



**arin**

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**32**

# Engineering Report

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(in lieu of Mark Kusters)

# Staffing

- Operations
  - **7 operations engineers + 2 managers (AT FULL STRENGTH)**
- Development
  - **7 programmers + manager (ONE OPENING)**
    - New-hire filled vacancy by our last contractor in May
    - Recent departure of long-time employee
- Quality Assurance
  - **4 engineers, 1 contractor + manager (AT FULL STRENGTH)**
- Project Management – 1
- CTO - 1

# YTD Efforts

- Improved Backoffice Processes
  - **Better integration of financial services and registration services workflows, automation of processes and invoicing**
- New Fee Schedule
- RPKI
  - **Web Delegated**
  - **Up/Down Delegated including ERX space**
- Migration from Oracle to PostgreSQL
- Oracle, EMC, and LB instability challenges (solved)

# YTD Efforts Cont...

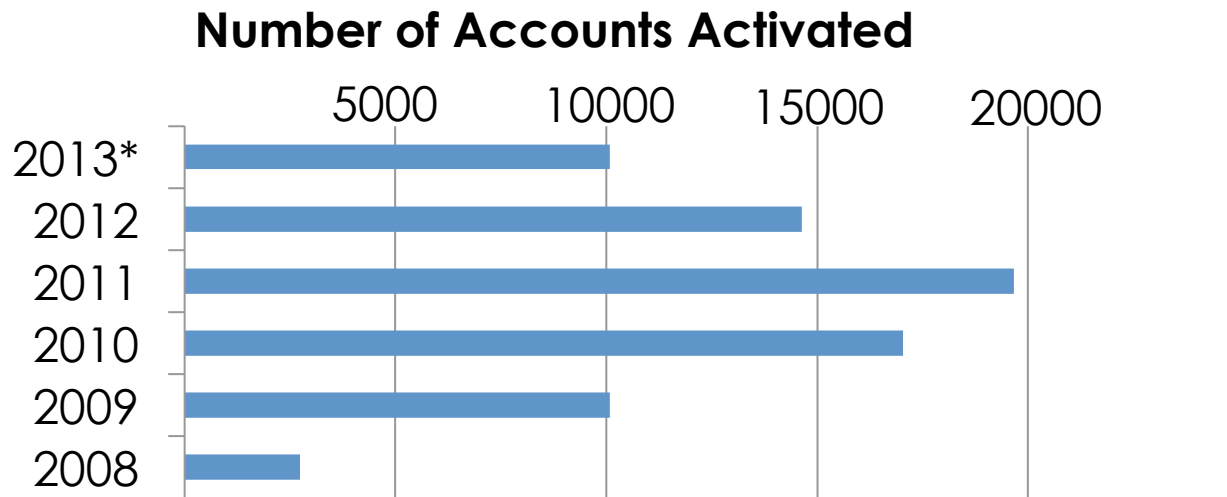
- Extended Statistics
- Fault Tolerance Improvements
  - **More efficient system backups**
  - **Moving Production Systems to DR site**
- Corporate Help Desk and IT Support
- ARIN Member Meeting Support
- Care and Feeding of Servers & Network
  - **Includes new systems provisioning with Puppet and Foreman**

# YTD Efforts Cont...

- 3<sup>rd</sup> Party Vendor Selections
  - **New election system, including integration with ARIN Online**
  - **Meeting Registration System**
- User Interface Usability Testing
- IETF Participation
  - **SIDR, RPKI GTA, WEIRDS (RDAP)**

