



ARNES

API Software and Tools

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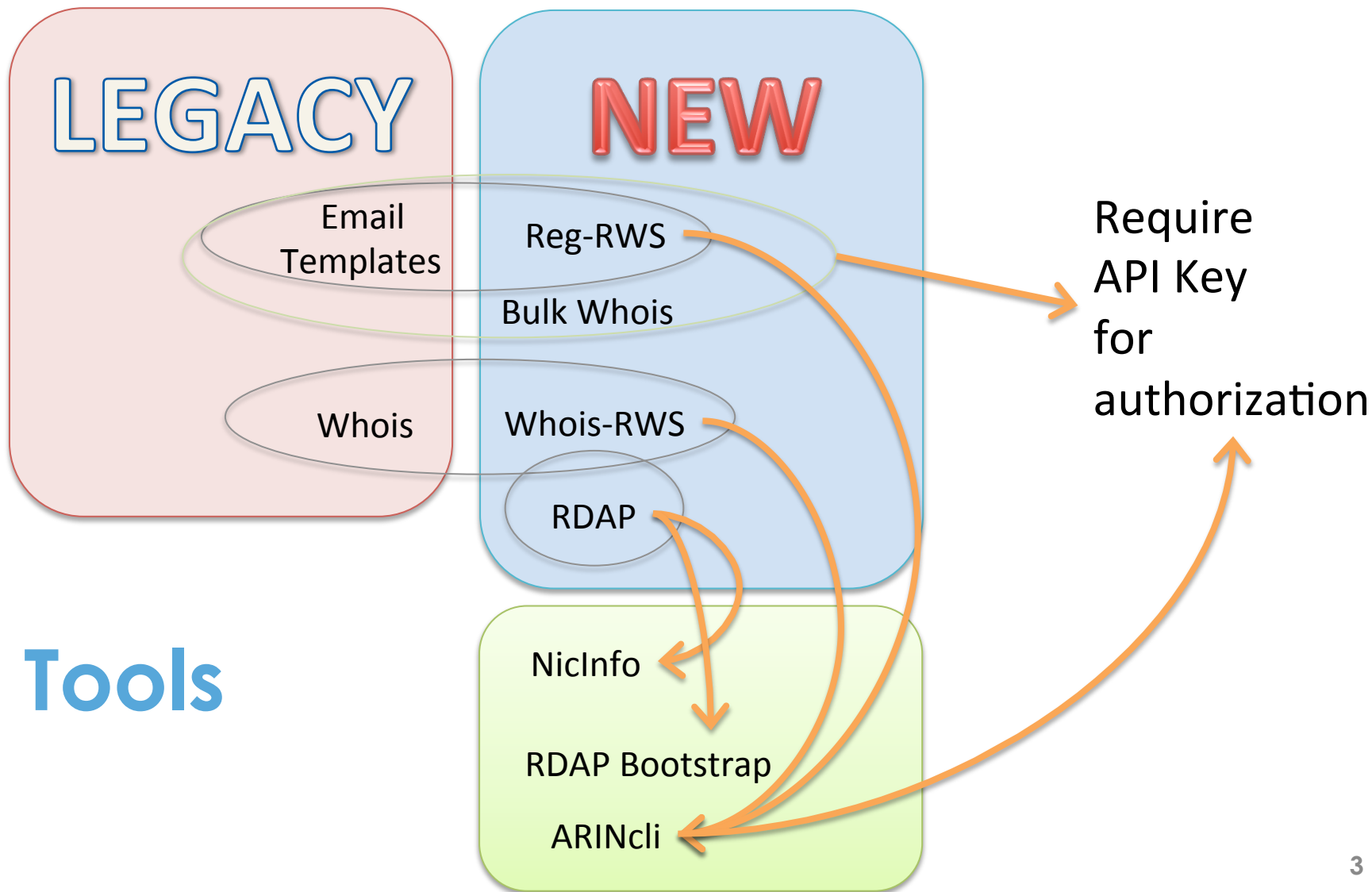
Progress(ion)

