Trying to measure the use of unallocated address space

...and some other news

Leo Vegoda
Manager, Number Resources – IANA

ICANN

ESNOG 1, Madrid, February 2008

Overview

‣ What's the problem?

‣ What are we trying to measure?

‣ What does it not measure?

‣ What are the results?

‣ What else?

‣ IANA News

‣ IDNs

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Define the problem

‣ All unallocated unicast space will be allocated

‣ Some networks and services already use this space

‣ http://www.uknof.org.uk/uknof8/Vegoda-Unallocated.pdf

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What are we trying to measure?

‣ PTR queries received at root DNS servers where the IPv4 address is not part of an allocated /8
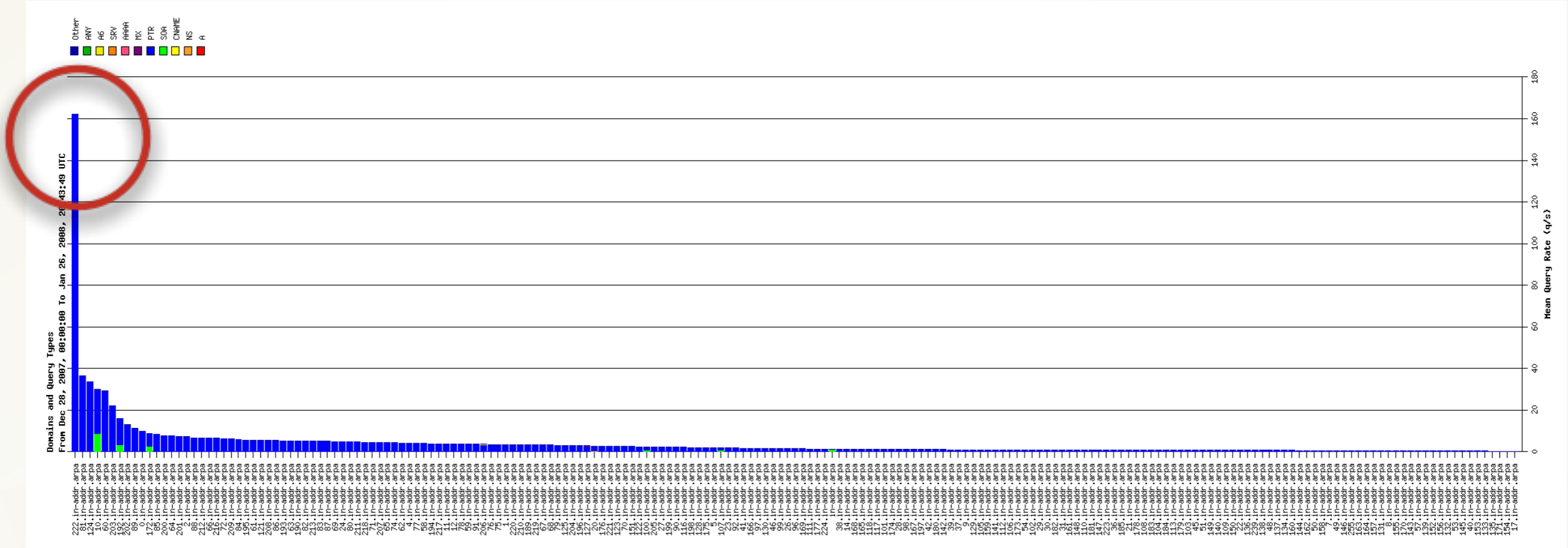
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What can't we measure?

