IANA Activities Update

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Agenda

- ◉ Policy Implementation

- ◉ RDAP Implementation

- ◉ Audits

- ◉ Performance Reports

**Global Policy
Implementation Experience**

IPv4 Allocation

Allocate twice per year

Allocations happen on a pre-defined schedule

MAR **1** **SEP** **1**

Use published software tool

ICANN publishes **the software** used to make selection as open source available for anyone to inspect
github.com/icann/ipv4-recovery-algorithm

```python
def find_best_match(self, amount, allocatee):

    candidates = {}
    for block in self.recovered.entries:
        score = float(math.log(len(block), 2))/32
        if block.preference == allocatee:
            score += 0.8
        if len(block) == amount:
            score += 0.2
        candidates[block] = score
    for block in reversed(sorted(candidates.iteritems(), key=operator.itemgetter(1))):
        size = block[0].end - block[0].start + 1
        if size > amount:
            return (block[0].start, IPv4Address(block[0].start + amount - 1))
        else:
            return (block[0].start, block[0].end)
```

ICANN

March 2015 Allocation

◉ Third allocation under global policy made on 2 March 2015 in-line with ASO AC advice

◉ Each RIR received 524,288 IPv4 addresses (a /13 equivalent)

Start address	End address	Designation	Date	Whois	Status
45.8.0.0	45.15.255.255	RIPE NCC	2015-03	whois.ripe.net	ALLOCATED
45.68.0.0	45.71.255.255	LACNIC	2015-03	whois.lacnic.net	ALLOCATED
45.4.0.0	45.7.255.255	LACNIC	2015-03	whois.lacnic.net	ALLOCATED
45.72.0.0	45.79.255.255	ARIN	2015-03	whois.arin.net	ALLOCATED
45.248.0.0	45.255.255.255	APNIC	2015-03	whois.apnic.net	ALLOCATED
45.240.0.0	45.247.255.255	AFRINIC	2015-03	whois.afrinic.net	ALLOCATED

http://www.iana.org/assignments/ipv4-recovered-address-space

AS Numbers

- ASO AC [advice](#) on allocation of ASN blocks to RIRs received on 3 September 2014

- At the time, only 496 16-bit AS numbers were available

- Advice clarified that an RIR can request a block (1024 numbers) that is made up of a specified number of 16-bit numbers and 32-bit numbers

- Since then, 297 16-bit AS Numbers have been allocated to APNIC, LACNIC, and ARIN

- IANA has 199 16-bit ASNs remaining

Registration Data Access Protocol (RDAP) Update

RDAP Update

◉ RFC [7484](#) "Finding the Authoritative Registration Data (RDAP) Service" was published in March 2015

◉ The IANA Department completed the creation of registries specified in the RFC

◉ Currently working with the RIRs to design a process to add and maintain the RDAP entries in the relevant registries.

RDAP Entries apply to the following IANA Number Registries:

1. [IANA IPv4 Address Space Registry](#)

2. [IPv6 Global Unicast Address Assignments](#)

3. [Autonomous System (AS) Numbers](#)

IANA IPv4 Address Space Registry

Prefix ⊠	Designation ⊠	Date ⊠	WHOIS ⊠	RDAP ⊠	Status [1] ⊠	Note ⊠
000/8	IANA - Local Identification	1981-09			RESERVED	[2]
001/8	APNIC	2010-01	whois.apnic.net		ALLOCATED	
002/8	RIPE NCC	2009-09	whois.ripe.net		ALLOCATED	
003/8	General Electric Company	1994-05	whois.arin.net		LEGACY	
004/8	Level 3 Communications, Inc.	1992-12	whois.arin.net		LEGACY	
005/8	RIPE NCC	2010-11	whois.ripe.net		ALLOCATED	
006/8	Army Information Systems Center	1994-02	whois.arin.net		LEGACY	
007/8	Administered by ARIN	1995-04	whois.arin.net		LEGACY	
008/8	Level 3 Communications, Inc.	1992-12	whois.arin.net		LEGACY	
009/8	IBM	1992-08	whois.arin.net		LEGACY	
010/8	IANA - Private Use	1995-06			RESERVED	[3]
011/8	DoD Intel Information Systems	1993-05	whois.arin.net		LEGACY	
012/8	AT&T Bell Laboratories	1995-06	whois.arin.net		LEGACY	

The above is a screen cap from the IANA IPv4 registry: http://www.iana.org/assignments/ipv4-address-space/ipv4-address-space.xhtml

Service Organization Control Audits

Service Organization Control Audits

- ICANN recently retained the Service Organization Control (SOC) 3 certification of its Domain Name System Security Extensions (DNSSEC) Root key Signing Key systems for the fifth consecutive year

- Also completed the second SOC2 audit, which evaluates key systems used to support IANA transaction processing functions

- Undergoing independent audits helps assure we have appropriate internal controls in place to meet availability, processing integrity and security service levels for the IANA functions

- Audits are conducted every year and help us to constantly monitor and improve our systems

Performance Reports

Performance Reports

- Regular monthly reports are published at http://www.iana.org/performance
- Performance standards were developed collaboratively with the community
- We routinely meet or exceeds all performance targets

Reporting on Performance

IANA seeks to provide an excellent, reliable and performant service of its various registration roles. To achieve this, IANA regularly reviews its procedures and liaises with its user communities to optimise performance.

