ARIN 49
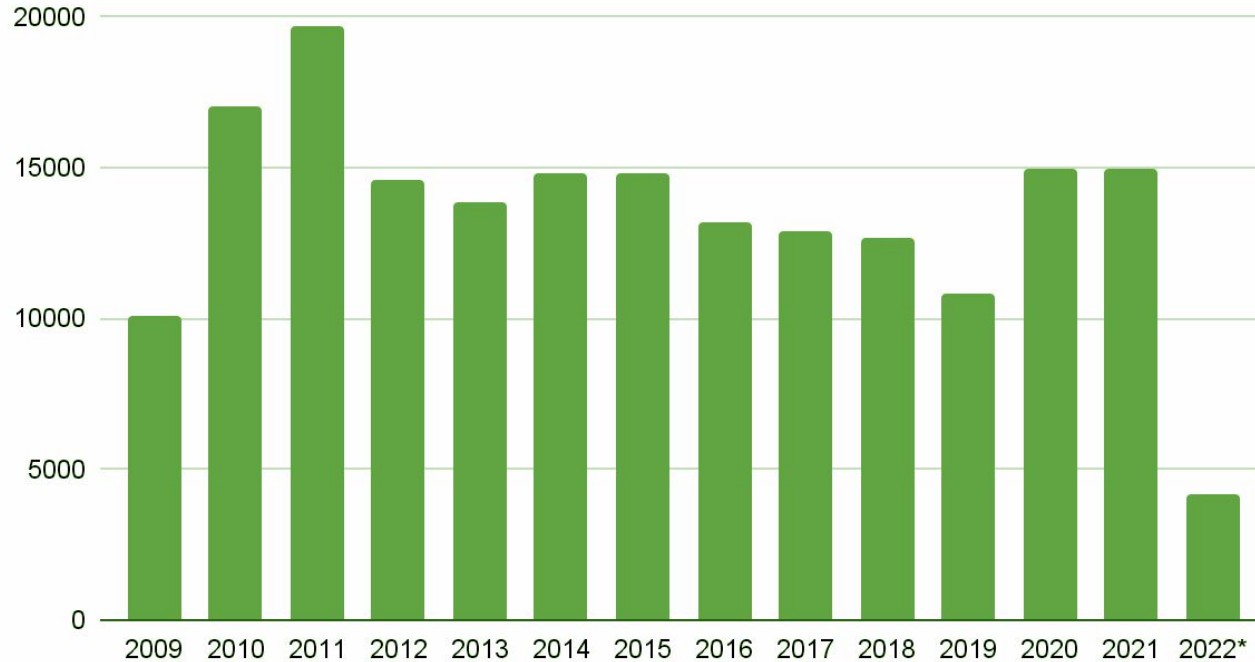
POWERED BY PARTICIPATION

Engineering

Mark Kosters

Agenda

- Statistics
- Software releases
- Operational improvements
- Challenges
- What's next?

