

APNIC **35**  
CONFERENCE

SINGAPORE  
25 February - 1 March 2013

# APNIC WEIRDS Roadmap



# What is WEIRDS?

- RDAP (Registry Data Access Protocol)
- Alternative to Whois
  - Potentially a replacement
- A change of data format:
  - JSON instead of Routing Policy Specification Language (RPSL)
- A change of transport protocol:
  - HTTP(S) instead of Whois port 43

# What's in it for me?

- Producers
  - All the same engineering techniques and technologies available for managing and scaling
  - Standard HTTP(S) mechanisms available for encryption, authentication, authorisation, etc.
  - Better defined data encoding
    - Currently JSON, but other encodings such as XML are options
    - Alternate values for attributes, including multiple languages
- Consumers
  - Standard libraries and tools to retrieve and decode
  - Clearer encoding and structure of data
    - Especially were alternate encodings or languages are present
  - RESTful URL structure

# Examples: Whois

```
$ whois 203.119.42.173
% [whois.apnic.net node-6]
% Whois data copyright terms    http://www.apnic.net/db/dbcopyright.html

inetnum:        203.119.42.0 - 203.119.43.255
netname:        APNIC-AP
descr:          Asia Pacific Network Information Centre
descr:          Regional Internet Registry for the Asia-Pacific Region
descr:          6 Cordelia Street
descr:          PO Box 3646
descr:          South Brisbane, QLD 4101
descr:          Australia
country:        AU
admin-c:        AIC1-AP
tech-c:         AIC1-AP
mnt-routes:    MAINT-APNIC-IS-AP
mnt-irt:        IRT-APNIC-IS-AP
mnt-by:         APNIC-HM
status:         ASSIGNED PORTABLE
remarks:        -+-+-+
remarks:        This object can only be updated by APNIC hostmasters.
remarks:        To update this object, please contact APNIC
remarks:        hostmasters and include your organisation's account
remarks:        name in the subject line.
remarks:        -+-+-+
changed:        hm-changed@apnic.net
changed:        hm-changed@apnic.net 20110309
changed:        hm-changed@apnic.net 20110704
source:         APNIC
...

```

# Examples: Whois

...

```
role:                APNIC Infrastructure Contact
address:             6 Cordelia Street
address:             South Brisbane
address:             QLD 4101
country:            AU
phone:              +61 7 3858 3100
fax-no:             +61 7 3858 3199
e-mail:             helpdesk@apnic.net
admin-c:            DNS3-AP
tech-c:             NO4-AP
nic-hdl:            AIC1-AP
remarks:            Infrastructure Contact for APNICs own-use network blocks
notify:             dbmon@apnic.net
mnt-by:             MAINT-APNIC-IS-AP
changed:            hm-changed@apnic.net 20020211
changed:            hm-changed@apnic.net 20101217
changed:            hm-changed@apnic.net 20110704
source:             APNIC
```

# Examples: RDAP

```
$ curl http://weirds-pilot.apnic.net/ip/203.119.42.173

{
  "network": {
    "handle": "203.119.42.0 - 203.119.43.255",
    "startAddress": "203.119.42.0",
    "endAddress": "203.119.43.255",
    "ipVersion": 4,
    "name": "APNIC-AP",
    "description": [
      "Asia Pacific Network Information Centre",
      "Regional Internet Registry for the Asia-Pacific Region",
      "6 Cordelia Street",
      "PO Box 3646",
      "South Brisbane, QLD 4101",
      "Australia"
    ],
    "type": "ASSIGNED PORTABLE",
    "country": "AU",
    "lastDateChanged": "2011-07-04T00:00:00Z",
    "lastChangedBy": "hm-changed@apnic.net"
  },
  ...
}
```

# Examples: RDAP

```
...
"operator": {
  "contacts": {
    "admin": [ {
      "handle": "AIC1-AP",
      "names": [ "APNIC Infrastructure Contact" ],
      "postalAddress": [ "6 Cordelia Street",
        "South Brisbane",
        "QLD 4101" ],
      "emails": [ "helpdesk@apnic.net" ],
      "phones": {
        "office": [ "+61 7 3858 3100" ],
        "fax": [ "+61 7 3858 3199" ]
      },
      "remarks": [ "Infrastructure Contact for APNICs own-use network blocks" ],
      "lastDateChanged": "2011-07-04T00:00:00Z",
      "lastChangedBy": "hm-changed@apnic.net"
    } ],
    "abuse": [ {
      "handle": "IRT-APNIC-IS-AP",
      "names": [],
      "postalAddress": [ "South Brisbane, Australia" ],
      "emails": [ "helpdesk@apnic.net", "helpdesk@apnic.net"],
      "phones": {},
      "remarks": [ "APNIC Infrastructure Services" ],
      "lastDateChanged": "2011-07-04T00:00:00Z",
      "lastChangedBy": "hm-changed@apnic.net"
    } ],
  } ],
  ...
```

# Examples: RDAP

```
...
"tech": [ {
  "handle": "AIC1-AP",
  "names": [ "APNIC Infrastructure Contact" ],
  "postalAddress": [ "6 Cordelia Street",
                    "South Brisbane",
                    "QLD 4101" ],
  "emails": [ "helpdesk@apnic.net" ],
  "phones": {
    "office": [ "+61 7 3858 3100" ],
    "fax":    [ "+61 7 3858 3199" ]
  },
  "remarks": [ "Infrastructure Contact for APNICs own-use network blocks" ],
  "lastDateChanged": "2011-07-04T00:00:00Z",
  "lastChangedBy": "hm-changed@apnic.net"
} ]
}
}
}
```



# APNIC Pilot Implementation

- Running now at <http://weirds-pilot.apnic.net/>
  - Only /ip/ currently implemented
- Software architecture
  - Highly decoupled from existing Whois service
    - Separate service on a new server
  - Test bed for new techniques
    - Messaging (AMQP)
    - CQRS
  - Near realtime updates from Whois
    - NRTM stream follower
- Performance
  - Fast
  - Most of responses precompiled

# RIPE DB Implementation

- Collaboration
  - RIPE
  - Co-development
  - Shared sprints, source control and code review
- Software architecture
  - Next major version of RIPE's database implemented in Java
  - RDAP will be an alternative access method to the same data as Whois, on the same servers
- Timeline
  - Development starting now
  - Expected in production late 2013
- Impact on APNIC members
  - Business as usual for Whois
  - Added RDAP access

# Questions?