Legacy / Inherited

Programmatic / REST

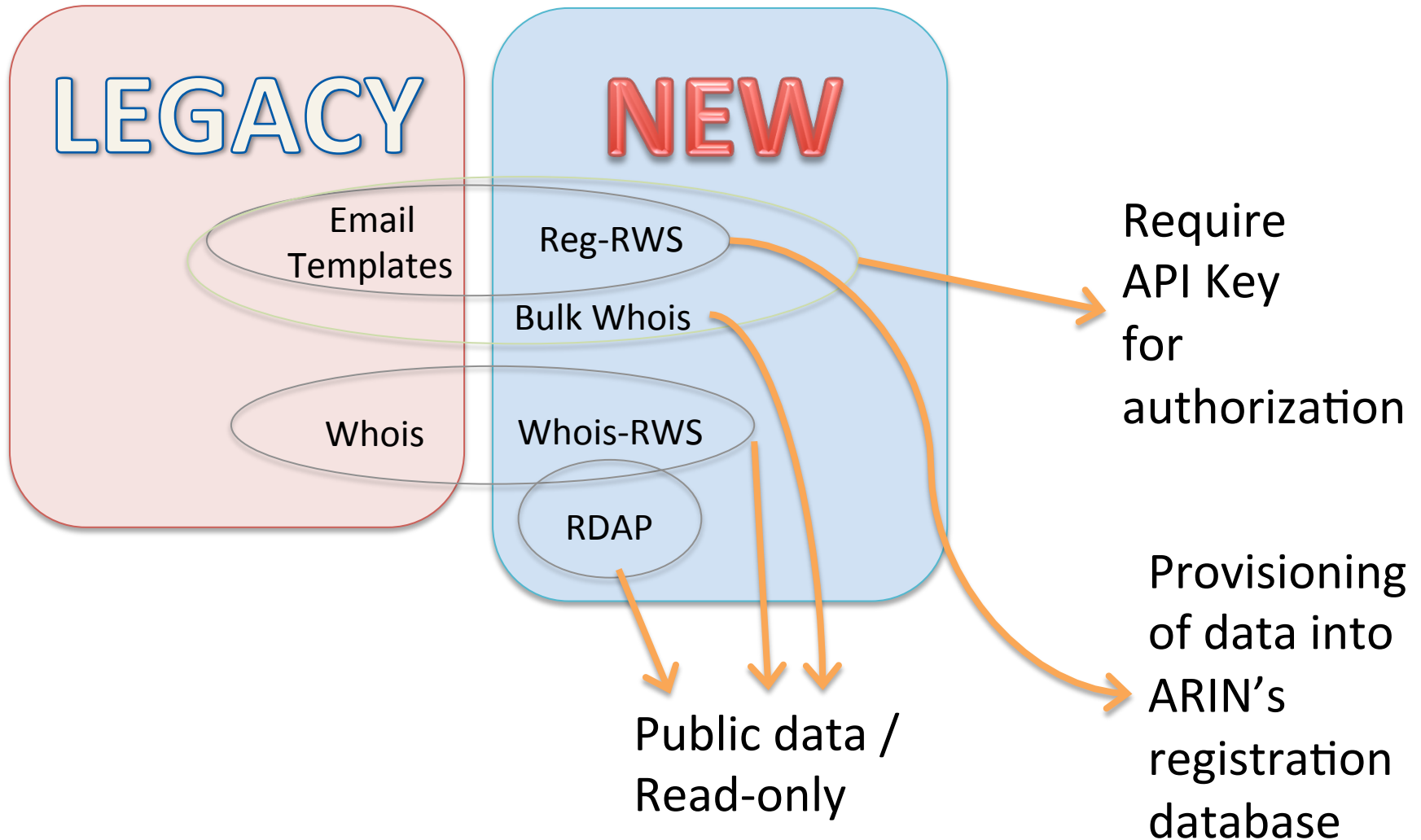
- ARIN has limited Engineering resources
- Creating featureful APIs enables others to create good tools instead of relying on ARIN
 - ARIN is dedicated to keep this APIs stable and highly available so as to empower the community
- <http://projects.arin.net>
- arin-tech-discuss@arin.net

APIs



Tools

Public vs Provisioning





Getting an API Key

ARIN
American Registry for Internet Numbers

Welcome, Andrew

- MESSAGE CENTER
- WEB ACCOUNT
- POC RECORDS
- ORGANIZATION DATA
- MANAGE & REQUEST RESOURCES
- PAYMENTS & BILLING
- MEMBERSHIP APPLICATION
- TRACK TICKETS
- DOWNLOADS & SERVICES
- ASK ARIN

[log out](#)

IP6 ENABLED

* API Keys are secrets.