ARIN Online

Accounts Activated

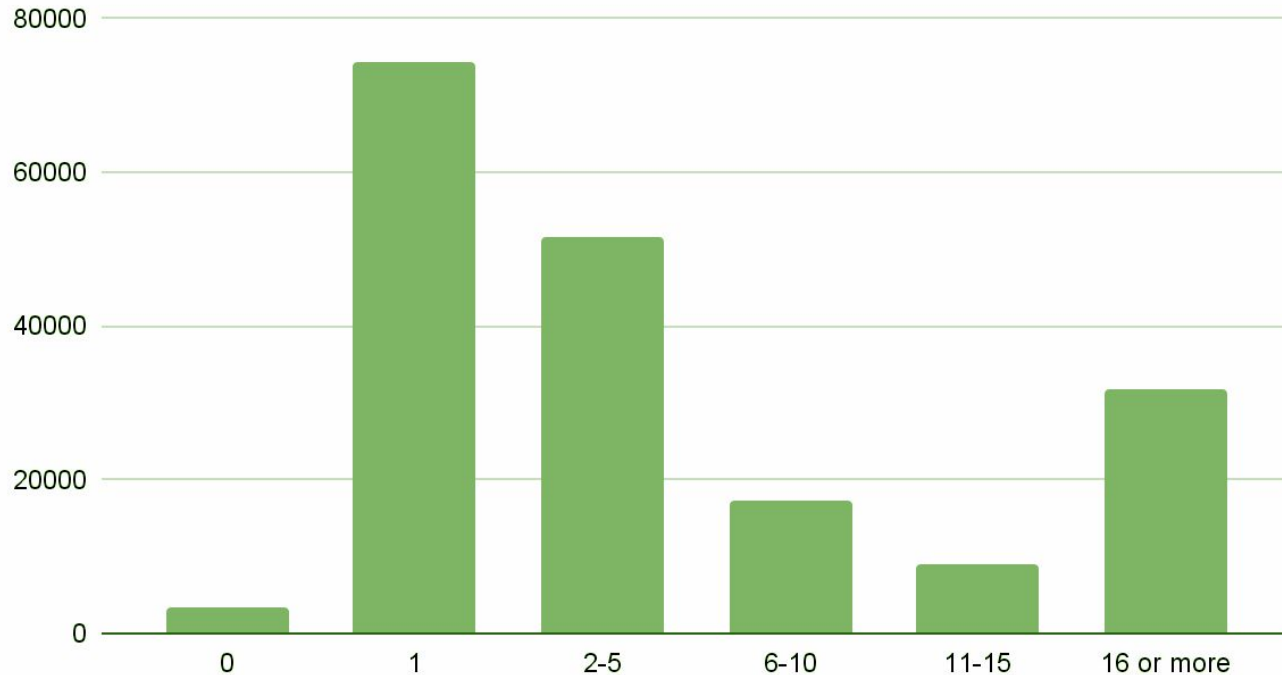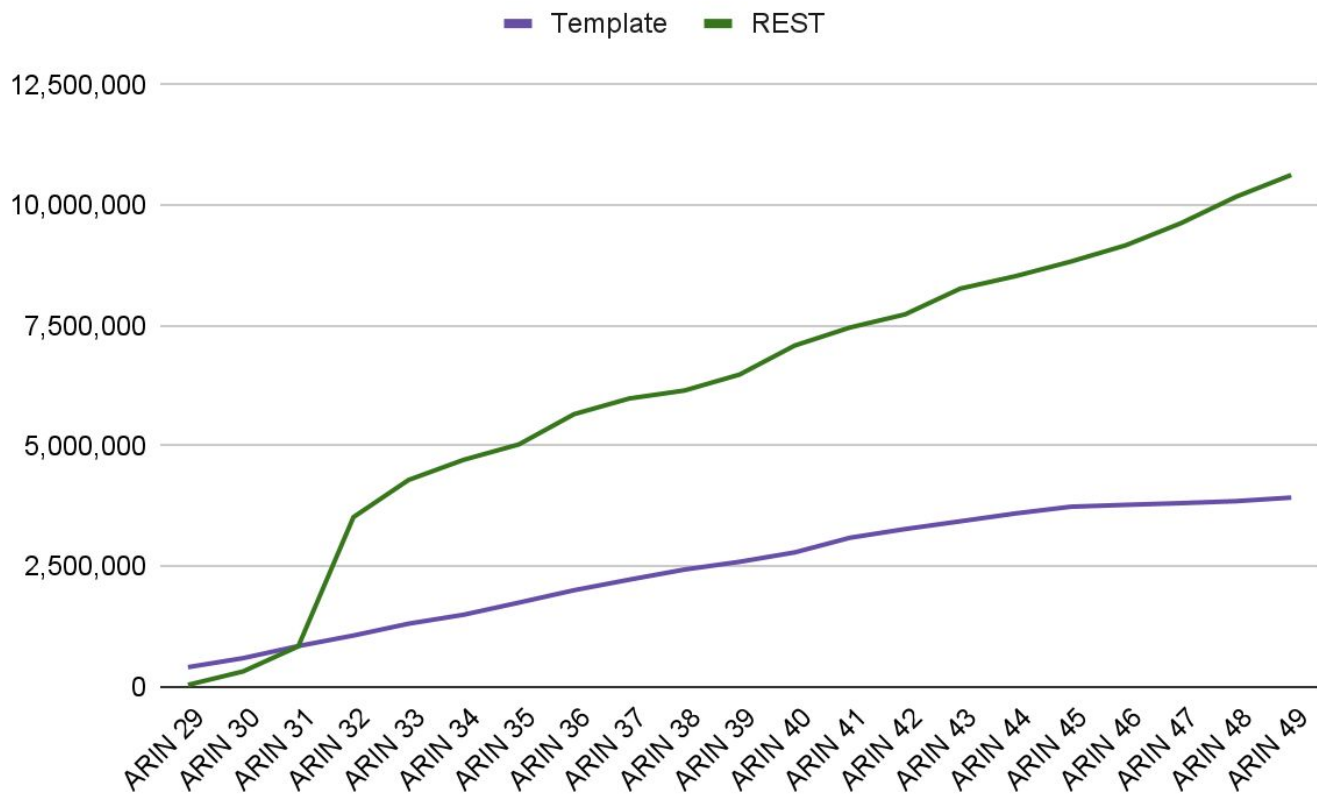| Year	Accounts Activated
2009	~10100
2010	~17000
2011	~19600
2012	~14600
2013	~13900
2014	~14800
2015	~14800
2016	~13100
2017	~12900
2018	~12700
2019	~10800
2020	~14900
2021	~14900
2022*	~4100

