ARIN 48

POWERED BY PARTICIPATION

Software Update
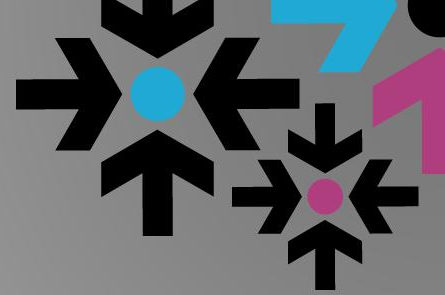
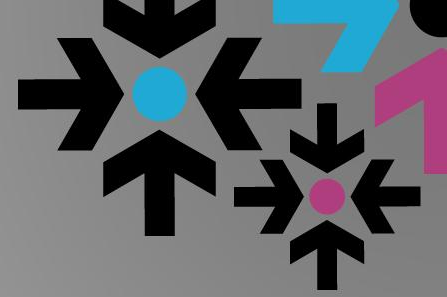Mark Kosters, Chief Technology Officer

Agenda

Statistics

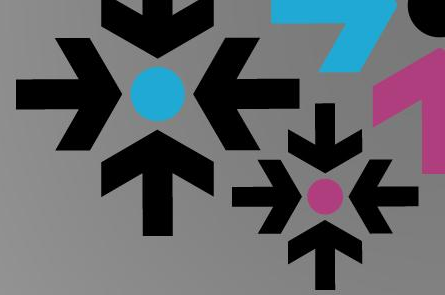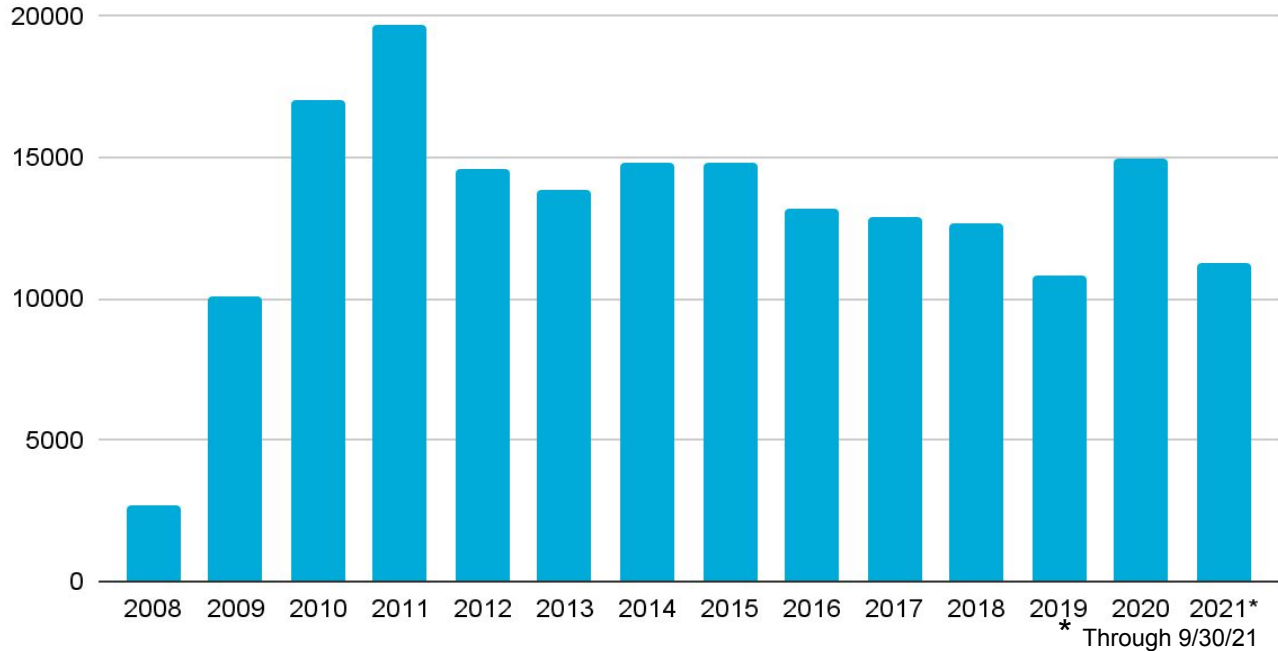Software releases