‣ Usage by otherwise well run sites using unallocated space

  ‣ Split-horizon DNS

  ‣ Egress filters
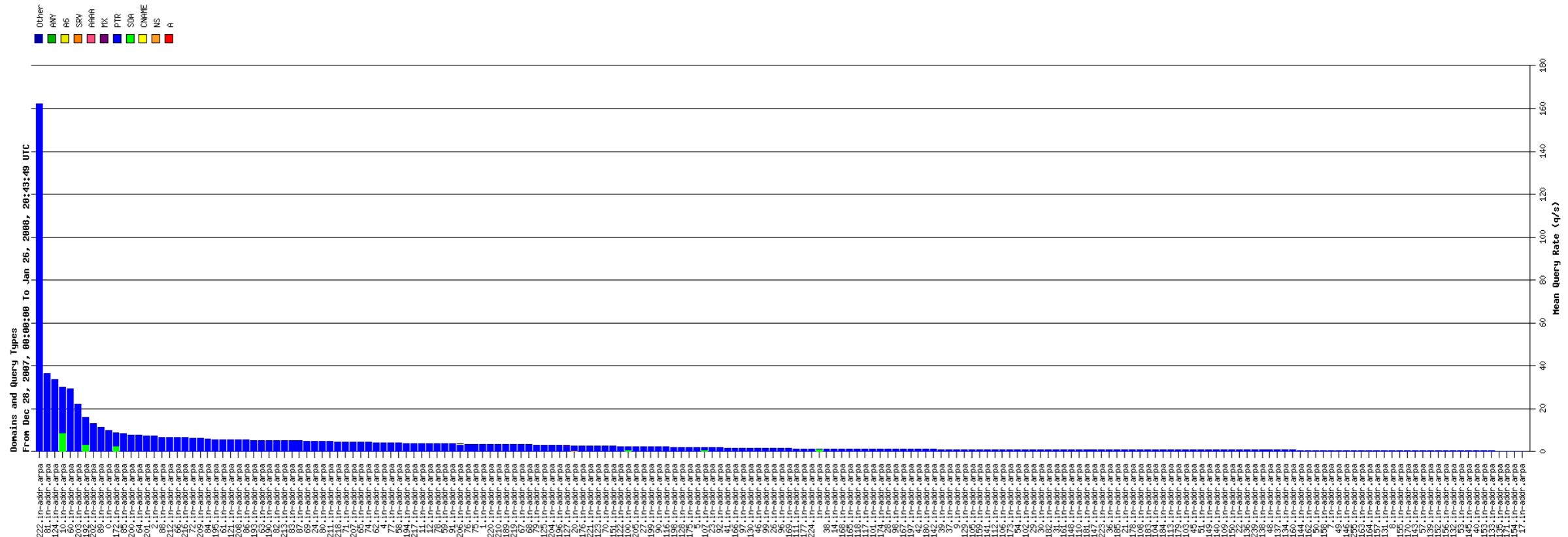
What are the results?
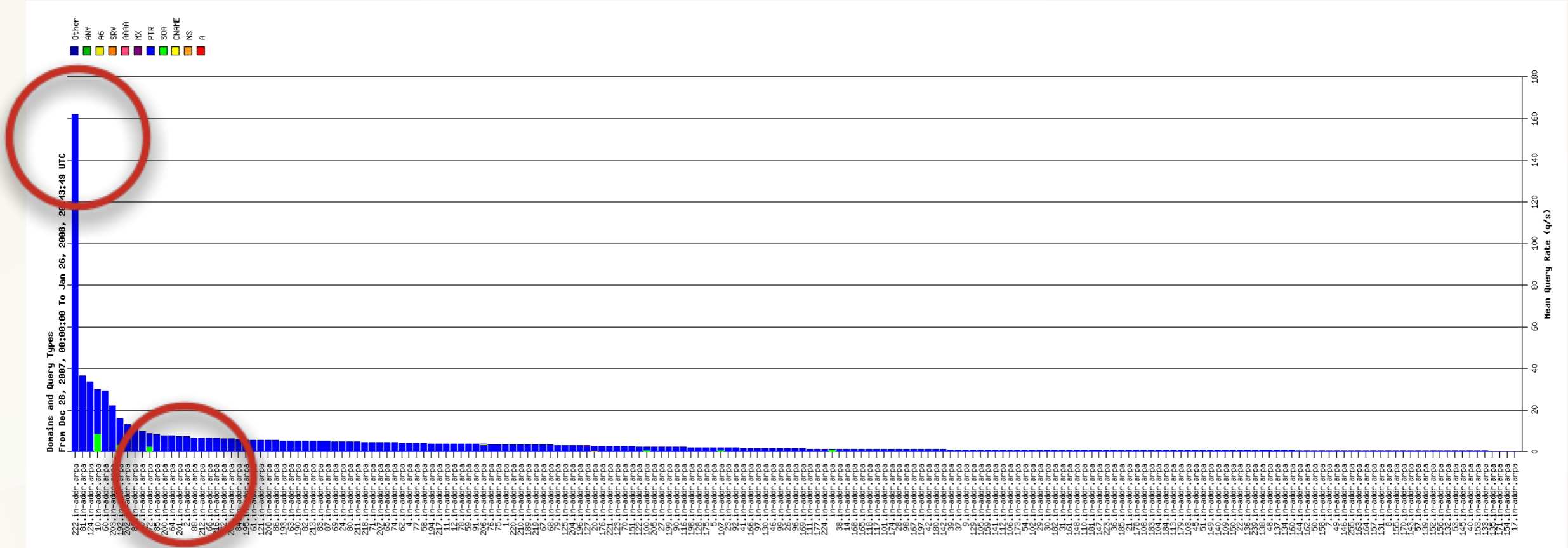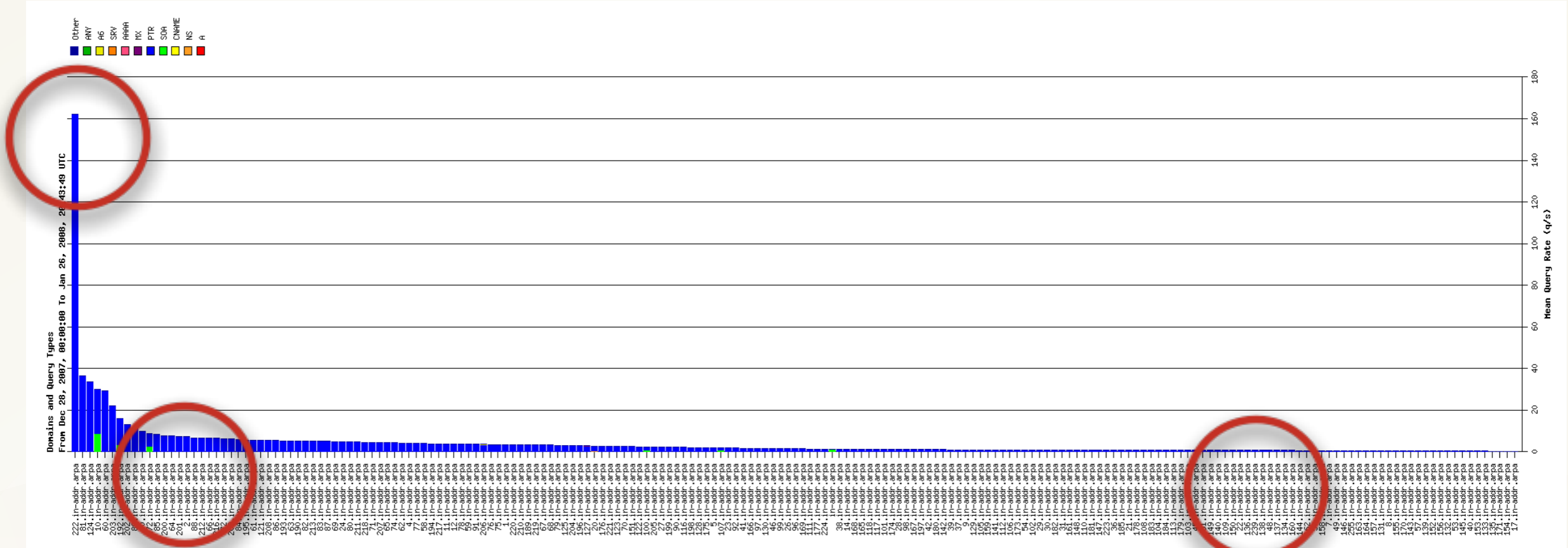
▸ Let's look at the distribution for all /8s

