



CNNIC UPDATE

Zhen Yu

NIR SIG, APNIC 43, HO CHI MINH



Outline

Internet Development in China

Membership Growth

IPAS allocation

Training Program

RPKI in CNNIC



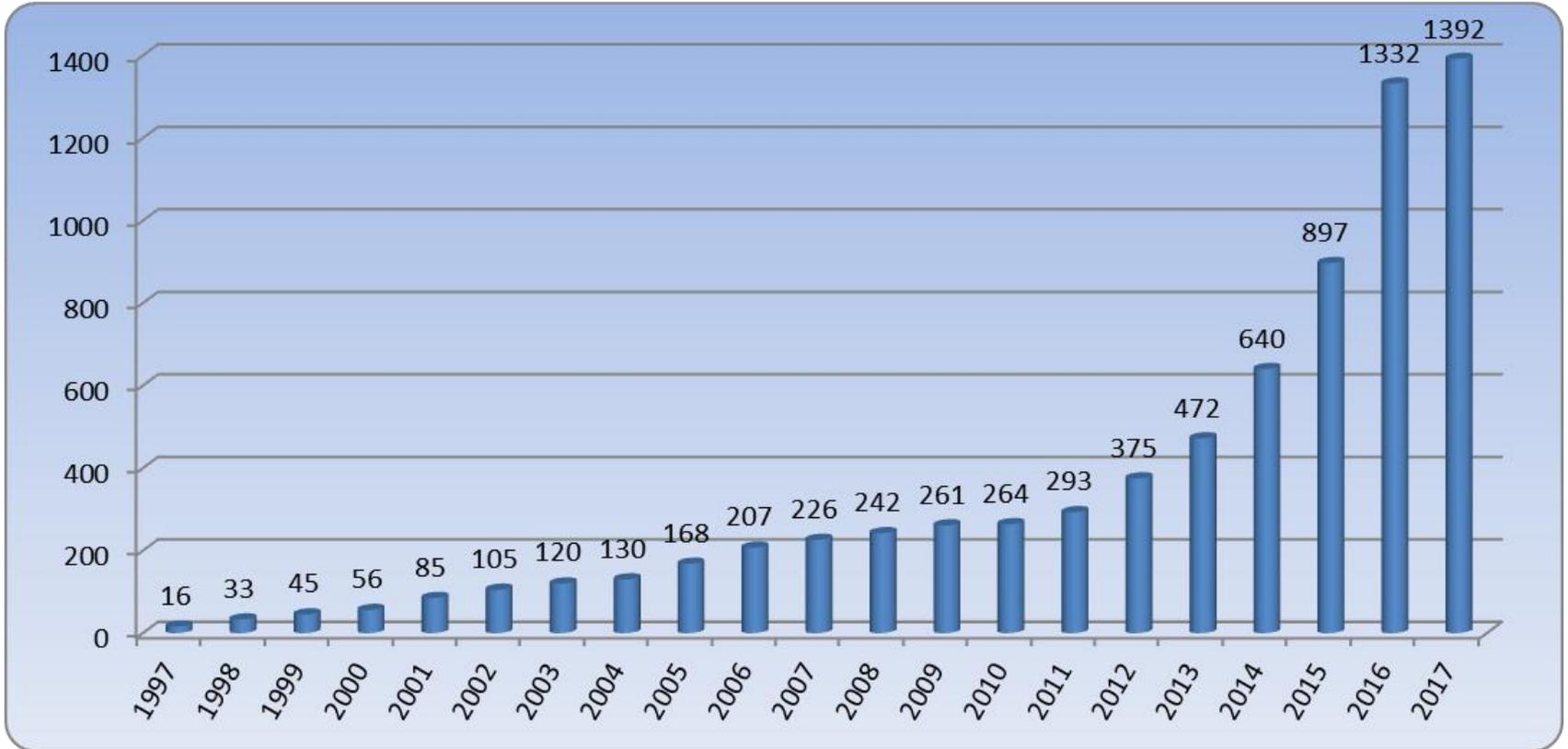


■ Internet users 731 million, Internet penetration rate 53.2%,

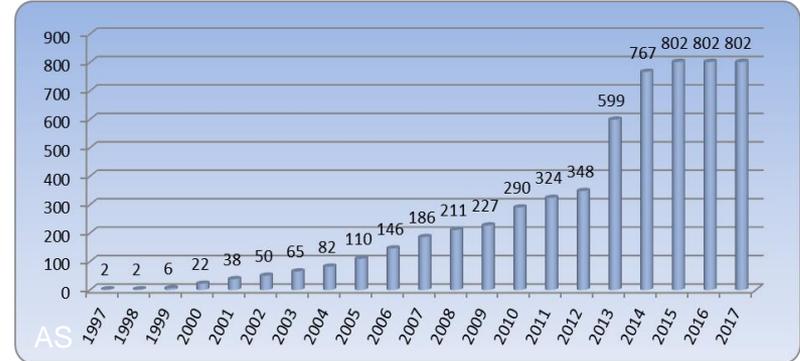
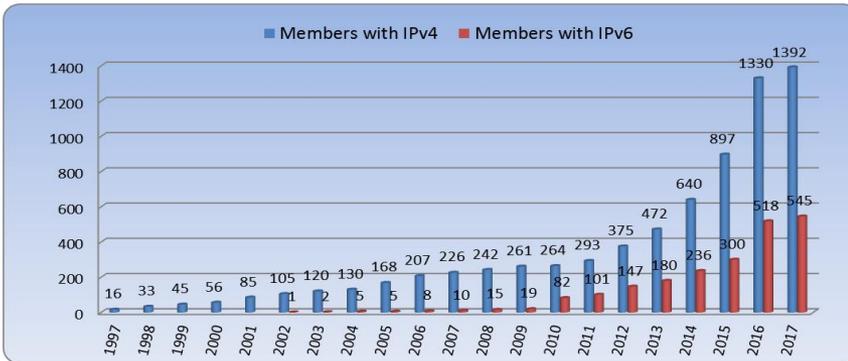
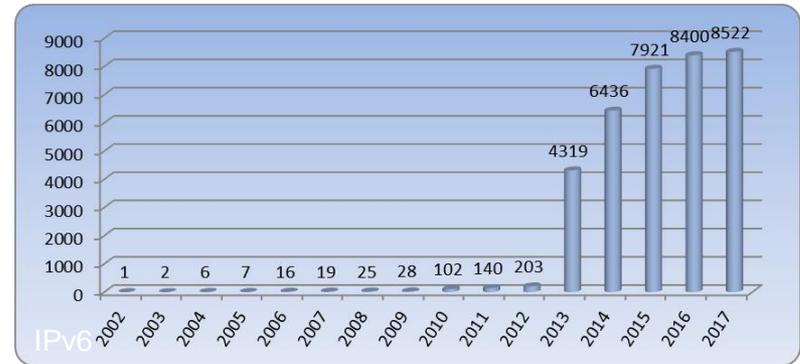
