



# TWNIC Update

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APNIC 46

# Outline

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

# Statistics of TWNIC's IP Members

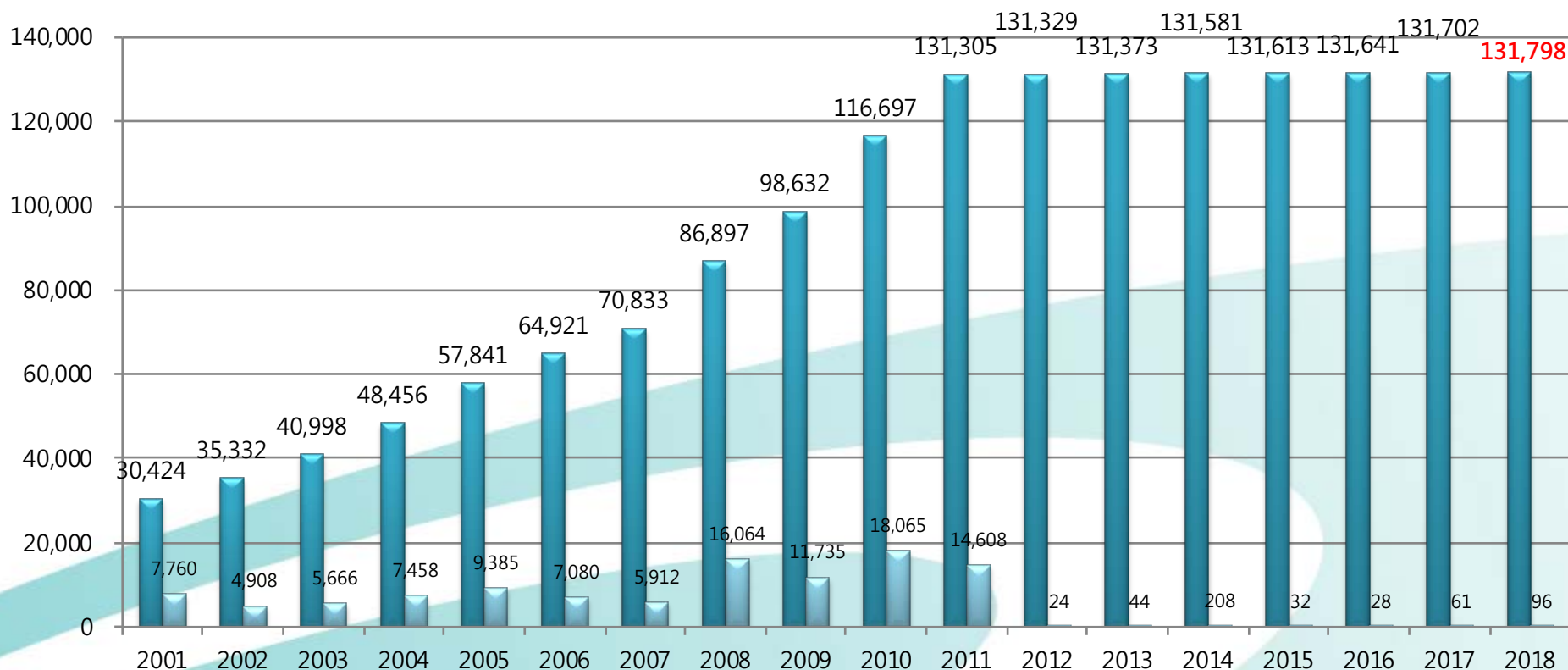
TWNIC

TWNIC's  
Member: 86

代理發放單位	代理發放單位	代理發放單位
1 太聯科技股份有限公司	22 台灣基礎開發科技股份有限公司	43 笙城有限公司
2 遠傳電信股份有限公司	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 宏遠電訊股份有限公司	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 向邦網路科技股份有限公司	25 台灣恩悌悌股份有限公司	46 大眾電信股份有限公司
5 博訊科技股份有限公司	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 和宇寬頻網路股份有限公司	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 協志科技股份有限公司	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 新世紀資通股份有限公司	29 士無里寬頻股份有限公司	50 洞潤有線電視股份有限公司
9 新合資通股份有限公司	Service Types	# of TWNIC's Members
10 台灣寬頻網路股份有限公司	Co-location/IDC	64
11 台灣網路通訊股份有限公司	FTTx	18
12 台灣寬頻網路股份有限公司	ADSL	4
13 台灣寬頻網路股份有限公司	Cable Modem	25
14 台灣寬頻網路股份有限公司	WLAN	2
15 台灣寬頻網路股份有限公司	3G/3.5G	5
16 台灣寬頻網路股份有限公司	4G(LTE)	5
17 台灣寬頻網路股份有限公司		
18 台灣寬頻網路股份有限公司		
19 台灣寬頻網路股份有限公司		
20 台灣寬頻網路股份有限公司		
21 台灣寬頻網路股份有限公司		