ACTIVE API KEYS Create API Key			
KEY	ASSOCIATED E-MAIL	DATE CREATED	ACTIONS
API-62B0-BB3D-498E-BFF5		04-09-2014	Deactivate Associate E-mail



Provisioning (Classic)

- Email templates are not going away.
 - usage is up
- Hand-editing of SWiP templates happens every day
- Templates can cheat by associating an email address

KEY	ASSOCIATED E-MAIL	DATE CREATED	ACTIONS
API-62B0-BB3D-498E-BFF5	templates@hxr.us	04-09-2014	<u>Deactivate</u>

* Deactivate API Keys if you no longer need them.





Reg-RWS

- Very popular – usage greater than templates and continuing to grow
- XML using RESTful HTTP
- Only programmatic way to
 - Do simple reassigns of IPv6
 - Manage reverse DNS
 - Access ARIN X-* tickets
 - Manage Hosted CA ROAs in RPKI (new)
- <https://www.arin.net/resources/restful-interfaces.html>

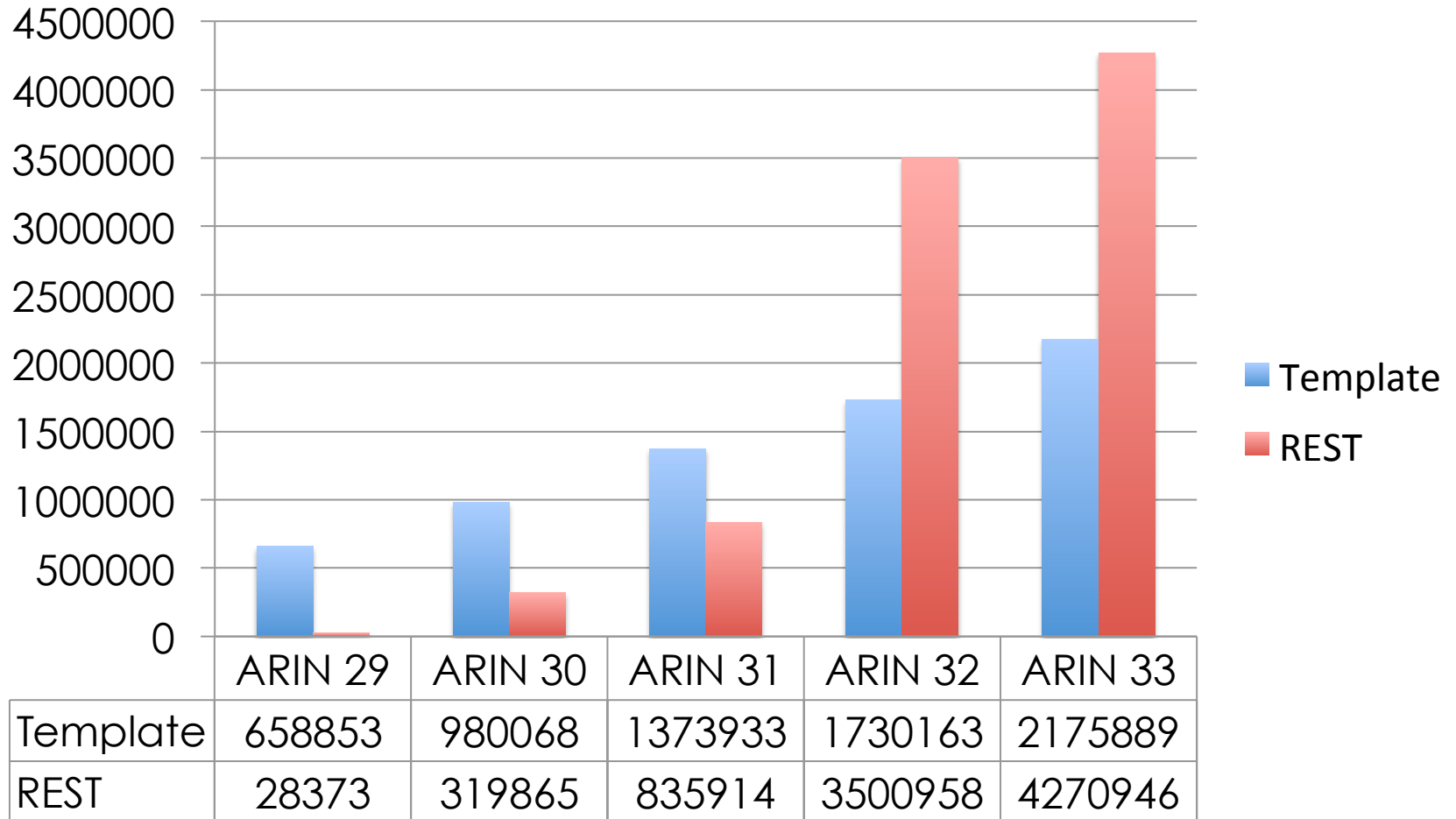


Testing Your Reg-RWS Code

- We offer an Operational Test & Evaluation environment for Reg-RWS
- Your real data, but isolated
 - Helps you develop against a real system without the worry that real data could get corrupted.
- <https://www.arin.net/resources/ote.html>



Reg-RWS Transactions



* Does not include RESTful GETs



Bulk Whois

- You must first sign an AUP
 - ARIN staff will review your need to access bulk Whois data
- Also requires an API Key
- More information
 - <https://www.arin.net/resources/request/bulkwhois.html>
- Can be accessed RESTfully via www.arin.net

