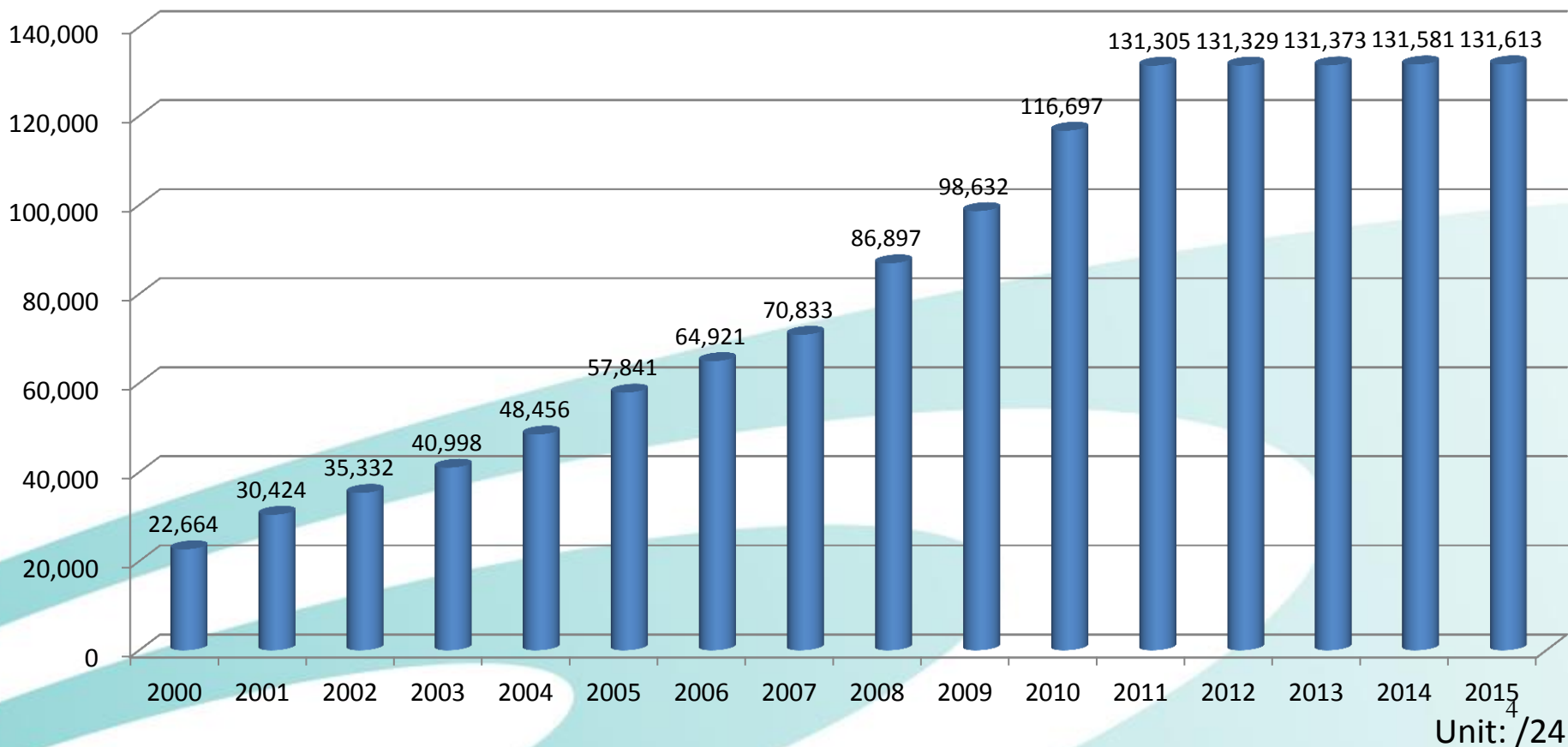# TWNIC Update

Ching-Heng Ku, TWNIC

NIR SIG@APNIC 41

Outline

- Statistics of TWNIC's IP members

- TWNIC's activities and training programs in 2015

- Status of IPv6 upgrade of governmental network services in Taiwan
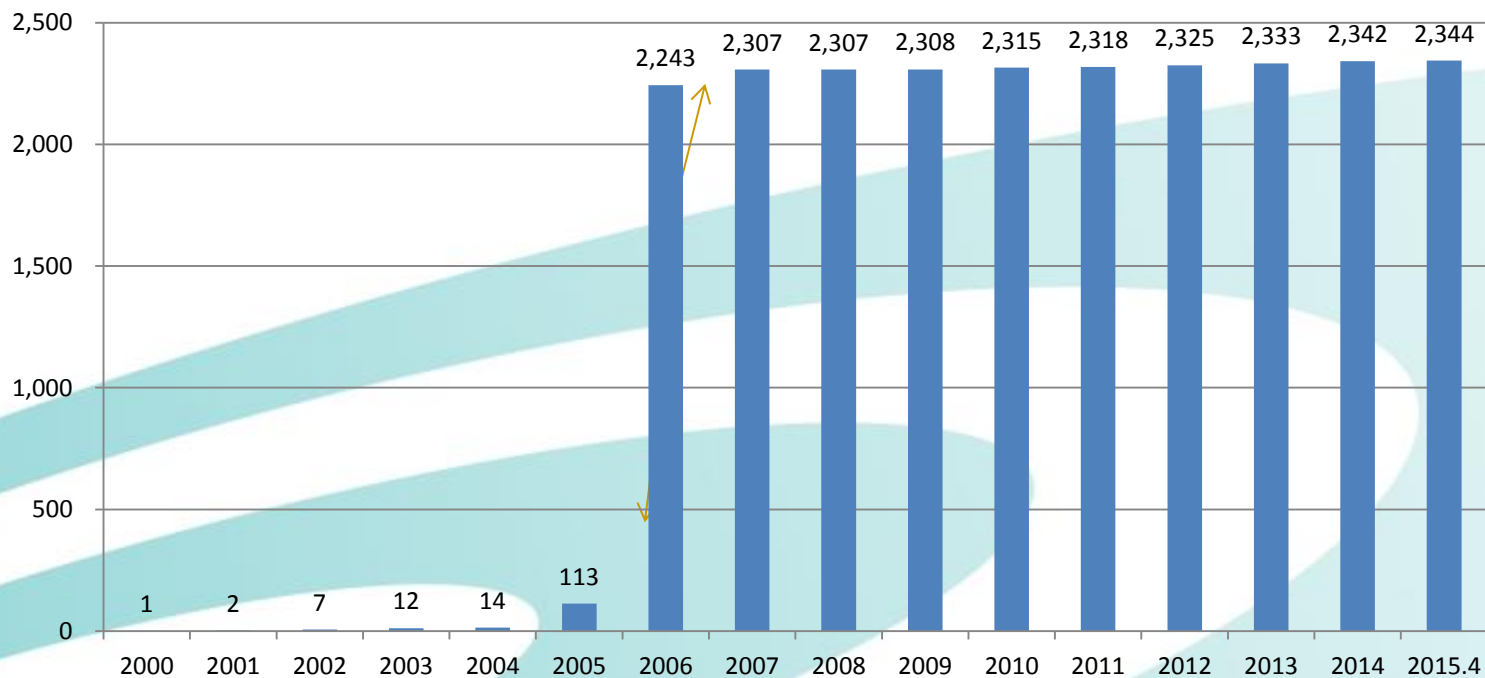
- Conclusions & future works

Statistics of TWNIC's IP Members

TWNIC

TWNIC 's LIR: 63

	代理發放單位		代理發放單位		代理發放單位
1		22	台灣基礎開發科技股份有限公司	43	筌城有限公司
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	大無畏寬頻股份有限公司	50	洞澗有線電視股份有限公司
9	宏遠電訊股份有限公司	30			
10	向邦網路科技股份有限公司	31			
11	博訊科技股份有限公司	32			
12	和宇寬頻網路股份有限公司	33			
13	協志科技股份有限公司	34			
14	新世紀資通股份有限公司	35			
15	新	36			
16	台	37			
17		38			
18		39			
19		40			
20	台灣	41			
21	台灣碩網網路娛樂股份有限公司	42	果豆科技股份有限公司		

Service Types	# of TWNIC's Members
Co-location/IDC	30
FTTx	21
ADSL	7
Cable Modem	14
WLAN	4
3G/3.5G	5
4G(LTE)	5