# IPv4 Address Allocation

- TWNIC has allocated 131,798 /24s IPv4 addresses
- The IPv4 application growing slightly in this year

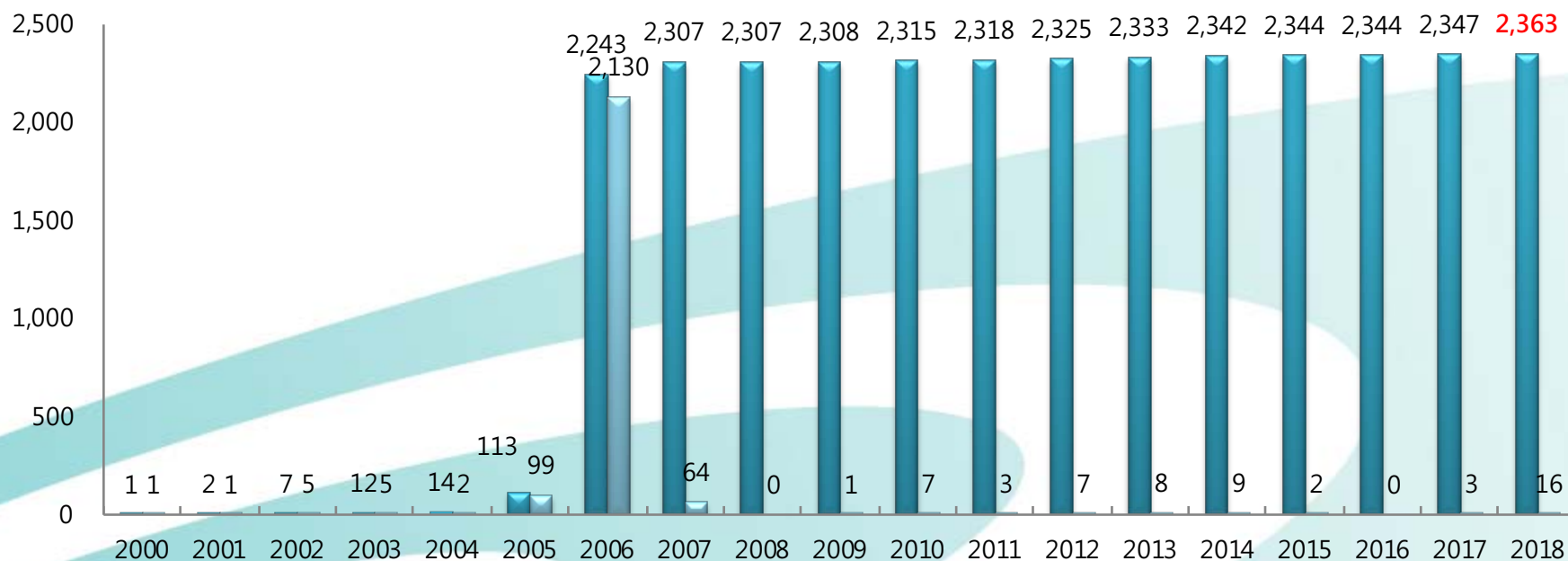


Unit: /24

# IPv6 Address Allocation

- TWNIC has allocated 2,363 /32s IPv6 addresses
- Most of TWNIC IP members have obtained IPv6 addresses.