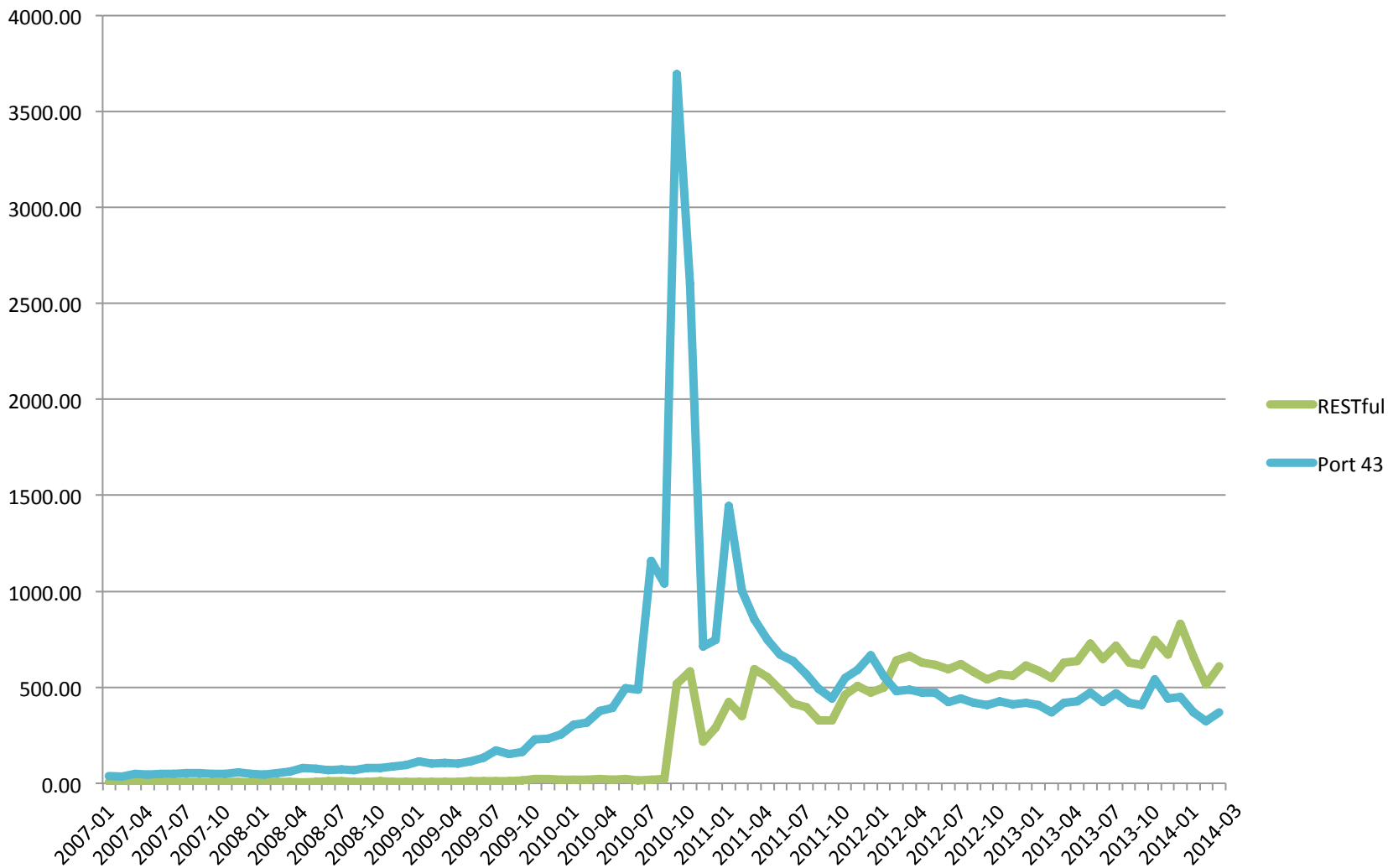


Whois & Whois-RWS

- Port 43
 - *Classic*, but not formally structured/standardized and everybody does it differently
- Whois-RWS
 - XML and/or JSON over RESTful HTTP
 - *Only an ARIN “standard”*
 - Higher query load than Port 43
 - <https://www.arin.net/resources/whoisrws/index.html>



Whois/Whois-RWS Q/S





ARINcli - @projects.arin.net

ARIN

American Registry for Internet Numbers

COMMUNITY
PROJECTS

PROJECTS

As a ser
ARIN is
repositor
to ARIN's
furnished
member

If you wo
tools for
please e
with a sh
project a
ARIN's n
your req
days. If a
project a
following

- Sourc
- Web-
- Mailin

NAME

`arincli` - ARIN Command Line Interface

DESCRIPTION

ARINcli is a set of command line scripts, written in Ruby, that utilize both the Whois-RWS(7) service and the Reg-RWS(7) service. Whois-RWS(7) is ARIN's Whois/NICNAME RESTful web service for exposing IP network and ASN registration data to the public (Note this service pre-dates the IETF WEIRDS/RDAP service and is not yet compatible with that specification). Reg-RWS(7) is ARIN's registration RESTful web service available to customers of ARIN.

At the time of this writing, the ARINcli scripts should be considered



arininfo – Whois-RWS client

```
anewton@andytop-2:~  
→ arininfo Mark Kusters  
# ARINcli v.1000.0.0-SNAPSHOT  
# Assuming query value is POCNAME  
  
1= Kusters, Mark (KOSTE-ARIN)  
2= Kusters, Mark (KOSTE6-ARIN)  
  
