



ARIN | 41

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The Current State of RDAP

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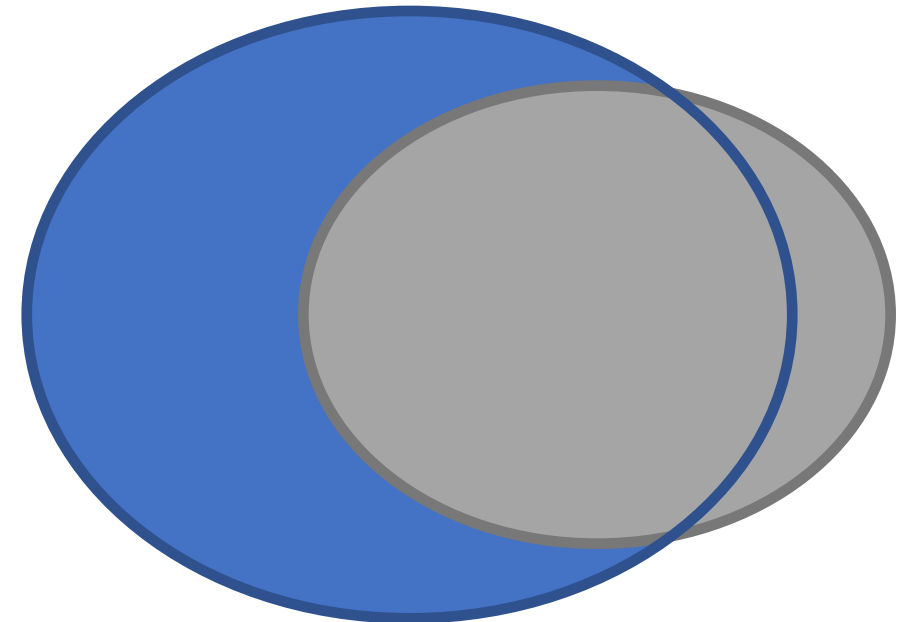
RDAP: A Primer

- Registry Data Access Protocol
 - ARIN & RIPE NCC independently developed separate, incompatible RESTful services for Whois
 - Many people want a fix to the technical problems of Whois
 - No internationalization
 - No clear method for finding authoritative services
 - No authentication
 - No security
 - Many, many different output formats
 - The IETF decides to address the problem
 - Produces RFCs in March 2015