Unit: /32



# 2018 TWNOG & 30<sup>th</sup> TWNIC IP OPM

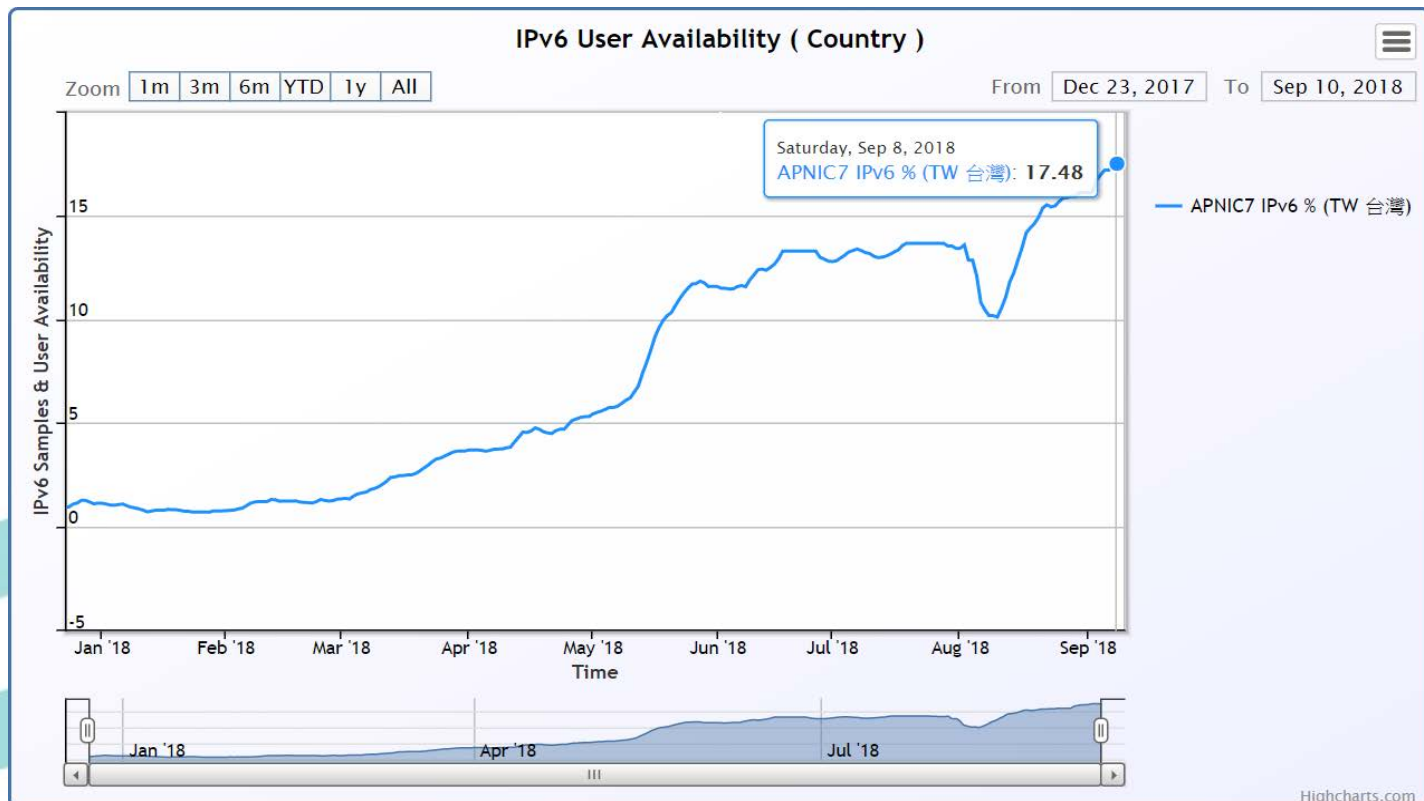
- Time: June 21-22, 2018
- Keynote speech:
  - ❑ **IPv6 Trends, Taiwan, Asia-Pacific and Worldwide: an update from 2014** Paul Wilson, Director General, APNIC
  - ❑ **Future Challenge of Internet** Fred Baker, Co-chair IPv6 Operations Working Group, IETF
- Session topics include Cooperation SIG, Policy SIG, IPv6 Deployment Next Generation Network Technology , Network Operation Technology, Cyber Security Experience Sharing, etc.
- To see the detail agenda, visit <https://opm.twnic.net.tw/30th>

# 2018 TWNIC-APNIC Joint Training - IPv6 Workshop

- Time: May 30- June 1, 2018
- Attendee: 40
- Lecturer: Mr. Tohid Naslpak and Mr. Anurag Bhatia
- This technical workshop is made up of lectures and hands-on lab exercise to understand the concept of IPv6 protocol architecture, its addressing structure and design issues when planning for IPv6 deployment focusing on IP core network
- The course includes considerable practical work based on IPv6 and Cisco IOS router configuration commands

# Taiwan IPv6 User Availability

- Taiwan IPv6 user availability is 0.46% in the end of 2017 and 17.48% in September, 2018.
- The growth rate is 3700%.