IPv4 Address Allocation

- TWNIC has allocated 131,589 /24s IPv4 addresses
- The numbers of small allocations are growth after final /8 stage.
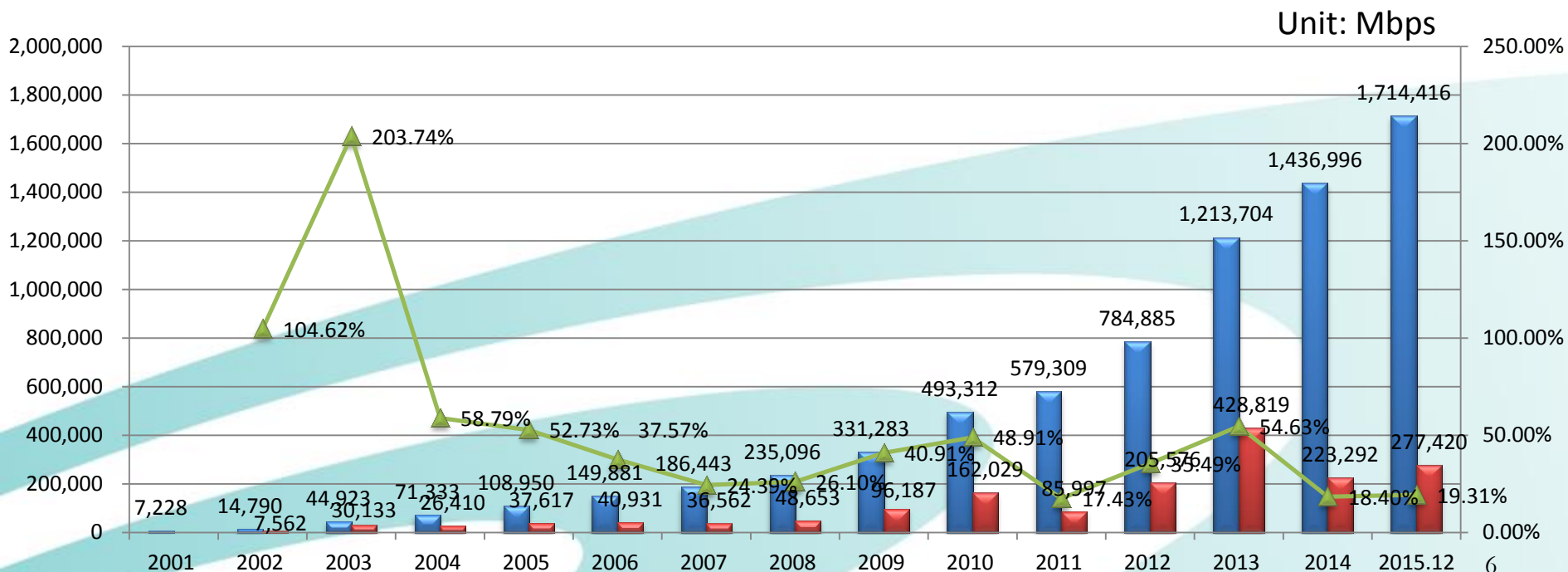

Unit: /24

IPv6 Address Allocation

- TWNIC has allocated 2,344/32s IPv6 addresses
- After finally /8 policy, many members apply IPv6 addresses. Currently, more than 50% TWNIC IP members have obtained IPv6 addresses.
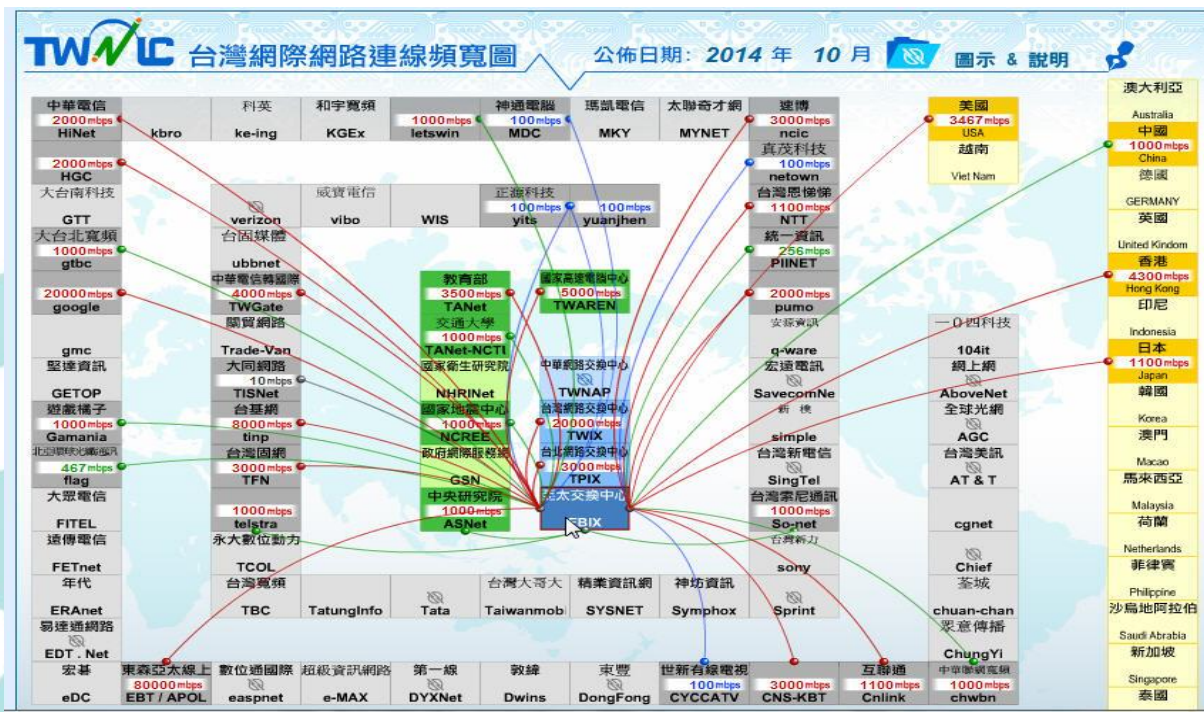
Unit: /32