Operational improvements

Challenges

What's next

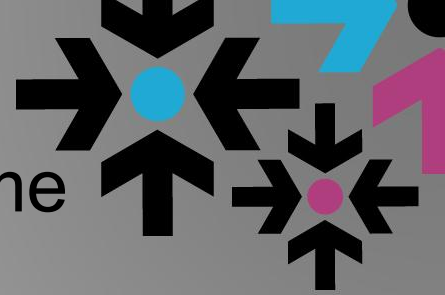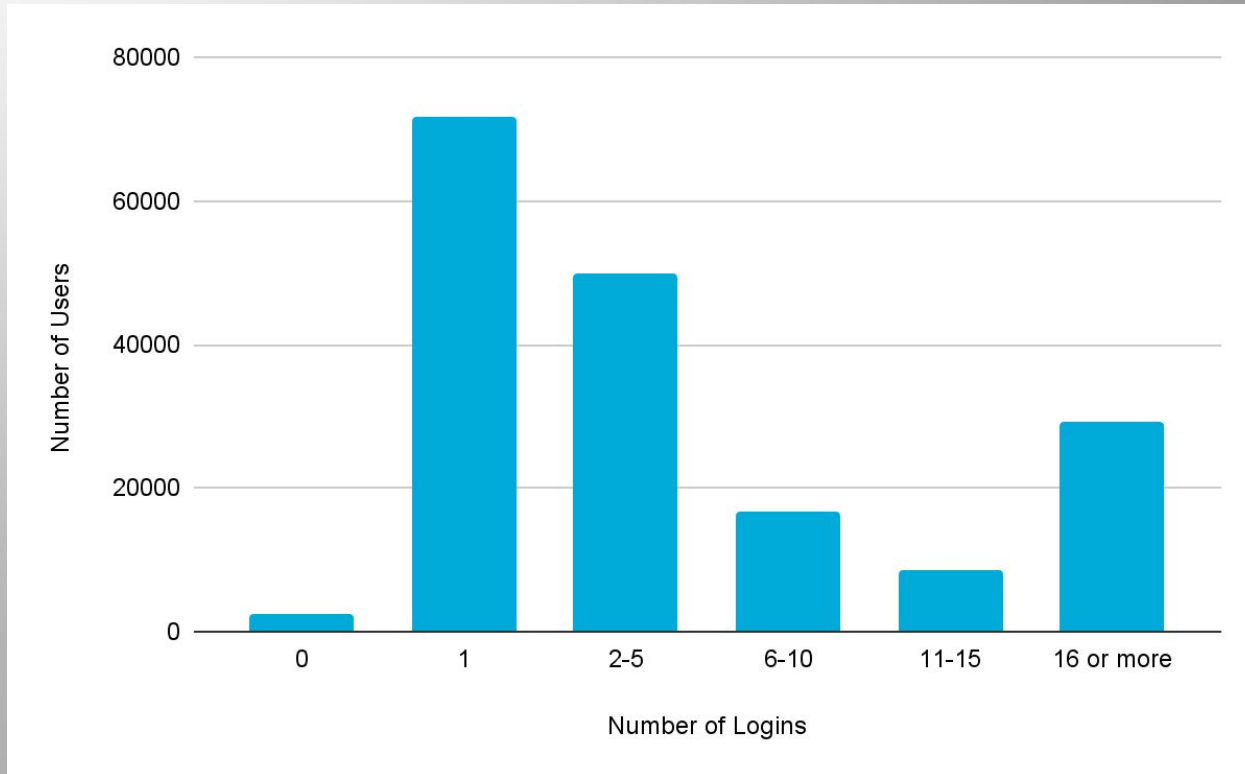