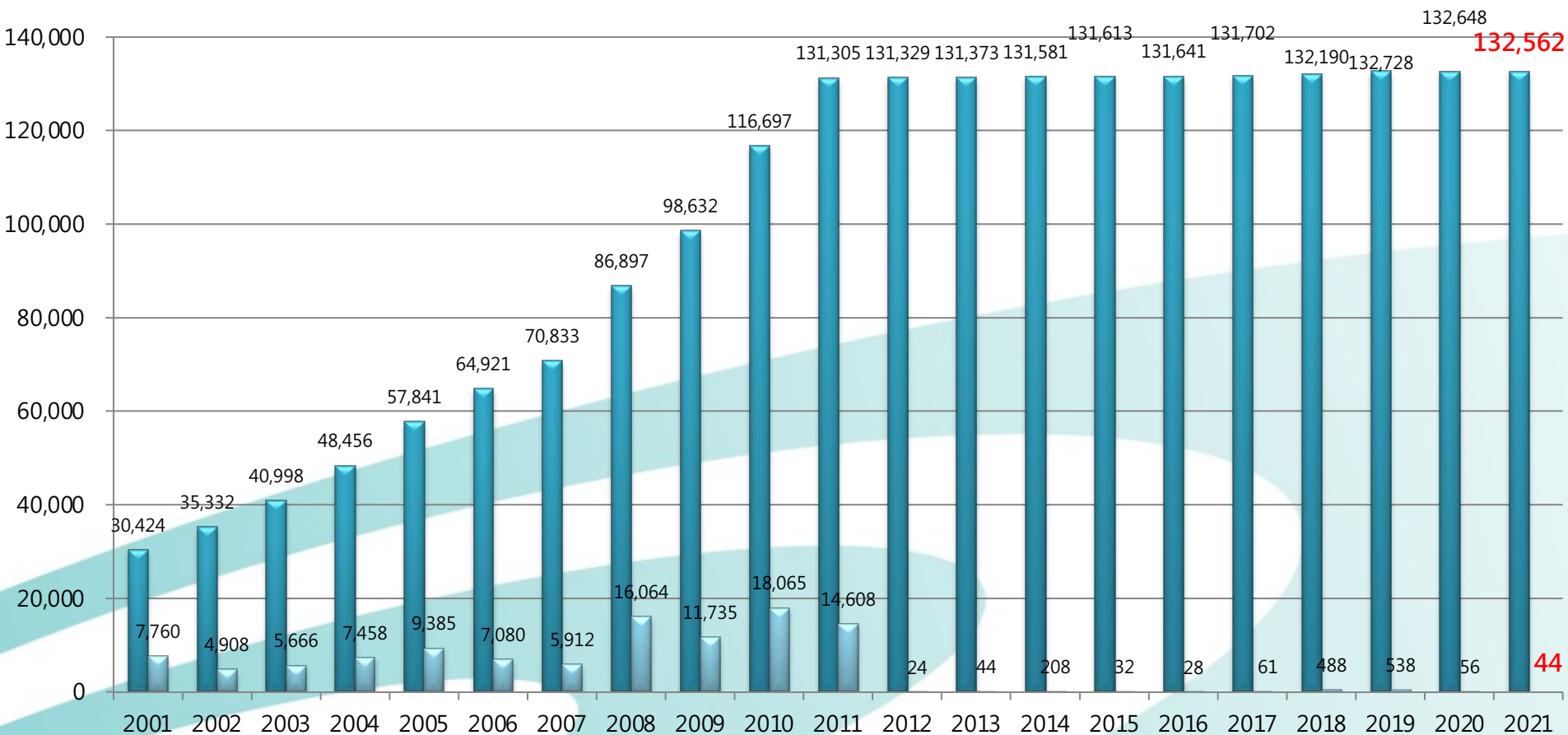
Statistics of TWNIC's IP Members

代理發放單位		代理發放單位		代理發放單位	
1	TWNIC	22	台灣基礎開發科技股份有限公司	43	笙城有限公司
2		23	中嘉和網股份有限公司	44	威達雲端電訊股份有限公司
3		24	世新有線電視股份有限公司	45	安源通訊股份有限公司
4		25	台灣恩悌悌股份有限公司	46	大眾電信股份有限公司
5		26	大台北寬頻網路股份有限公司	47	大同電信股份有限公司
6		27	易達通網路系統有限公司	48	威邁思電信股份有限公司
7	太聯科技股份有限公司	28	數位通國際網路股份有限公司	49	全球一動股份有限公司
8	遠傳電信股份有限公司	29	士無里寬頻股份有限公司	50	河潤有線電視股份有限公司
9	宏遠電訊股份有限公司	30	Service Types	# of TWNIC's Members	
10	向邦網路科技股份有限公司	31	Co-location/IDC	64	
11	博訊科技股份有限公司	32	FTTx	18	
12	和宇寬頻網路股份有限公司	33	ADSL	4	
13	協志科技股份有限公司	34	Cable Modem	25	
14	新世紀資通股份有限公司	35	WLAN	2	
15	新合資通股份有限公司	36	3G/3.5G	5	
16	新合資通股份有限公司	37	4G(LTE)	5	
17	新合資通股份有限公司	38			
18	新合資通股份有限公司	39			
19	新合資通股份有限公司	40			
20	台灣寬頻通訊顧問股份有限公司	41			
21	台灣碩網網路娛樂股份有限公司	42			

IPv4 Address Allocation

- TWNIC has allocated 132,562 /24s IPv4 addresses.