* Through 4/6/22

ARIN Online Logins - Cumulative Over Time

ARIN Online Logins

Provisioning Transactions

Legend: Template (purple), REST (green)

Cumulative:
RESTful +
Templates

Whois and Whois-RWS

Queries Per Second
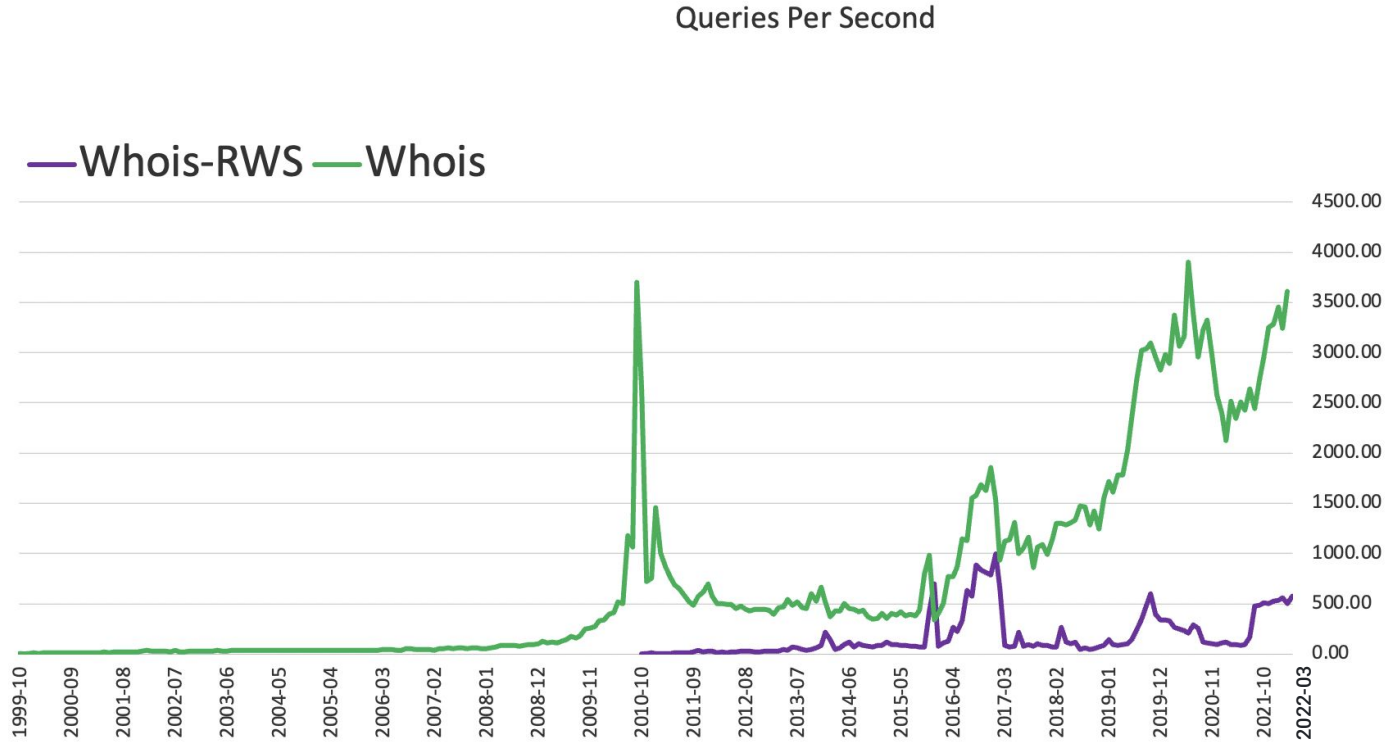
Registration Data Access Protocol (RDAP)