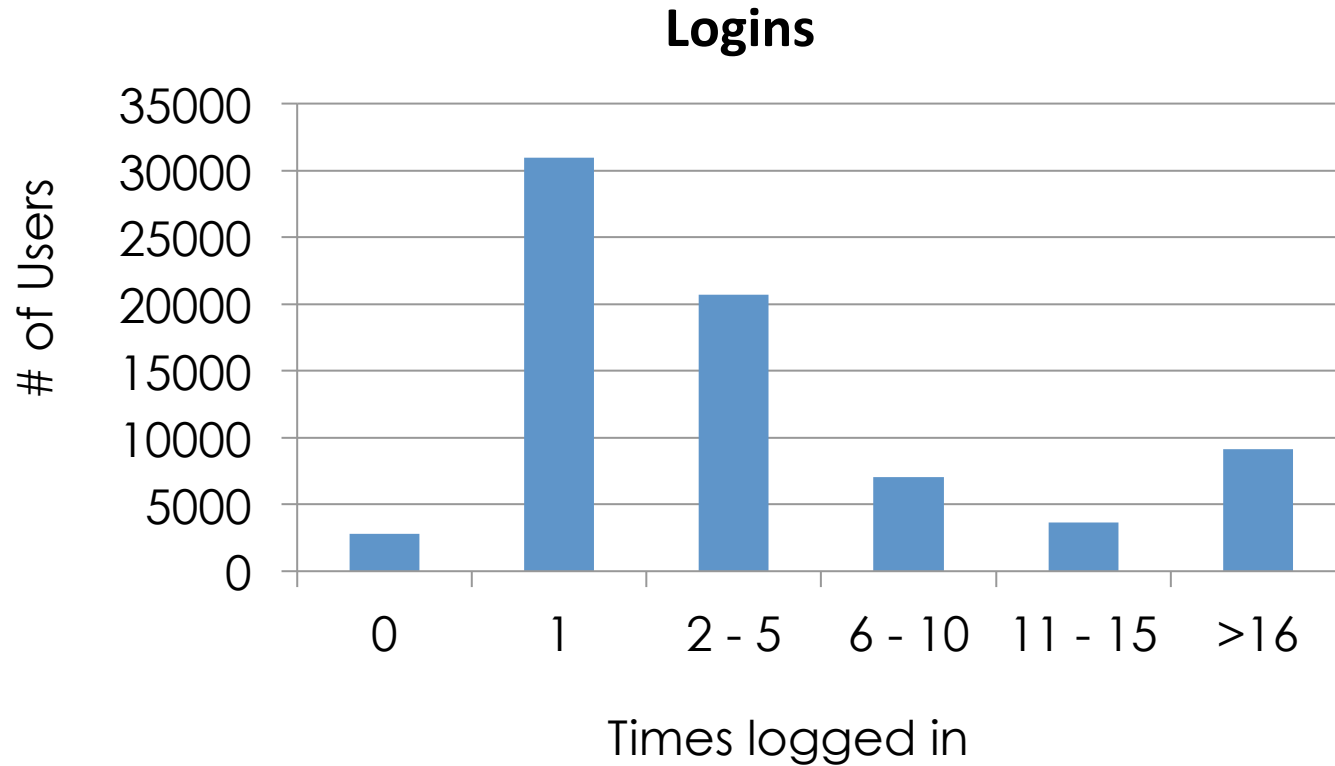
# ARIN Online Usage

- 74,172 accounts activated since inception through Q3 of 2013

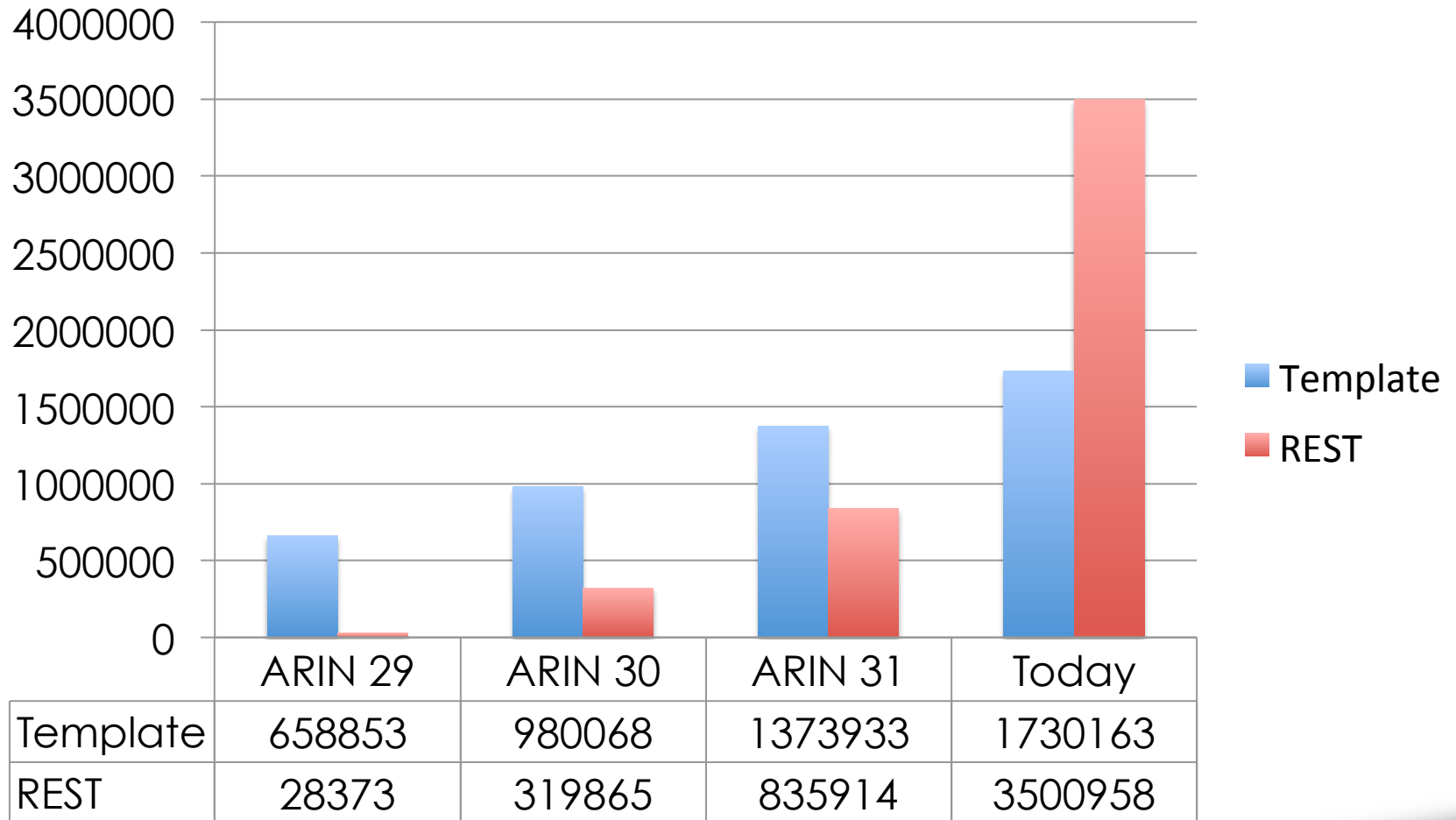


\* Through Q3 of 2013

# Active Usage of ARIN Online



# Reg-RWS Transactions





# Reports

	Via REST	Via ARIN Online
Associations	13	6,876
Reassignments	14,098	31,145
WhoWas	30,385	10,831