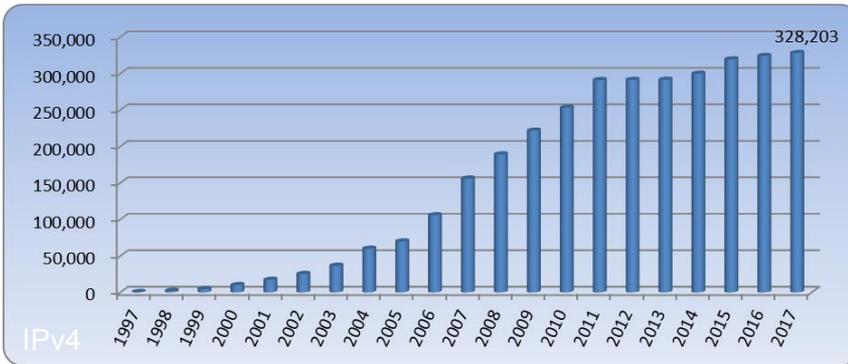


■ Mobile Internet users 695 million, 95.1% of the total Internet users

■ 1,392 CNNIC IP members, by the end of February 2017



- CNNIC has allocated 328,203 /24s IPv4 addresses, 8,522 /32 IPv6 blocks and 802 AS numbers



CNNIC | APNIC

**2016年IPv6
技术交流 北京站**

2016.10.31 — 2016.11.02

主办单位：中国互联网络信息中心 (CNNIC)

CNNIC | APNIC

**2016年IPv6
技术交流 成都站**

2016.10.26 — 2016.10.28

主办单位：中国互联网络信息中心 (CNNIC)