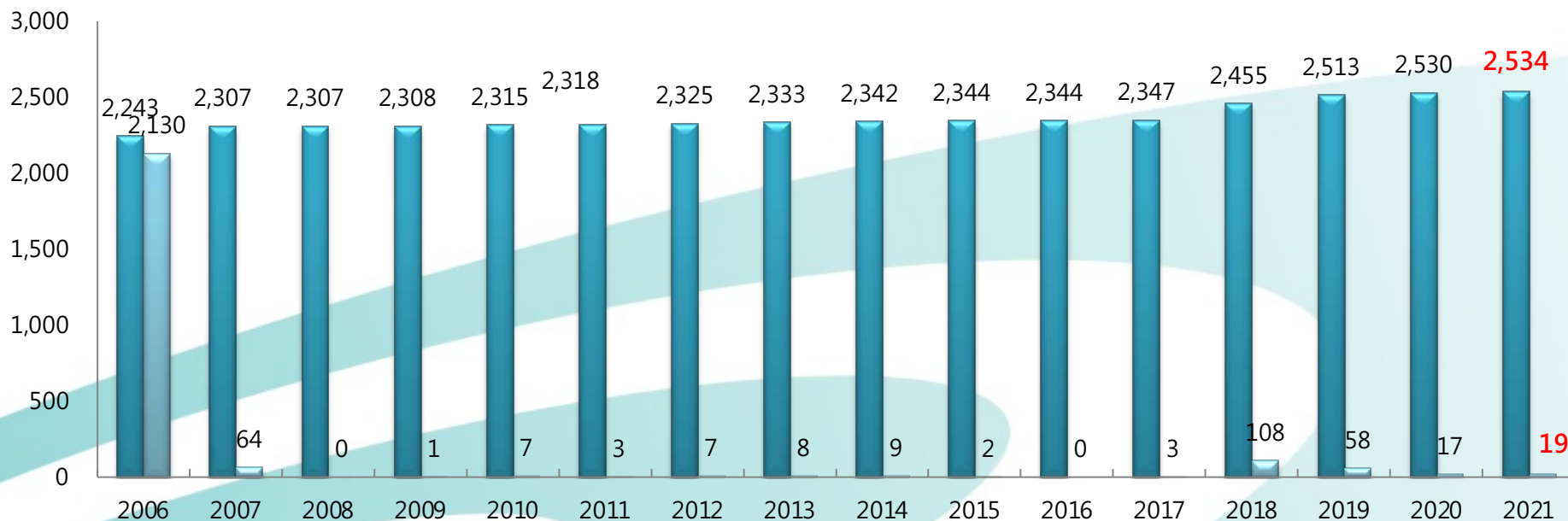
Unit: /24



IPv6 Address Allocation

- TWNIC has allocated 2,534 /32s IPv6 addresses.
- Most of TWNIC IP members have obtained IPv6 addresses.

Unit: /32



Taiwan IPv6 User Availability

- Taiwan IPv6 user availability is 0.46% in the end of 2017 and 44.25% in September, 2021.

Taiwan IPv6 Global Ranking: 9

2021-09-06 — 台灣全球排名：9名 (IPv6比例: 44.25%)

Data derived from APNIC by measuring mean value of IPv6 Capable over the last 7 days.

[Top 30 List](#)



2nd ICANN APAC-TWNIC Engagement Forum with 35th TWNIC IP Open Policy Meeting

- Time: April 15-16, 2021
- The IP OPM will provide great opportunities to the participants for the communication on the network technology research and industry development. It also brings together the opinions of various ISPs in Taiwan to provide relevant IP policies and management mechanisms.
- Session topics include Cyber Security SIG, Cooperation SIG, IPv6 Deployment SIG etc.
- To see the detail agenda, visit <https://forum.twnic.tw/2021/agenda01.htm>

2nd ICANN APAC-TWNIC Engagement Forum with 35th TWNIC IP Open Policy Meeting



IP Network Communication Training

- We hold 5 IP network communication trainings from April to August this year

SN	Location	Date	On-site Attendees	Remote Attendees	Total Attendees
1	Kaohsiung	4/29	41	X	41
2	Yunlin	5/28	X	28	28
3	Taipei	6/9	X	45	45
4	Taipei	7/9	X	41	41
5	Taipei	8/25	X	36	36
Total			41	150	191

IP Network Communication



Cisco Webex Meetings | 會議資訊 | 開始視訊 | 已連線 | 參閱 | 說明

TWNIC | Ben Wu | benrl | CHIAWEI TSENG

IPv4 and IPv6 共存機制

Source: www.cisco.com

參閱 (41)