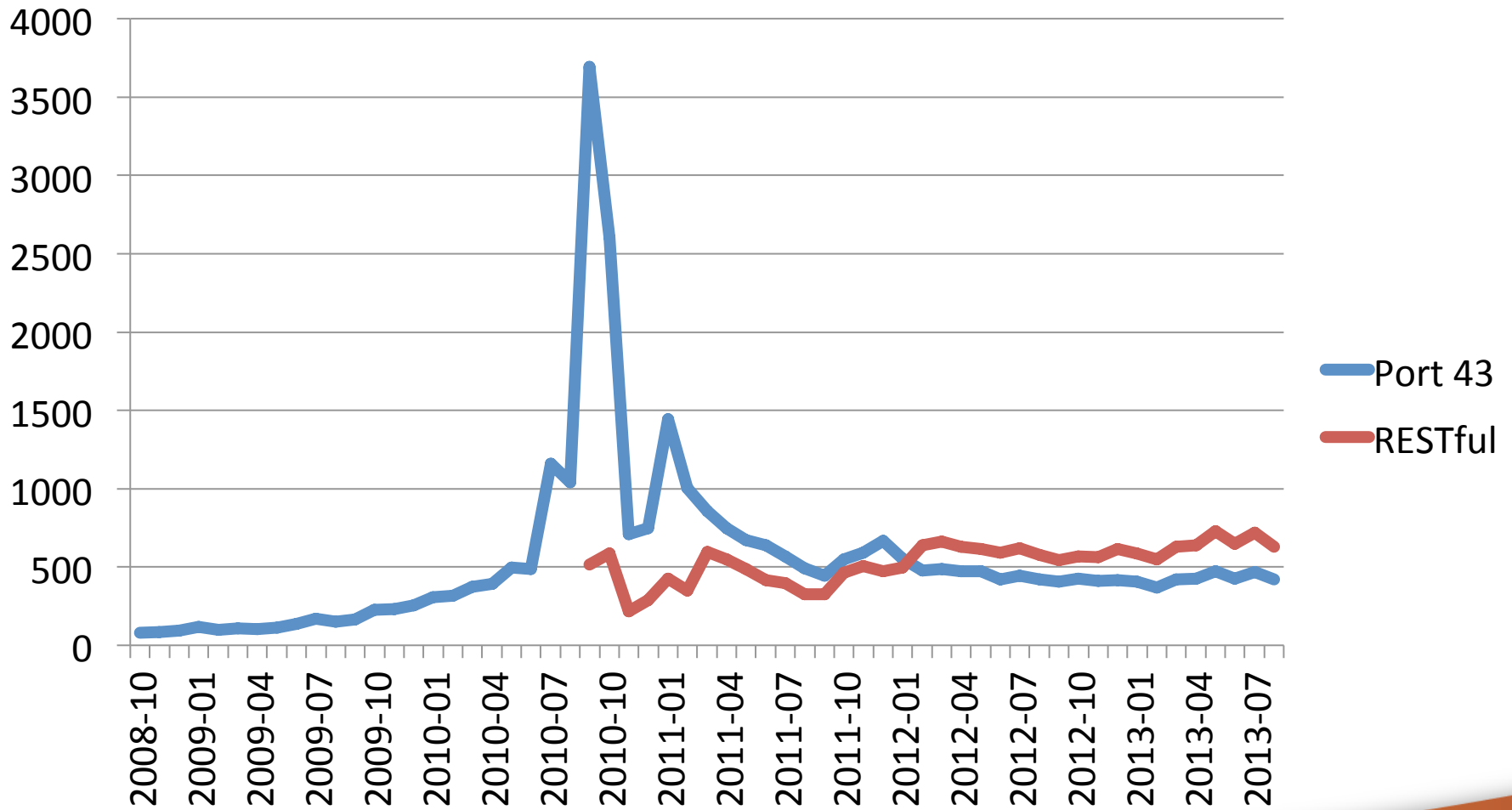
# API Keys

	API Keys	Users w/ API Keys	API Keys w/ Email
Active	7,590	6,988	3,829
Inactive	684	521	0
Total	8,274	7,127	3,829