# Use "arininfo -h" for help.
```

```
anewton@andytop-2:~  
→ arininfo 2=  
# ARINcli v.1000.0.0-SNAPSHOT  
# Assuming query value is RESULT  
  
Full Name: Mark Kusters  
POC Handle: KOSTE6-ARIN  
Company Name: ARIN Operations  
Email: markk@arin.net  
Registration Date: Fri, 07 Sep 2012 18:38:22 -0400  
Last Update Date: Fri, 07 Sep 2012 18:38:22 -0400  
  
# Use "arininfo -h" for help.
```



arininfo – sorted, tree form

```
# ARINcli v.1000.0.0-SNAPSHOT
# Assuming query value is ORGHANDLE

1= ARINOPS ( ARIN Operations )
|--- 1. Points of Contact
|   |--- 1= ADA4-ARIN (Abuse)
|   |--- 2= CHRIS167-ARIN (Tech)
|   |--- 3= KOSTE6-ARIN (Admin)
|   |--- 4= MJ0282-ARIN (Tech)
|   `--- 5= NEWT024-ARIN (Tech)
|--- 2. Autonomous Systems Blocks
|   |--- 1= AS10745
|   |--- 2= AS53535
|   |--- 3= AS393220
|   `--- 4= AS393225
`--- 3. Networks
    |--- 1= NET-192-136-136-0-1      ( 192.136.136.0 - 192.136.136.255 )
    |--- 2= NET-192-149-252-0-1     ( 192.149.252.0 - 192.149.252.255 )
    |--- 3= NET-199-43-0-0-1        ( 199.43.0.0 - 199.43.0.255 )
    |--- 4= NET-199-71-0-0-1        ( 199.71.0.0 - 199.71.0.255 )
    |--- 5= NET-199-84-0-0-1        ( 199.84.0.0 - 199.84.0.255 )
    |--- 6= NET-199-180-180-0-1     ( 199.180.180.0 - 199.180.183.255 )
    |--- 7= NET-199-212-0-0-1       ( 199.212.0.0 - 199.212.0.255 )
    |--- 8= NET-199-253-249-0-1     ( 199.253.249.0 - 199.253.249.255 )
```