**Where are we now?
IPv6 deployment update**

IPv6 Workshop | Chengdu & Beijing | October 2016

APNIC



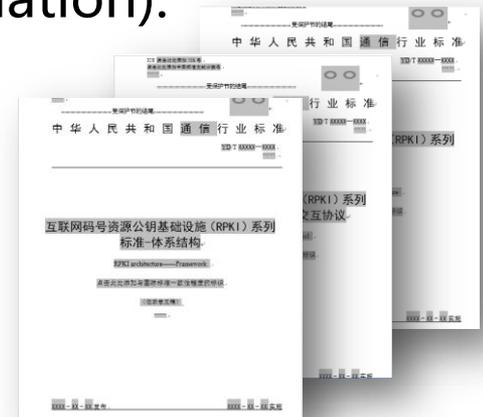
Standardization

■ IETF (SIDR/SIDROPS):

- X. Lee, X. Liu, Z. Yan and Y. Fu, RPKI Deployment Considerations: Problem Analysis and Alternative Solutions, draft-lee-sidr-rpki-deployment-01, January, 2016.
- Y. Fu, Z. Yan, X. Liu and C. Wang, Scenarios of unexpected resource assignment in RPKI, draft-fu-sidr-unexpected-scenarios-02, September, 2016.
- Z. Yan, Y. Fu, X. Liu, G. Geng, Problem Statement and Considerations for ROA Mergence, draft-yan-sidr-roa-mergence-00, May, 2016.

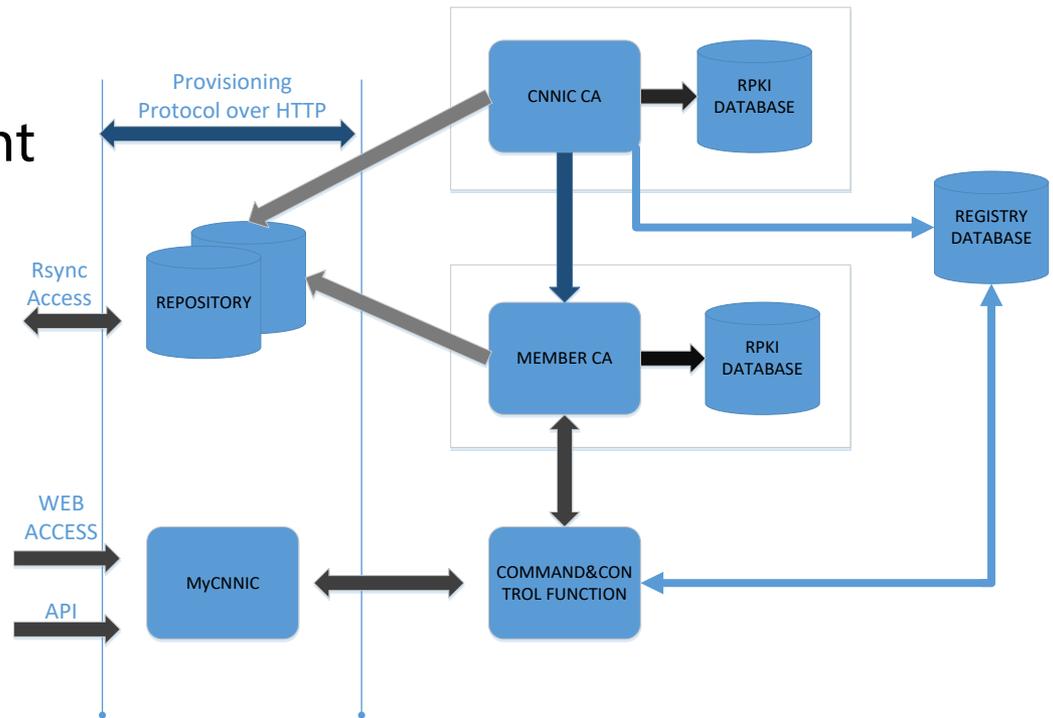
■ CCSA (China Communications Standards Association):

- In charge of the standardization of RPKI in China



Deployment : CNNIC-CA

- 85% FINISHED
- Membership management
- RPKI Database
- UI update
- Registry database
- **Up-down interface**
- ...



