



The Status of 4-byte AS number in Taiwan

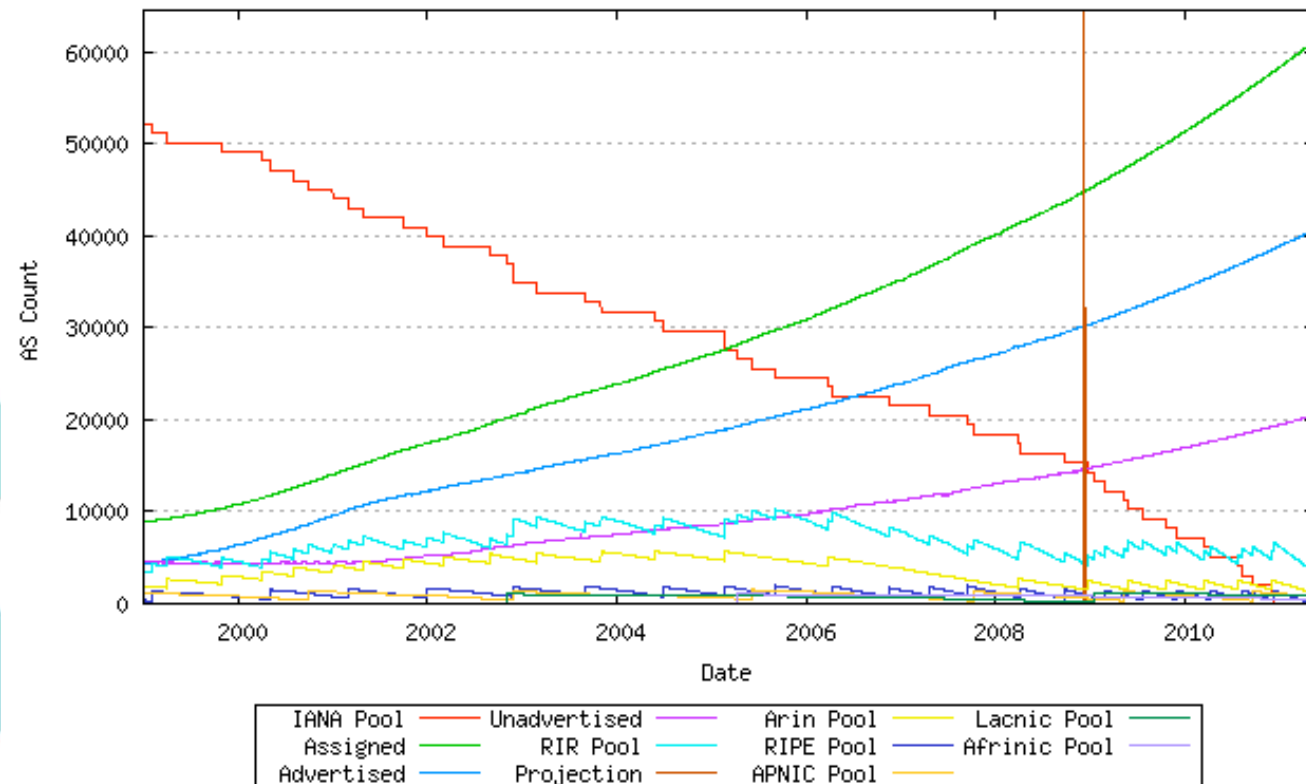
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Outline

- Surrounding Air
- The Preparation of 4 byte ASN in Taiwan
- ISP's migration Issues
- Future work

Surrounding Air

- 2 byte AS number exhaustion is indeed
 - 2 byte AS Number will be exhaustion in 2011



Surrounding Air

- New APNIC Policies for Autonomous System number management in the Asia Pacific region active
- Timetable for moving from two-byte only AS numbers to four-byte AS numbers
 - 1 January 2007 APNIC assigns two-byte AS numbers by default APNIC assigns four-byte AS numbers on request.
 - 1 January 2009 APNIC assigns four-byte AS numbers by default. APNIC assigns two-byte AS numbers on request.
 - 1 July 2009 APNIC assigns four-byte AS numbers by default. APNIC assigns two-byte AS numbers if a four-byte AS number is demonstrated to be unsuitable
 - 1 January 2010 APNIC ceases to make any distinction between two-and four-byte AS numbers. APNIC assigns from an undifferentiated four-byte AS number pool.