## TWNIC RPKI Testbed

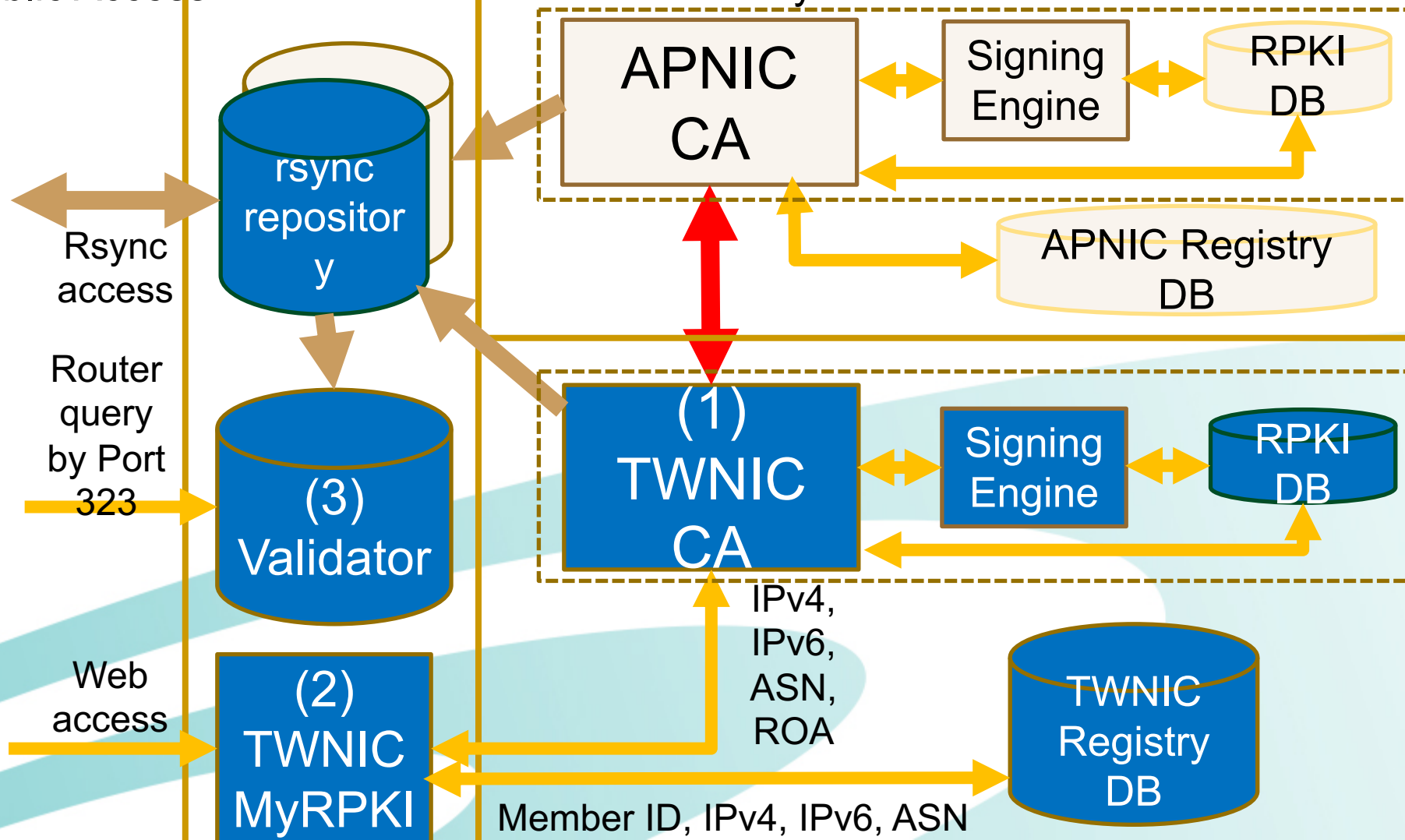
- Thanks George Michaelson and Tom Harrison of APNIC, Taiji of JPNIC came to TWNIC on 28-29 May and 20 June, respectively, for sharing their RPKI experience with TWNIC engineers.
- TWNIC has built the Certification Authority(CA) system and signed the testbed CA certification with APNIC on June.
- APNIC assigned the TWNIC's Certified Resource to TWNIC.
- TWNIC has built a RPKI Management System for members to view their own resources and manage (add/modify/delete) ROA on August.

# TWNIC RPKI Architecture

## RPKI Component Elements and Interactions

Public Access

Internal Boundary



# TWNIC RPKI Management System

The image is a collage of four screenshots from the TWNIC RPKI Management System. Each screenshot shows a different page of the application, which has a consistent header with the TWNIC logo and navigation links. The first screenshot shows the 'Resource List' page with a table of IP addresses. The second screenshot shows the 'Resource List' page with a table of ASNs. The third screenshot shows the 'ROA List' page with a table of ROAs. The fourth screenshot shows the 'ROA Add' page with a form to add a new ROA. The screenshots are arranged in a 2x2 grid, with the first screenshot in the top-left, the second in the top-right, the third in the bottom-left, and the fourth in the bottom-right. The background of the screenshots is a light blue and white color scheme.

# Conclusions & Future Works

- TWNIC have 24 more members this year.
- We has built the RPKI CA testbed environment 、 Validator 、 management system and planned to provide RPKI service to TWNIC members this year.
- We will hold the routing workshop and IPv6 activities this year.
- Welcome to attend the IPv6 readiness measurement BoF tomorrow.

# Thank You