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015.4
	1	2	7	12	14	113	2,243	2,307	2,307	2,308	2,315	2,318	2,325	2,333	2,342	2,344

Taiwan Internet Connectivity Bandwidth

- Since 2001, TWNIC released Taiwan Internet Connectivity Bandwidth every quarter.

- This survey was conducted by 82 ISPs in TWNIC's bandwidth registration system. Currently, the total bandwidth of international connection from Taiwan reaches 1,714 Gbps

Unit: Mbps

Taiwan Internet Connectivity Bandwidth

- We also provide every ISP's bandwidth of international connection and domestic ISP connection. You can query the ISP bandwidth by flash, and show all of this ISP's connective bandwidth.

- http://map.twnic.net.tw

The 2015 TWNIC Internet Forum

- Time: Dec 8-11, 2015
- Keynote speaker: Paul Wilson, Maemura Akinori…etc.
- Session topics in this meeting include IPv6 IoT, 4G IPv6, Big data in telecommunication, TWNOG, etc.
- More than 45 speakers and 500 attendees.
- To see the detail agenda, visit http://www.ipv6.org.tw/summit2015/

TWNIC's IPv6 Training Programs in 2015

- Period(May to Dec.)

  https://www.gsnv6.tw/ipv6_104
  https://www.gsnv6.tw/moocs_104/

	Courses	Times	Attendees
Introduction Program	IPv6 Routing	9	310
	IPv6 Email Server	9	305
Hands on Program	Windows Server IPv6	9	226
	Linux Server IPv6	9	224
MOOCs Online Program	Introduction of IPv6 Technology	1	1,242
	IPv6 Management and Security	1	1,248
	IoT Infrastructure and Application	1	1,635
	Design of IoT sensor and sensor network	1	1,201
	Total	40	6,391

Taiwan Government's Initiative to Deploy IPv6

- Taiwan government announced IPv6 Upgrade and Promotion Program (IPv6 UP) and approved on December 30, 2011 by Executive Yuan, Taiwan.

- 4,568 network services of governmental agencies need to be totally upgraded to IPv6 in the end of 2015.

- We also monitor IPv6 reachable ratio of these services.

IPv6 Upgrade of External Network Services

4,568 services (100%) have upgraded to IPv6 in governmental agencies..

	Web	DNS	Email	FTP	Total	Ratio for IPv6 Upgraded Services
Executive Yuan and its subordinate agencies	2,056	242	264	19	2,581	100%
Other central government agencies	86	14	10	0	110	100%
Local governments	1,479	191	203	4	1,877	100%
Total	3,621	477	447	23	4,568	100%

Conclusions & future works

- All governments' external network services have finished to upgraded to IPv6 in 2015, we hope to promote IPv6 upgrade of ISPs' access services in the future.
- In the IPv6 promotion, we will continuously take IPv6 training courses, IPv6 virtual lab and IPv6 activities this year.
- Welcome you all to attend the IPv6 readiness measurement BoF tomorrow.

Thank You