- TWNIC
- webex@twinc.tw
- CHIAWEI TSENG
- Ben Wu
- benrl
- Bolin-PC-GOOD
- charlie_huang
- Ching-Heng Ku
- CMTS
- dar
- duncan-chang
- ethan
- Ethan Peng
- Hui-Kai Su
- james
- Jason Chen
- JEFF_HUANG

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Native IPv6網路演進

- 問題描述
 - Dual Stack未完全解決IPv4位址用罄問題，維護管理雙堆疊較複雜
 - 網站和應用支援IPv6比例偏低，無法有效提升IPv6用戶規模和流量
- Native IPv6演進趨勢
 - 未來新進業者除非進行併購，否則可能無法取得足夠的IPv4位址，因此有需直接導入IPv6 only網路部署
 - 依現行技術，IPv6無法與IPv4直接互連，業者需自建或透過第三方提供IPv6轉址IPv4服務
 - RFC 4213 "Basic Transition Mechanisms for IPv6 Hosts and Routers" 建議之轉移方式
 - 維持IPv4正常運作的同時，逐步引進IPv6，待IPv6功能及服務品質可與IPv4匹配時，再停用IPv4

為簡化未來網路維運管理
演進Pure IPv6網路應及早因應與準備

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- duncan-chang
- eric
- ethan
- Ethan Peng
- Hui-Kai Su
- james
- Jason Chen
- JEFF_HUANG

Taiwan RPKI Global Ranking

Taiwan RPKI Global Ranking: 14

—台灣全球排名：14名 (RPKI比例: 98.71%)

Top 30 List



SN	CC	Display Name	RPKI %
1	TO	Tonga	100
2	AD	Andorra	100
3	BL	Saint Barthelemy	100
4	BT	Bhutan	100
5	FK	Falkland Islands	100
6	GD	Grenada	100
7	IO	British Indian Ocean Territory	100
8	MH	Marshall Islands	100
9	MV	Maldives	100
10	EC	Ecuador	99.79
11	MN	Mongolia	99.73
12	LK	Sri Lanka	99.59
13	MQ	Martinique	99.14
14	TW	Taiwan	98.71
15	OM	Oman	98.25

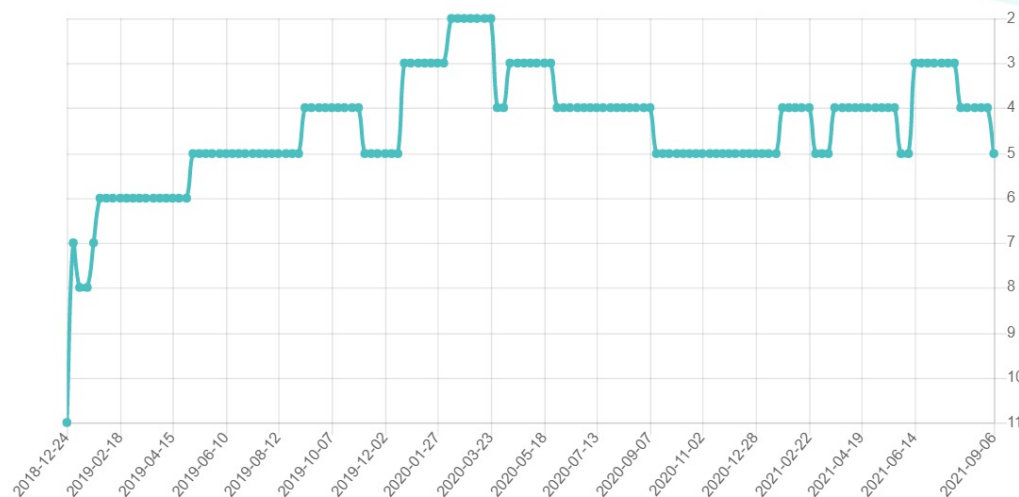
Data Source: RIPE NCC, chart by TWNIC on 6 September, 2021

Taiwan RPKI Asia Ranking

Taiwan RPKI Asia Ranking: 5

—台灣亞洲排名：5名 (RPKI比例: 98.71%)

Top 30 List



SN	CC	Display Name	RPKI %
1	MV	Maldives	100
2	BT	Bhutan	100
3	MN	Mongolia	99.73
4	LK	Sri Lanka	99.59
5	TW	Taiwan	98.71
6	OM	Oman	98.25
7	IR	Iran (Islamic Republic of Iran)	97.95
8	PK	Pakistan	97.87
9	TR	Turkey	97.53
10	NP	Nepal	97.19
11	YE	Yemen	95.66
12	PH	Philippines	93.53
13	MY	Malaysia	93.34
14	BD	Bangladesh	93.01
15	IQ	Iraq	90.32

Data Source: RIPE NCC, chart by TWNIC on 6 September, 2021

Conclusions & Future Works

- TWNIC have 18 new members in 2021.
- We encourage and help the Taiwan ISP and service provider to manage the ROA to increase the ROA coverage gradually.
- We will hold the IPv6 training and activities this year.

Thank You