# RPKI Usage

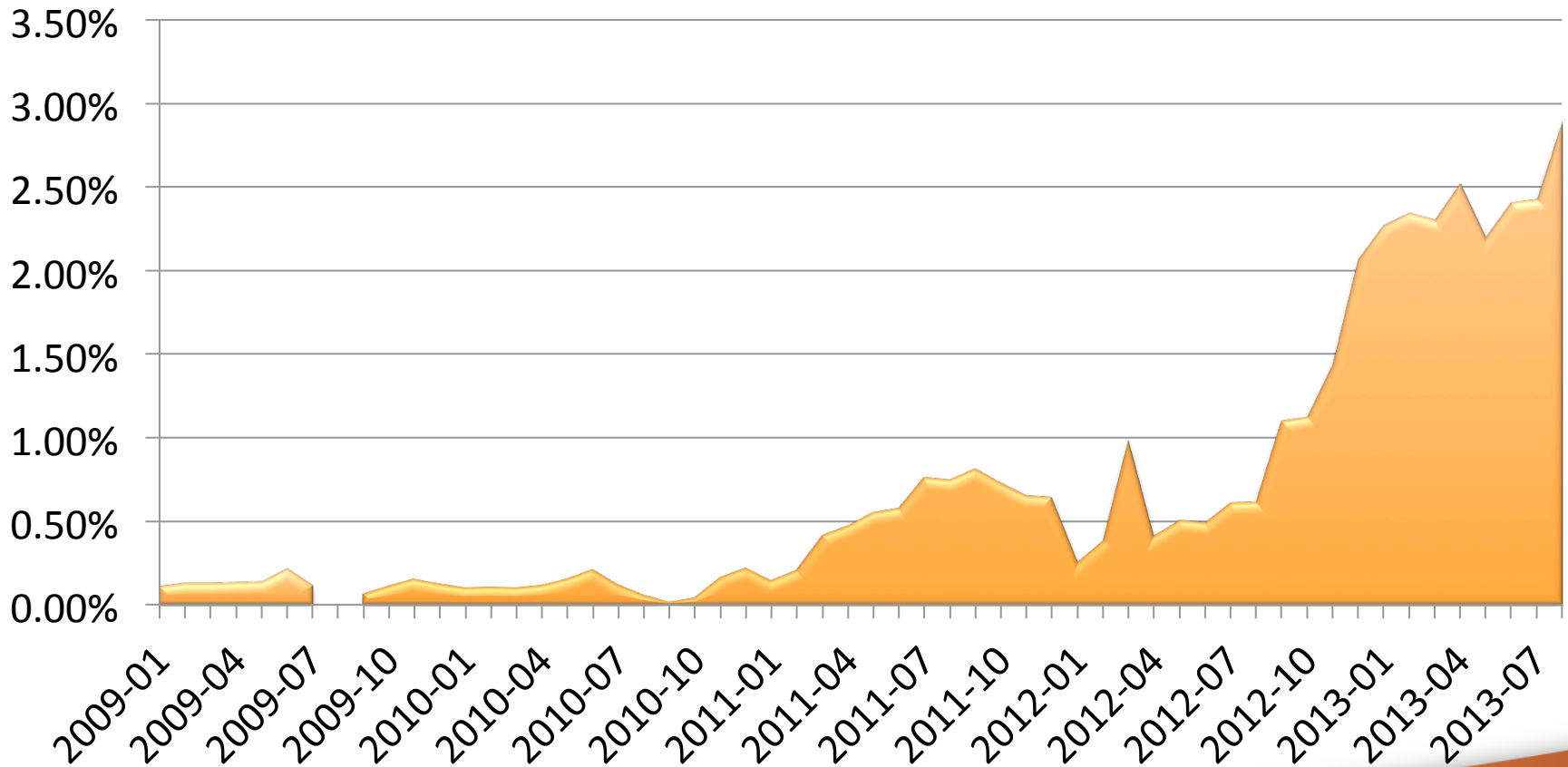
	ARIN XXX	ARIN XXXI	ARIN XXXII
RPAs Signed	27	72	130
Certified Orgs		47	68
ROAs	19	60	106
Covered Resources	30	82	147
Web Delegated		0	0
Up/Down Delegated			0