Deployment: Safeguard-CA

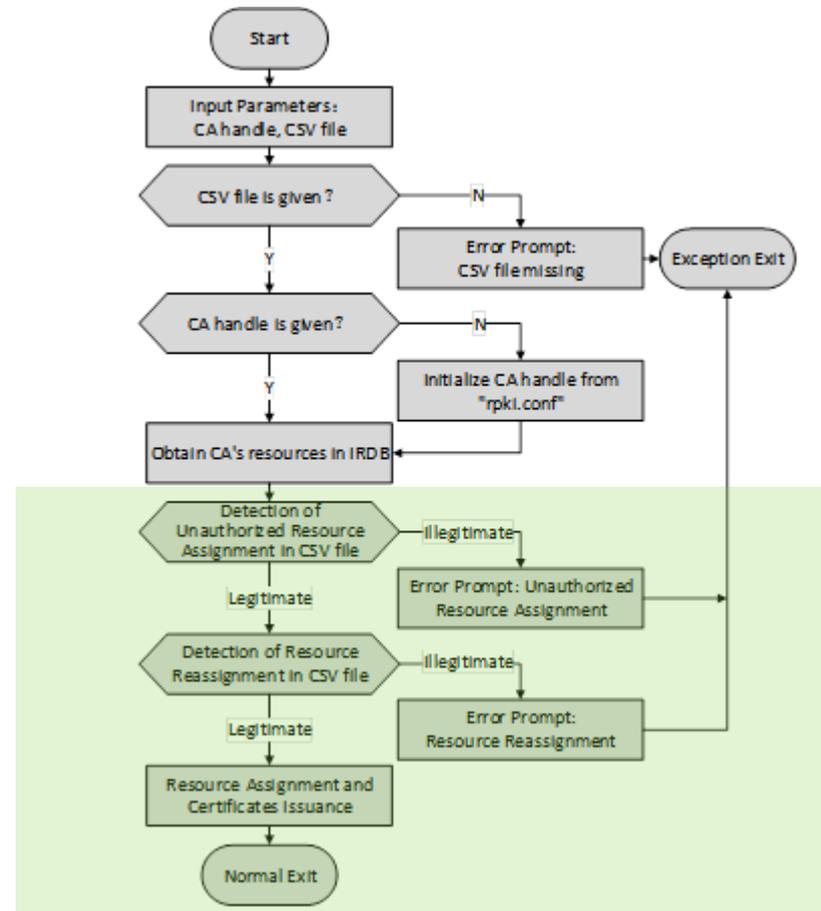
Misoperation of RPKI causing unexpected assignment

■ Risks:

- Unbelonged resource allocation
- Duplicated allocation
- Resource transfer

■ Solution:

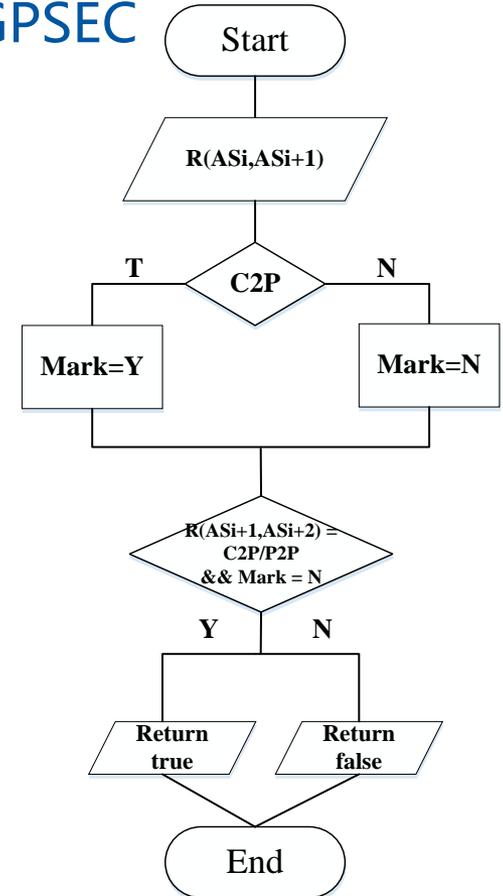
- Safeguard of CA function



Research

BGP Route Leakage solution based on RPKI+BGPSEC

- AS relationship filtering
 - based on Triadic Neighbor Table
- Dynamic validation of role
- Leakage-free BGP update
 - based on BGPSEC signature



THANKS!

yuzhen@cnnic.cn

中国信息社会重要的基础设施建设者、运行者和管理者

北京市海淀区中关村南四街四号中科院软件园

邮编: 100190

www.cnnic.cn