tickets – Manage X* Tickets

```
1= 20130217-X829          ASSOCIATIONS_REPORT CLOSED
  `--- 1= ARIN-20130217-X829 - Associations Report - PROCESSED
      `--- 1= ARIN-Associations-Report.xls
```

```
2= 20120826-X8953          QUESTION          CLOSED
  |--- 1= what is whois
  |--- 2= Ticket Status Update
  |--- 3= Ticket Status Update
  |--- 4= [ARIN-20120826-X8953] - Question - WHOIS/Routing Registry - what is
  |--- 5= Ticket Status Update
  |--- 6= Ticket Status Update
  `--- 7= Ticket Status Update
```

```
3= 20120826-X8952          WHOWAS_ACCESS    CLOSED
  |--- 1= Ticket Status Update
  |--- 2= Ticket Status Update
  |--- 3= [ARIN-20120826-X8952] - WhoWas Access - MORE INFO NEEDED
  |--- 4= Ticket Status Update
  |--- 5= (no subject)
  |--- 6= [ARIN-20120826-X8952] - WhoWas Access - ACCEPTED
  |--- 7= Ticket Status Update
  `--- 8= Ticket Status Update
```




rdns – Manage Reverse DNS

```
$TTL 86400 ; 24 hours could have been written as 24h or 1d
$ORIGIN 136.136.192.IN-ADDR.ARPA.
@ 1D IN SOA ns1.example.com. mymail.example.com. (
    2002022401 ; serial
    3H ; refresh
    15 ; retry
    1w ; expire
    3h ; minimum
)
    IN NS ns1.example.com.
    IN NS ns2.example.com.
; server host definitions
1     IN PTR ns1.example.com.
2     IN PTR www.example.com.
; non server domain hosts
3     IN PTR bill.example.com.
4     IN PTR fred.example.com.
```

```
anewton@andytop-2:~
→ rdns --zonefile ~/tmp/rdns-example.db --no-verify
# ARINcli v.1000.0.0-SNAPSHOT
# Parsing /Users/anewton/tmp/rdns-example.db.
# Modifying reverse DNS delegation 136.136.192.in-addr.arpa.
```



ARINcli - ...and more

- Manage POCs
- Request Association, Reassignment, and WhoWas reports
- Manage RPKI ROAs (for Hosted CAs)

HELP

Questions and comments regarding this software may be directed to ARIN's Technical Discussion mailing list (arin-tech-discuss@arin.net). Archives and subscription information are available at <http://lists.arin.net/pipermail/arin-tech-discuss/>.



RDAP

- *Registry Data Access Protocol*
 - Upcoming IETF standard from the WEIRDS working group
 - <http://datatracker.ietf.org/wg/weirds/>
 - JSON over RESTful HTTP
 - **ALL** 5 RIRs have RDAP pilots (and VeriSign, Afilias, & NeuStar)
 - <http://rdappilot.arin.net/rdapbootstrap>
 - ICANN requiring it in new TLD contracts
 - And have contracted with CNNIC to create an open source server for DNRs and RIRs and an open source client. *Not yet available.*



ARIN's RDAP Pilot & Code

- ARIN Registry Pilot
 - <http://rdappilot.arin.net/restfulwhois/rdap>
- A pilot bootstrap server
 - <http://rdappilot.arin.net/rdapbootstrap>
 - Aim your RDAP client here and it will refer to the proper RIR or DNR
 - *Code is open sourced @projects.arin.net*
- NicInfo
 - Command-line RDAP client
 - Only RDAP client currently available
 - *Open sourced @projects.arin.net*



QUESTIONS?

ARIN

American Registry for Internet Numbers

**COMMUNITY
PROJECTS**

As a service to the community, ARIN is furnishing a software repository for tools that are related to ARIN's mission. These tools are furnished "as is" and maintained by members in the community.

If you would like ARIN to host your tools for the community to use,



PROJECTS

NicInfo - A command line Registry Data Access Protocol (RDAP) client.

RDAP Bootstrap - A Registry Data Access Protocol Bootstrap server (Java web application).

RPKI Up/Down Login - The ARIN Online system for ARIN's RPKI Up/Down Pilot.

ARINcli - a set of command-line scripts, written in Ruby, that utilize both the Whois-RWS service and the Reg-RWS service (formerly ARINr)