# Statistics
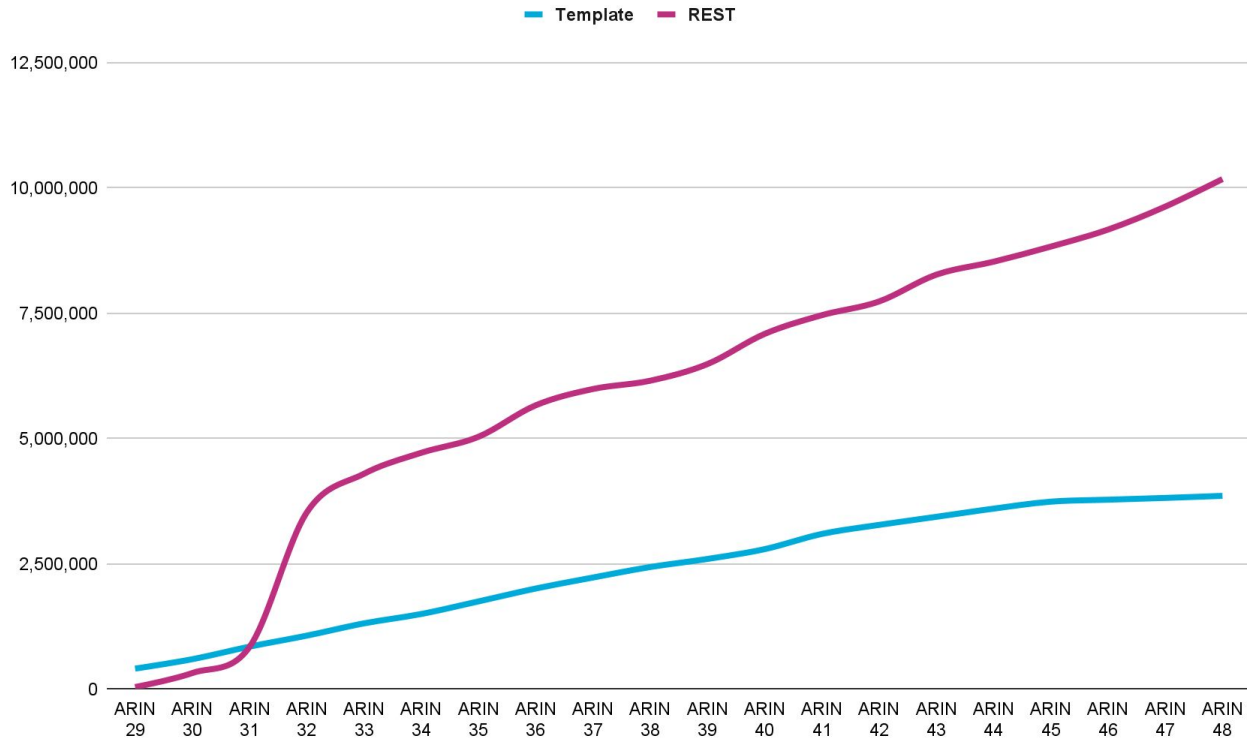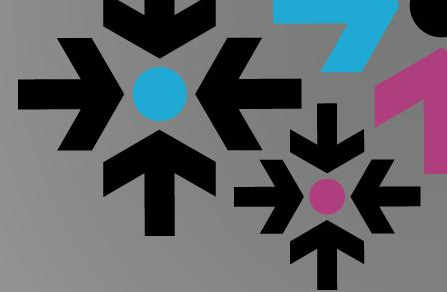
ARIN Online