# Whois Queries Per Second

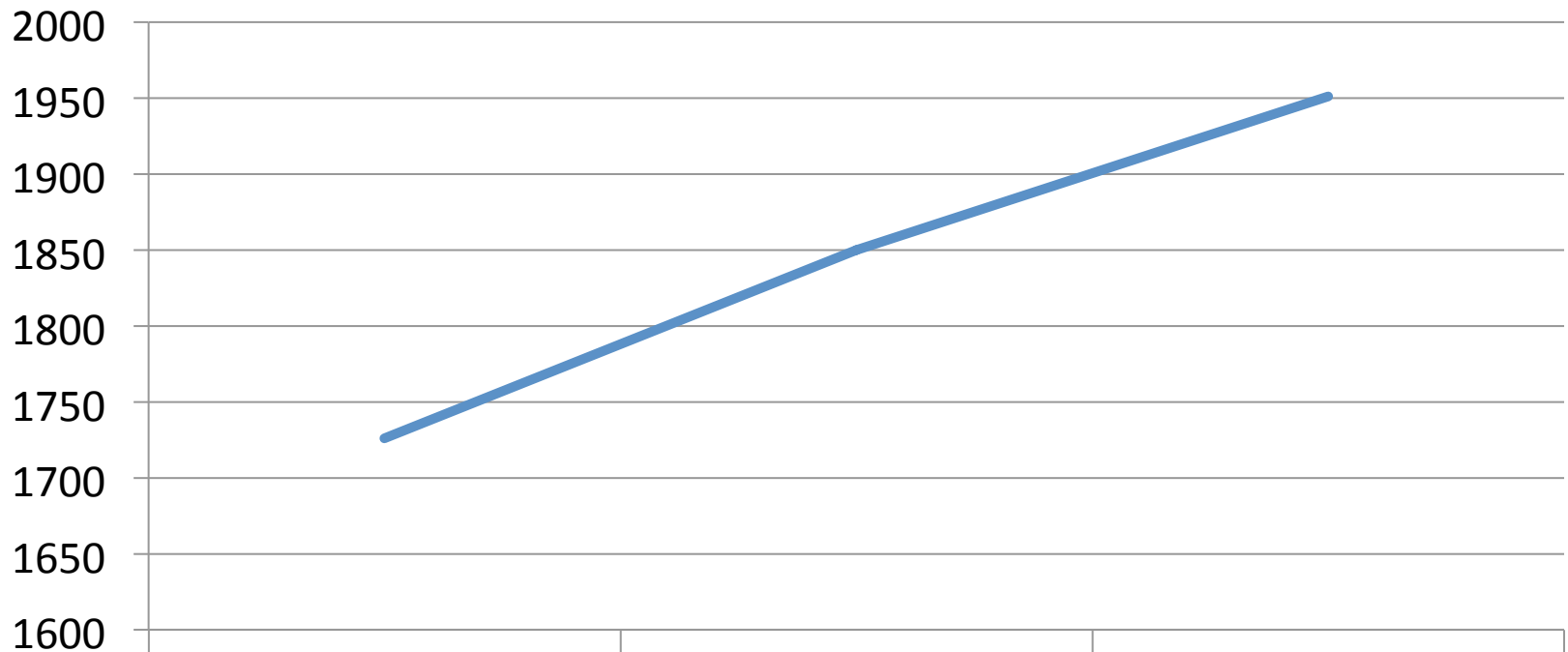


# Whois via IPv6

% of Traffic

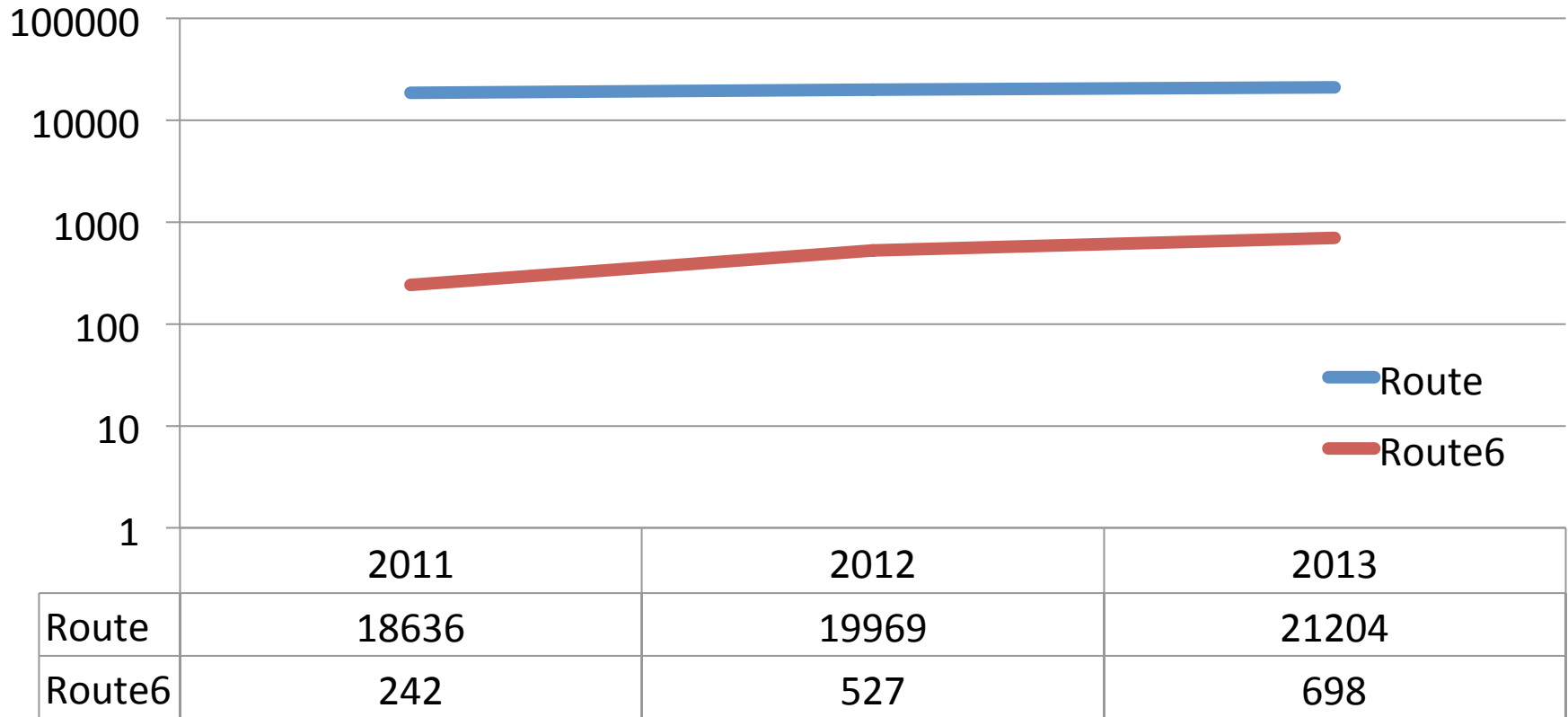


# IRR Maintainers

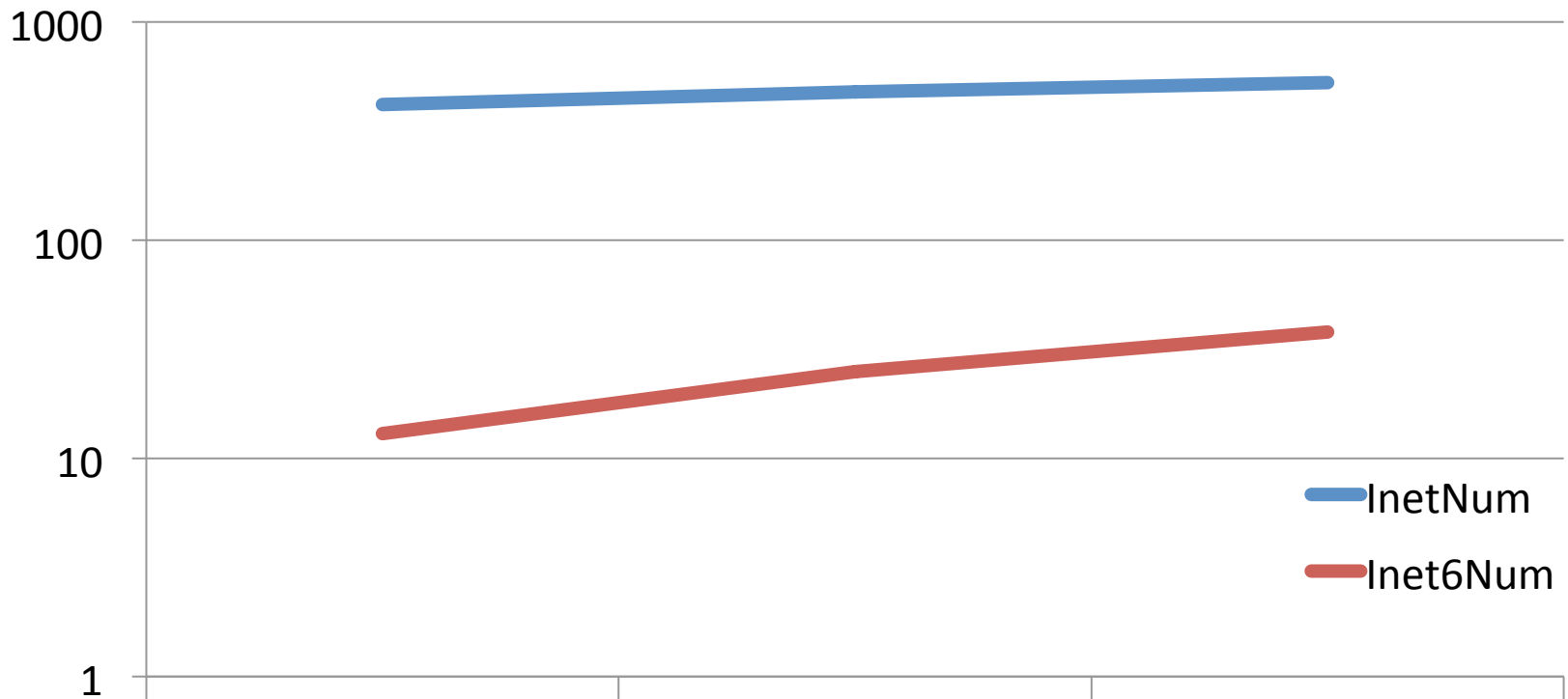


	2011	2012	2013
Maintainers	1726	1850	1951

# IRR Route / Route6



# IRR InetNum / Inet6Num



	2011	2012	2013
InetNum	419	481	531
Inet6Num	13	25	38



# ACSP 2013.8 – Two Factor Authentication

- Looking for best fit solution
  - **Offers security desired**
  - **Is not onerous**
    - Only 66 PGP & 18 X.509 Users
- Most common 2<sup>nd</sup> factor used today is email / mobile phone
  - **SMS codes vulnerable to MiTM**
  - **Most secure with mobile app and complete out of band verification**

# Interops

- RPKI
  - Internally testing Up/Down with RPKId
  - Held Up/Down interop with APNIC, LACNIC, RIPE NCC, and AFRINIC at IETF 87
  - Up/Down now generally available
  - Will begin production Up/Down for ERX space with APNIC soon
- RDAP (IETF WEIRDS)
  - Participated in public interop with APNIC, RIPE NCC, LACNIC, Afilias, VeriSign, CNNIC at IETF 87
  - ARIN has open source software at <http://projects.arin.net>
  - Public testbed at <http://rdappilot.arin.net/restfulwhois/rdap>
  - Interop at IETF 88 planned

# Comments?