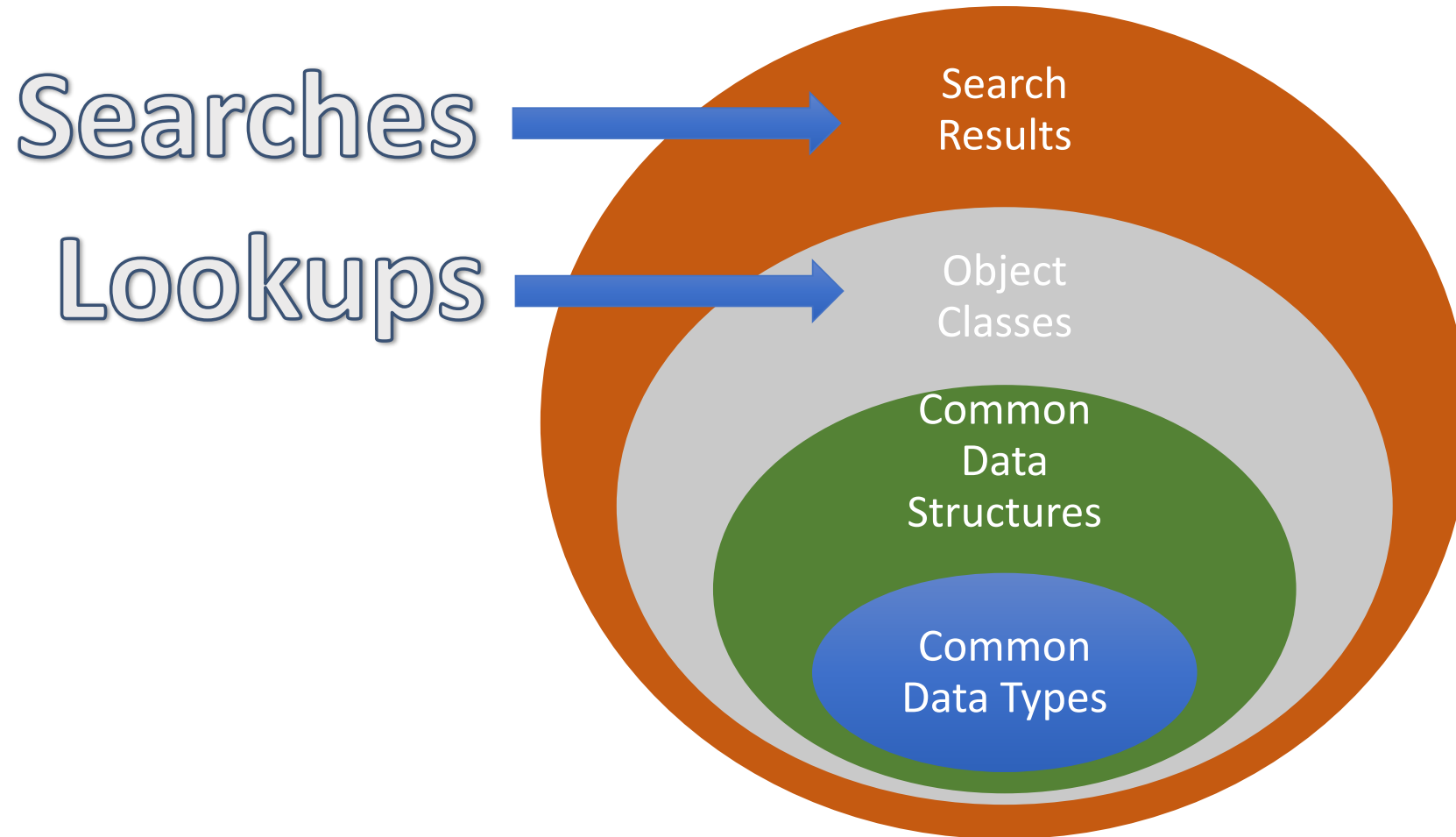
RDAP Basics

- REST – JSON over HTTPS
 - HTTPS for security and authentication
 - JSON for structure and I18N
- Supports both Domain Name Registries and IP Address Registries

RDAP RIR-centric operations are a superset of DNR queries and data are modeled such that operations, for the most part.