Accounts Activated

* Through 9/30/21

ARIN Online Logins - Cumulative Over Time

Provisioning Transactions

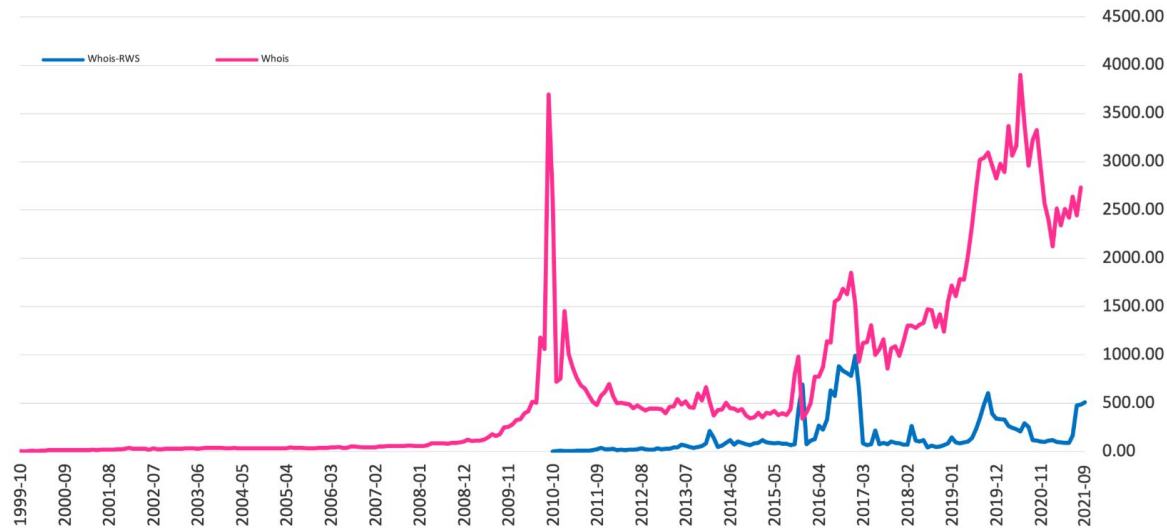

Legend: Template, REST
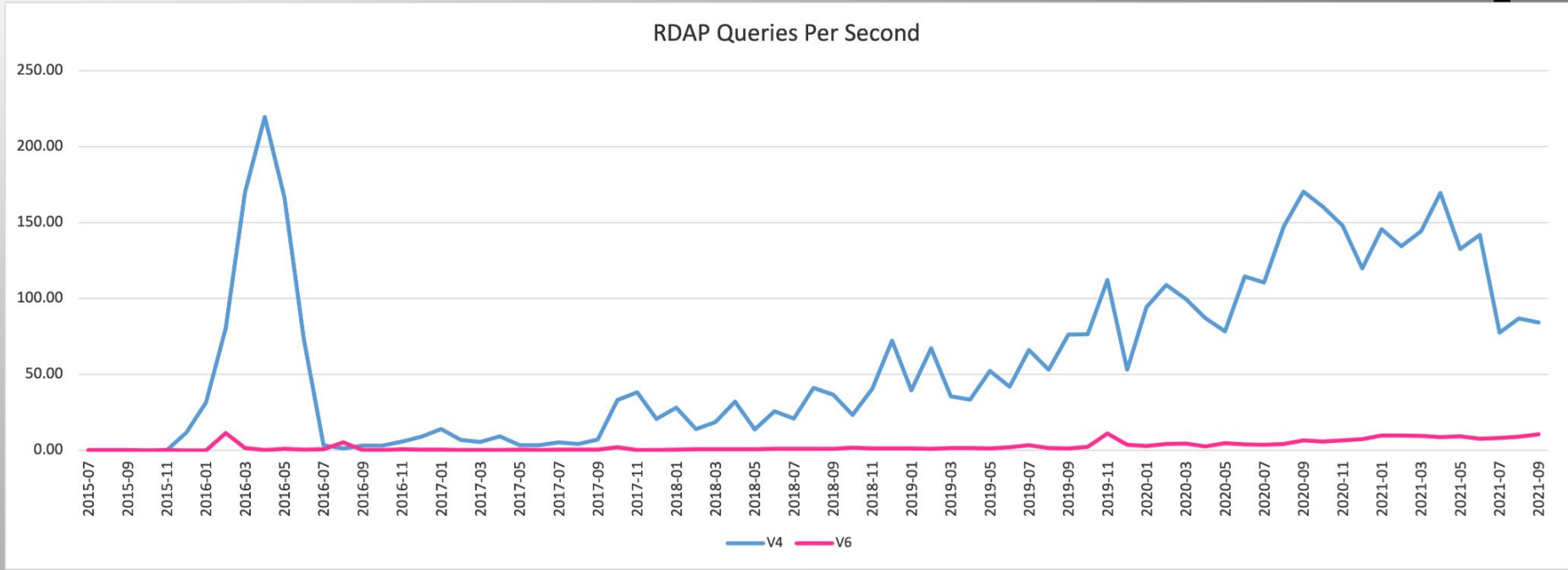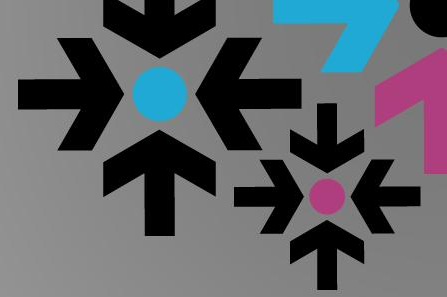
Cumulative:
RESTful +
Templates
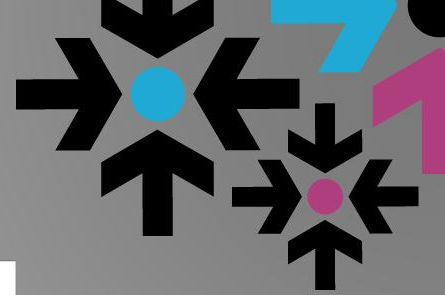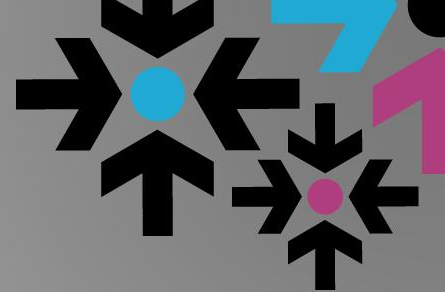
Whois and Whois-RWS