The Preparation of 4 byte ASN in Taiwan

- TWNIC's 4 byte AS number Pool
 - TWNIC had requested a block of 4 byte ASN in 2008
- TWNIC's RMS system upgraded and can support 4 byte ASN in 2008
- Promotion
 - We also announced former letter to ISPs about AS number Policy adjustment
 - Since 2006, ISPs discussed 4 byte ASN on 6th, 8th, 11th TWNIC IP OPM
- ISPs test 4 byte AS Router
 - Some major Taiwan's ISPs begin to test 4 byte AS routing

TWNIC's RMS support 4 byte ASN

- TWNIC's web whois supports 4 byte ASN
 - ▣ Using ASDOT or ASPLAIN to query web whois

IP/ASN資源管理系統

whois IP/ASN 查詢:

ASDOT

IP/ASN資源管理系統

whois IP/ASN 查詢:

ASPLAIN

查詢功能-IP/ASN查詢

ASN資料查詢	
ASPLAIN	AS131145
ASDOT	AS2.73
AS Name	TEST4Byte
Description	descr: KE-ing Co., Ltd descr: IF., No.345, Jilin Rd., Zhongshan District, Taipei City 104, Taiwan (R.O.C.) descr: Taipei Taiwan 104
Import	import: from AS18042 action pref=100; accept ANY import: from AS9416 action pref=100; accept ANY
Export	export: to AS18042 announce THIS-AS export: to AS9416 announce THIS-AS
Default	default: to A18042

TWNIC's RMS System Improvement

- The webpage of TWNIC's RMS



TWNIC IP/ASN資源管理系統
財團法人台灣網路資訊中心

← 審核資料	AS18415	AS18416	AS18417	AS18418	AS18419
← IP管理	AS18420	AS18421	AS18422	AS18423	AS18424
← ASN管理	AS18425	AS18426	AS18427	AS18429	AS24153
← Reverse登錄	AS24154	AS24155	AS24156	AS24157	AS24158
← 帳號管理	AS24159	AS24160	AS24161	AS24162	AS24163
← 管理者帳號	AS24164	AS24165	AS24166	AS24167	AS24168
← 統計查詢	AS24169	AS24170	AS24171	AS24172	AS38837
← 帳務系統	AS38838	AS131143(AS2.71)	AS131145(AS2.73)		
← 系統自動管理備份機制					
➔ 回首頁					
← Logout					

Promotion

- In TWNIC's 11th OPM(Nov. 2008), we invite major ISPs, CISCO and JUNIPER to discuss the migration issue of 4 byte AS Number
- TWNOG provided "4-Byte AS Number Migration Suggestion" report
 - <http://opm.twnic.net.tw/11th/>
- No ISP migrate to 4 byte AS Number in Taiwan right now

Migration Issue 1

- The timetable of router manufacturers support 4 byte ASN are too late
 - Cisco will support 4 byte ASN in 2009
 - Cisco
 - IOS 12.0(32)S12 – Dec. 2008
 - IOS 12.4T - April 2009
 - For: **ISRs, 2400, 3200, 5350, 5400, 720x, 730x, VG**
 - Supports standard format with "asdot" as an option
 - IOS 12.2SRE - late 2009
 - For: **7200, 7600**
 - IOS 12.2SB - TBD
 - For: **10000**
 - IOS 12.2SXI - late 2009
 - For: **Cat6500**
 - IOS XE - TBD
 - For: **ASR 1000**

Migration Issue 2

- Upgrade Router Operating System issues
 - It is not a easy work
 - Upgrade ROS then reboot router maybe impact the network and SLA
 - They need a serious and detail plan to upgrade all router ROS will spend many months even more than one year.

Don't Migration Issue

- AS-PATH issues on border router
 - AS-PATH is a very important attribute for BGP policy design
 - Allow or deny BGP routes
 - Set local preference
 - Set BGP community
 - If the border router did not support 4-byte AS number, ISP can NOT handle 4-byte AS BGP routes by AS-PATH attribute
 - Can NOT permit/deny BGP routes by AS path information
 - Old ROS can not recognize AS4_PATH attribute either
 - Can NOT set BGP local preference on border router by AS path information
 - Can NOT set BGP community on border router by AS path information

Future

- Major ISPs plan to migrate 4 byte ASN project
- Training course of 4 byte AS number for ISPs
- TWNOG will discuss and share experience of ISP migration 4 byte AS number

Thank You