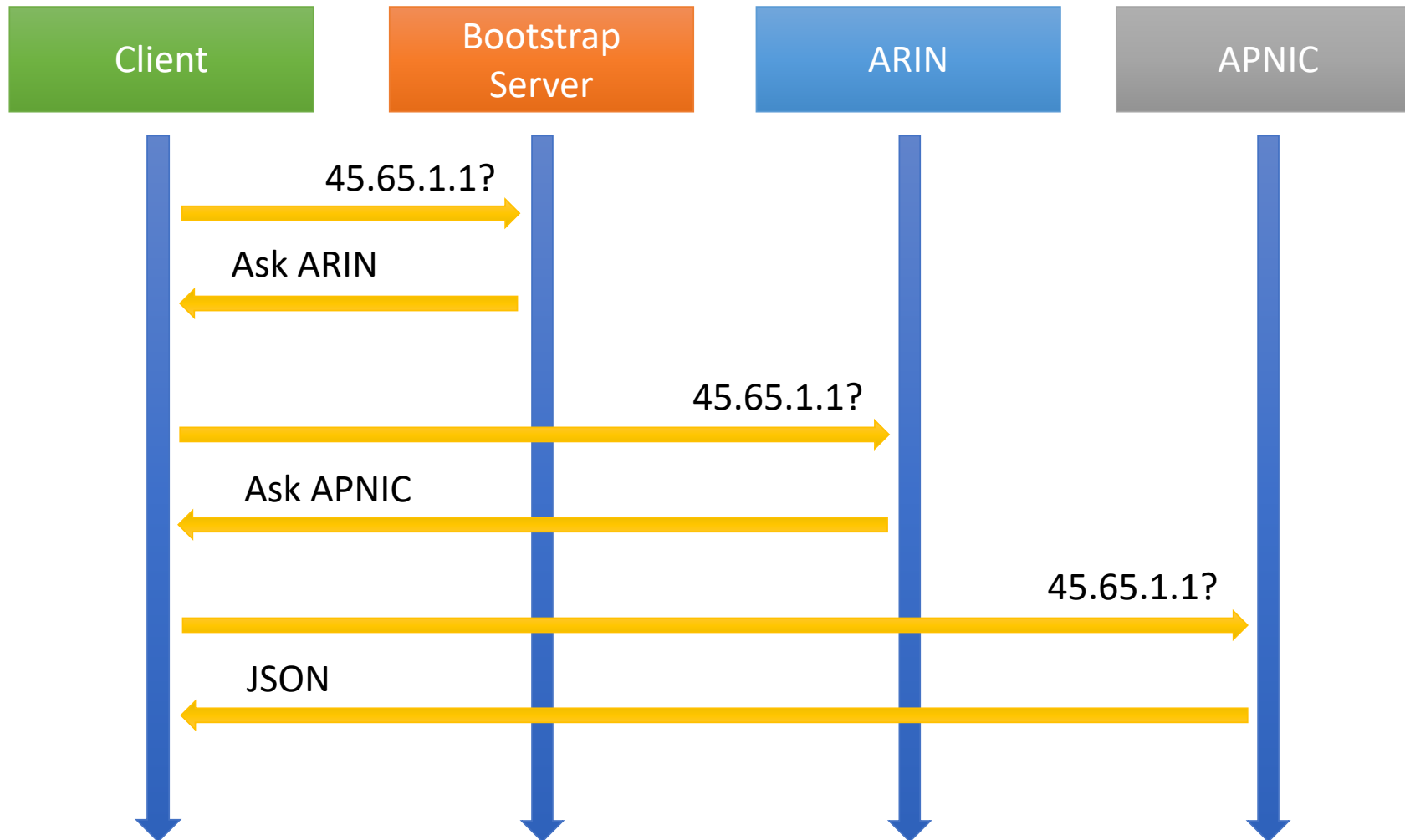
JSON Response



Bootstrapping

- Or... how to find the right server for a query
- IANA will periodically publish bootstrap JSON files
 - <http://data.iana.org/rdap/asn.json>
 - <http://data.iana.org/rdap/ipv4.json>
 - <http://data.iana.org/rdap/ipv6.json>
 - <http://data.iana.org/rdap/dns.json>
- Client will periodically go fetch them

Bootstrapping for IP Addresses



It's been 3 years! Where are we?



RIR Deployments

- Now deployed by all 5 RIRs.
- Plus bootstrap servers
 - Takes the IANA bootstrap files and issues HTTP redirects when queried
 - Clients no longer need to worry about bootstrapping
 - ARIN developed, deployed, and open sourced
 - LACNIC improved upon it, and deployed
- LACNIC has two-tiered authentication
 - Rate limits unless you use an API KEY