RDAP Queries Per Second
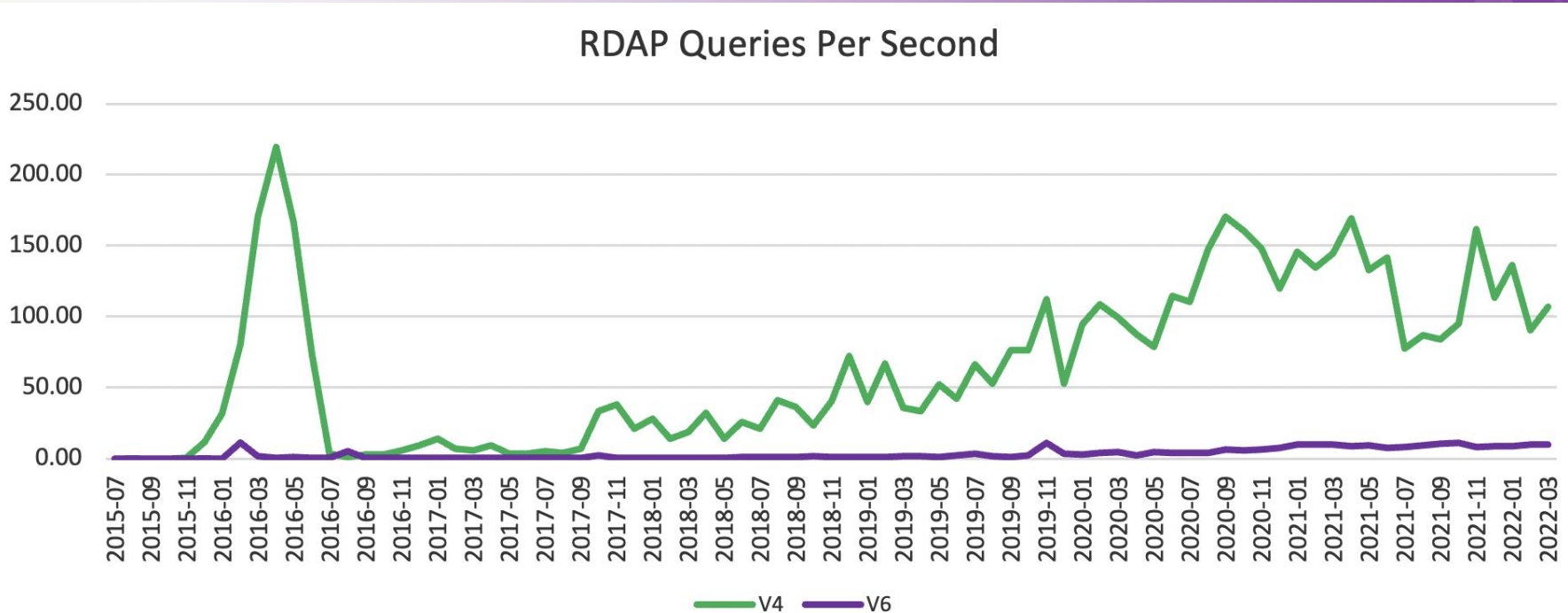
Releases since ARIN 48

- ARIN's Publication Service for Delegated RPKI allows ARIN to run the repository and reporting service for RPKI-covered resources WITHOUT hosting the certificate authority
- Full conformance to the NRO RDAP Profile rolled out (https://bitbucket.org/nroecg/nro-rdap-profile/raw/0ede2b21a9103409b7d4c9c8a1894eb230b77dcd/nro-rdap-profile.txt)
- Fee harmonization completed and standardized between ISPs and End users
- Completely redesigned invoices to include updated payment information as well as number resource detail section added
- IRR Route Guard completed
- Membership update request functionality updated
- Reduction of technical debt

Operational Improvements since ARIN 48

- Added RPKI hybrid capability
- Ability to request/issue smaller than IPv6/36 to ISPs
- EOL box replacements
- Phone system moved from a PRI to a SIP trunk
- Moved from Ansible based VM management to Docker containers for ARIN Online deployments
- Expanded DDoS-mitigation coverage
- Security Audit completed

Challenges

- Directory Services (last meeting)
  - Utilize tarpitting to safeguard service
  - Have periodic high loads
  - Call in a multidisciplinary team (Ops/Dev/QA)
  - Review logs and code
  - Significant time spent on each event
  - Example
    - Evidence of an apparent massive botnet
    - Called in the FBI and contacted various ISPs
    - Turns out to be two threat intelligence companies generating traffic
- Brute force login attacks (current)
  - Weekly occurrence
  - Utilizes a botnet so no IP filtering can be done
  - Audit logs and report suspect accounts to RSD

What's Next

- New 3rd party payment and invoicing vendors
- New 3rd party election system vendor
- System improvements for the Premier Support Plan (PSP)
- Secure routing enhancements
  - IRR - Adding RPSL into ARIN Online
  - RPKI
    - Resource Certificates Renewals
    - Two-factor Authentication within RPKI
    - RPKI/IRR integration
- Technical debt
  - Continue to replace libraries that are end of life
- Public Facing Services (PFS) site improvements
  - Install a re-engineered hardware solution for our public facing sites
- Support for SOC-2 compliance

Thanks!

Any Questions?