Queries Per Second

Registration Data Access Protocol (RDAP)

RDAP Queries Per Second

Software Releases

Releases since ARIN 47

- Password improvements:
    - Login throttling per NIST SP 800-63B
    - Password guideline implementation per NIST SP 800-63B
    - Password generator
- Fee estimation page changes to show fees under new fee schedule
- New IRR RESTful commands:
    - Get list of routes, list of route-sets, list of as-sets, and list of aut-nums for org ID, route objects for a net, and route objects for a net and downstream reassignments
    - Routing Policy Specification Language (RPSL) displays when creating some IRR objects
- Upgraded DNSSEC zone generation system for reverse DNS zones
- Premier Support Plan (PSP) rollout
- Reduction of technical debt
    - Focus on the conversion of Seam to Spring within the ARIN Online applications

Operational Improvements
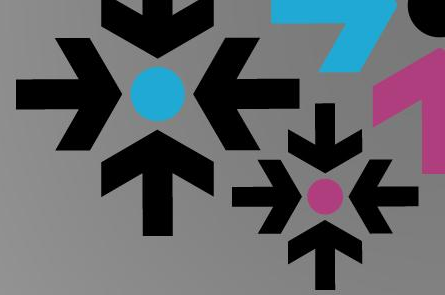
Improvements since ARIN 47

- DNSSEC
  - Updated the DNSSEC signer boxes
 - Moved from Algorithm 5 that is deprecated to Algorithm 8 transparently
- Added a cloud instance of RPKI Repository Delta Protocol (RRDP)
- Lots of EOL box replacements
- All production Netapp/RHV have been moved to Dell/oVirt engines
  - One Netapp/RHV system left that powers multiple development environments
 - Scheduled to be replaced in 2022
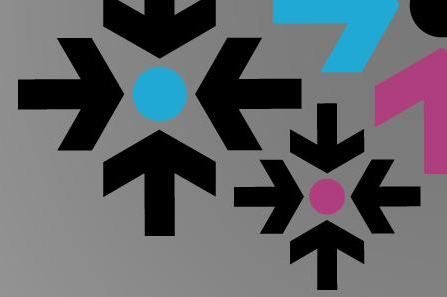
Challenges

Challenges

- Directory Services
  - 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
- Whowas Reports
  - System under heavy load
  - Adversaries know system better than we do in finding ways to subvert rate limiting
- Brute force login attacks
  - Almost weekly occurrence
  - Audit logs and report suspect accounts to RSD
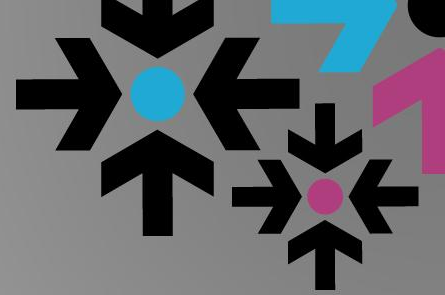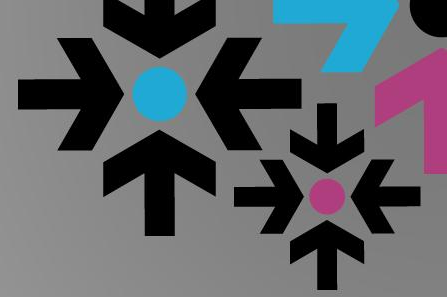
What's Next
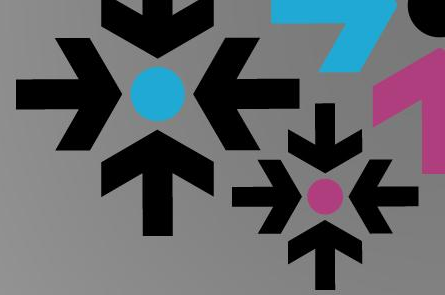
What's Next

- Fee harmonization
- Secure routing enhancements
  - IRR - Adding RPSL into ARIN Online
  - RPKI - Adding RPKI Publication Service
- Technical debt
  - Continue to replace libraries that are end of life
- Security
  - Fix issues within our current security audit (will be complete in Q4 of 2021)
  - Enhance operations procedures to comply with new insurance and security certification requirements
- PBX improvements
  - Move from PRI to VOIP solution
- Public Facing Services (PFS) site improvements
  - Install a re-engineered hardware solution for our public facing sites

Thanks!

Any Questions?