DNR Deployments

- VeriSign
 - com and net
- ccTLDs
 - .ar
 - .cr
 - .cz
 - .br

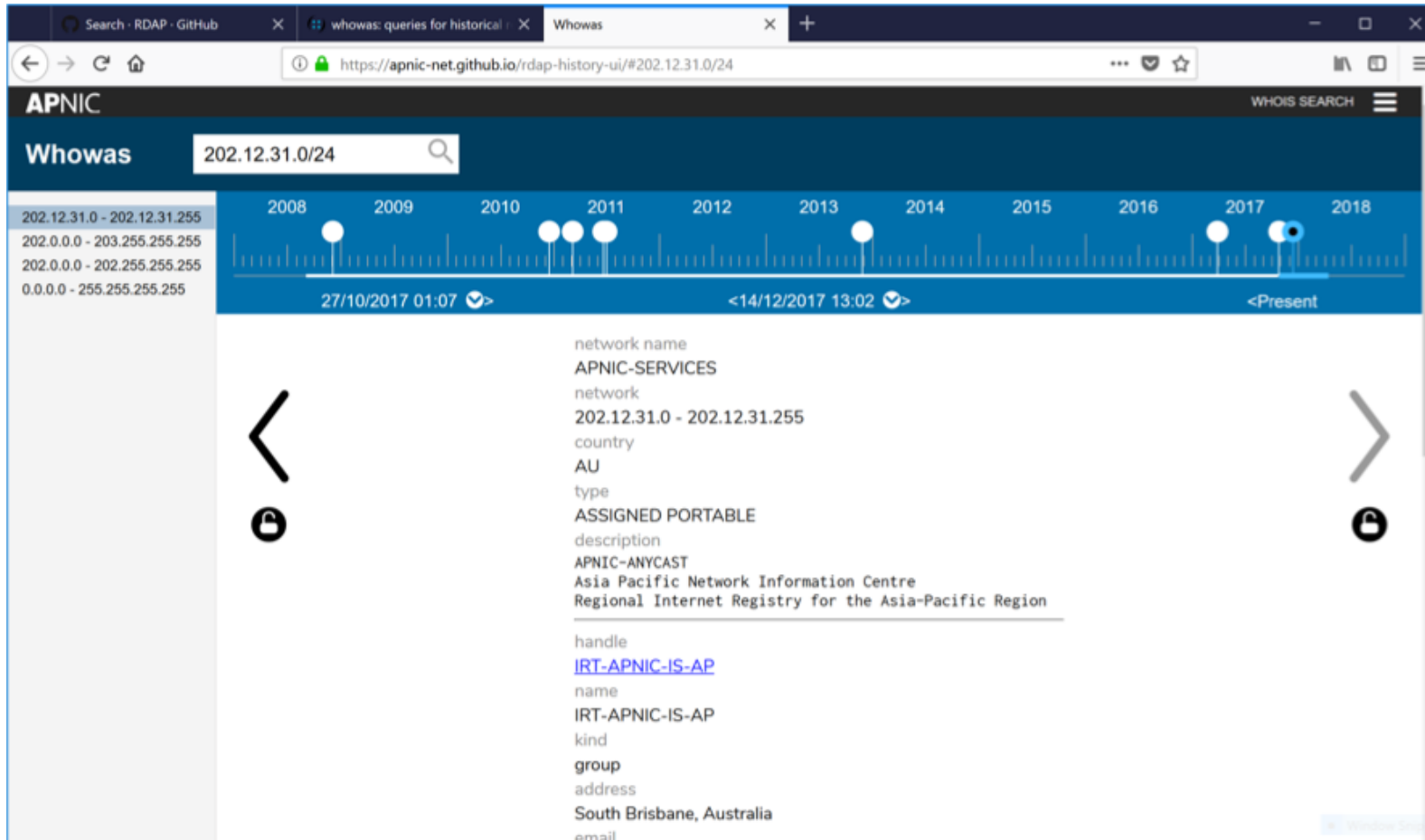
Tooling

- ARIN, LACNIC, and APNIC have developed conformance test suites
- NicInfo – the **BEST** command line client as reviewed by Mark Kosters
 - `gem install nicinfo`
- > 30 GitHub projects related to RDAP
- Visual AS tool from APNIC

- APNIC has an incredible blog series on RDAP

APNIC's RDAP "WhoWas"

<https://apnic-net.github.io/rdap-history-ui/>



The screenshot shows a web browser window displaying the APNIC WhoWas interface. The browser tabs include "Search - RDAP - GitHub", "whowas: queries for historical", and "Whowas". The address bar shows the URL <https://apnic-net.github.io/rdap-history-ui/#202.12.31.0/24>. The APNIC logo is in the top left, and "WHOIS SEARCH" is in the top right. A search bar contains "202.12.31.0/24". Below the search bar is a timeline from 2008 to 2018. A blue bar highlights the date "27/10/2017 01:07" with a dropdown arrow. Below the timeline, the RDAP response is displayed in a structured format:

```
network name
APNIC-SERVICES
network
202.12.31.0 - 202.12.31.255
country
AU
type
ASSIGNED PORTABLE
description
APNIC-ANYCAST
Asia Pacific Network Information Centre
Regional Internet Registry for the Asia-Pacific Region
handle
IRT-APNIC-IS-AP
name
IRT-APNIC-IS-AP
kind
group
address
South Brisbane, Australia
email
```

LACNIC's very new Web Client



<https://rdap-web.lacnic.net/>

RDAP Web client Inicio [Español](#) | [English](#) | [Português](#)

Inicio

Consulta por Autnum

Consulta por IP

Consulta por Entity

Acerca de RDAP

lacnic

Consultar por:

IP

BUSCAR

Como consultar

- **Entidades:** Ingrese el OrgID de la organización. Los OrgID tienen el siguiente formato: *código País-ID organización-LACNIC*.
- **IDs:** Ingrese el ID del usuario. Los IDs están conformados por 3 letras seguidas o no de algunos números.
- **ASN:** Ingrese el número del sistema autónomo.
- **IP o bloque CIDR:** Ingrese una dirección IP (200.7.84.0) o uno bloque CIDR (200.7.84.0/23).

© LACNIC - Los datos a continuación se brindan con fines informativos y para ayudar a las personas a obtener información relacionada con el registro de números de AS y de IP. Al enviar una consulta, acepta utilizar esta información solo para fines legales.

The Future

- ARIN - planning search networks by Origin AS
- IETF – federated authentication using Oauth
- Gaps between the RIR implementations
 - “Death to Whois” – Matt Griswold presentation at NANOG *
 - Comments on ARIN and RIPE mailing lists
 - Issues discovered by staff
 - Working with the other RIRs to address problems, fix implementations, and improve the standard
- Bulk RDAP
 - Wouldn't it be great if all 5 RIRs had the same bulk data format?

* https://pc.nanog.org/static/published/meetings/NANOG72/1601/20180220_Griswold_Death_To_Whois_v1.pdf

Questions? Comments?