More formally, the IANA Service Level Targets are defined in part by the contract for IANA performance with the US Department of Commerce, as well as in the Memorandum of Understanding with the IETF.

Report	Description
IETF Statistics Report	Documentation of the performance of the protocol assignments roles performed by ICANN for the IETF community. (Monthly)
Performance Standards Metric Report	A report of performance standard metrics for discrete IANA functions. (Monthly)
Internet Draft Processing Status	Information on pending Internet Draft actions being evaluated by IANA staff. (Daily)
Root Zone Audit Data	A report of all root zone related changes transacted. (Monthly)
Root Processing Times	Snapshots of average processing times for root zone related changes. (Monthly)

C.2.9.3 — Allocation of Internet Numbering Resources

Key Performance Indicators

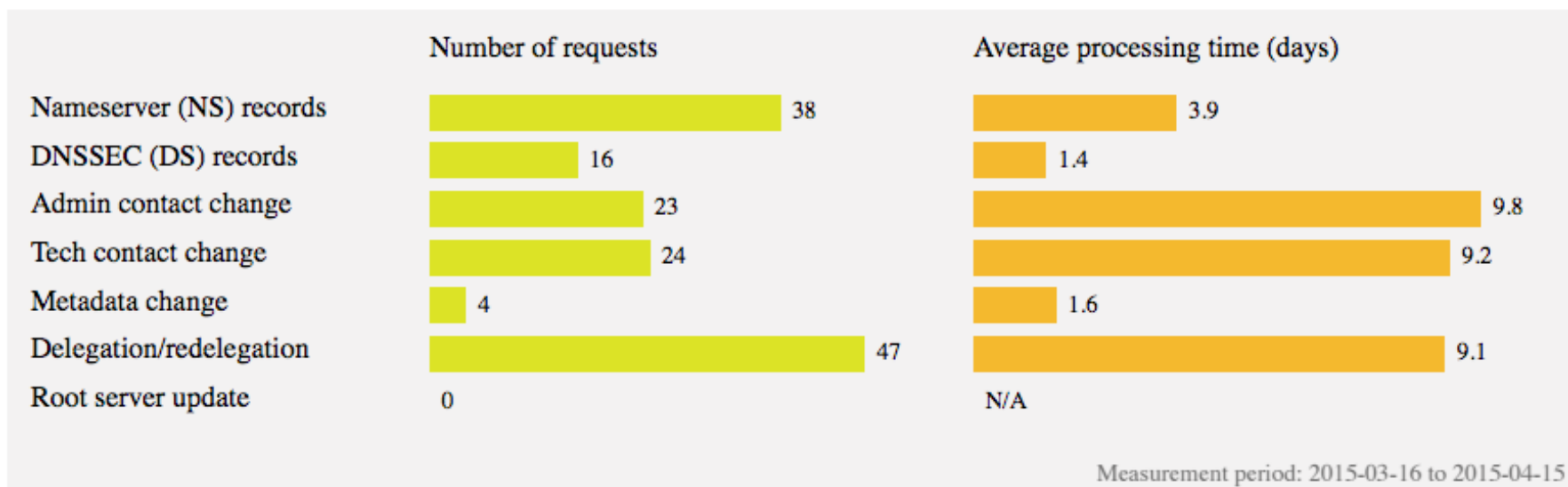| Metric	Target	Actual	Target Met
Accuracy (1) — Policy is correctly implemented.	100%	100%	✅
Accuracy (2) — Registry is updated before notifying requestor of allocation.	100%	100%	✅
Timeliness and Process Quality (1) — For a specific request, ICANN does not need to seek more than two iterations of clarification from the requesting Regional Internet Registry in order to correctly apply the registration policy.	100%	100%	✅
Timeliness and Process Quality (2) — Requests are to be completed within 7 days.	100%	100%	✅
Transparency (1) — Public announcement of an allocation is made on the same day as the allocation being recorded in the IANA registry.	100%	100%	✅
Transparency (2) — An implementation schedule for a new global policies under C.2.9.3 will be posted following ratifications within 14 days for simple policies, and 30 days for complex policies.	100%	100%	✅

Requests Performed

The following requests were completed under Section C.2.9.3 during the reporting period:

Data							Targets met				
Requester	Resource type	Request received	Clarifications	Registry updated	Requester notified	Announcement made	Accuracy (1)	Accuracy (2)	Timeliness and Process Quality (1)	Timeliness and Process Quality (2)	Transparency (1)
Scheduled Allocation	IPv4	2015-03-02	0	2015-03-02 11:20:22	2015-03-02 20:29:59	2015-03-02 20:34:38	✅	✅	✅	✅	✅

Root Processing Times

In accordance with Section C.4.3 of the IANA contract, this graph represents the number of requests received by type of change. Requests that involve changes to multiple categories will be counted in all categories.

Recent requests by type

	Number of requests	Average processing time (days)
Nameserver (NS) records	38	3.9
DNSSEC (DS) records	16	1.4
Admin contact change	23	9.8
Tech contact change	24	9.2
Metadata change	4	1.6
Delegation/redelegation	47	9.1
Root server update	0	N/A

Measurement period: 2015-03-16 to 2015-04-15

Engage with ICANN

Thank You and Questions

Reach us at:
Email: iana@icann.org
Website: icann.org

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