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What are the results?

‣ Let's look at the distribution for all /8s

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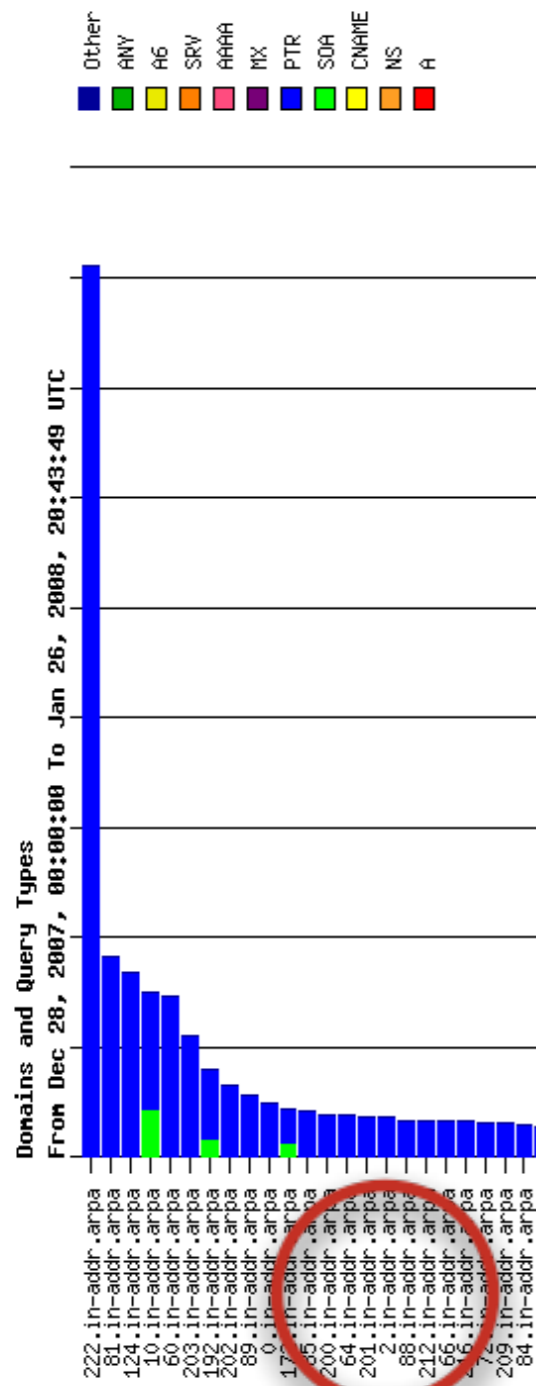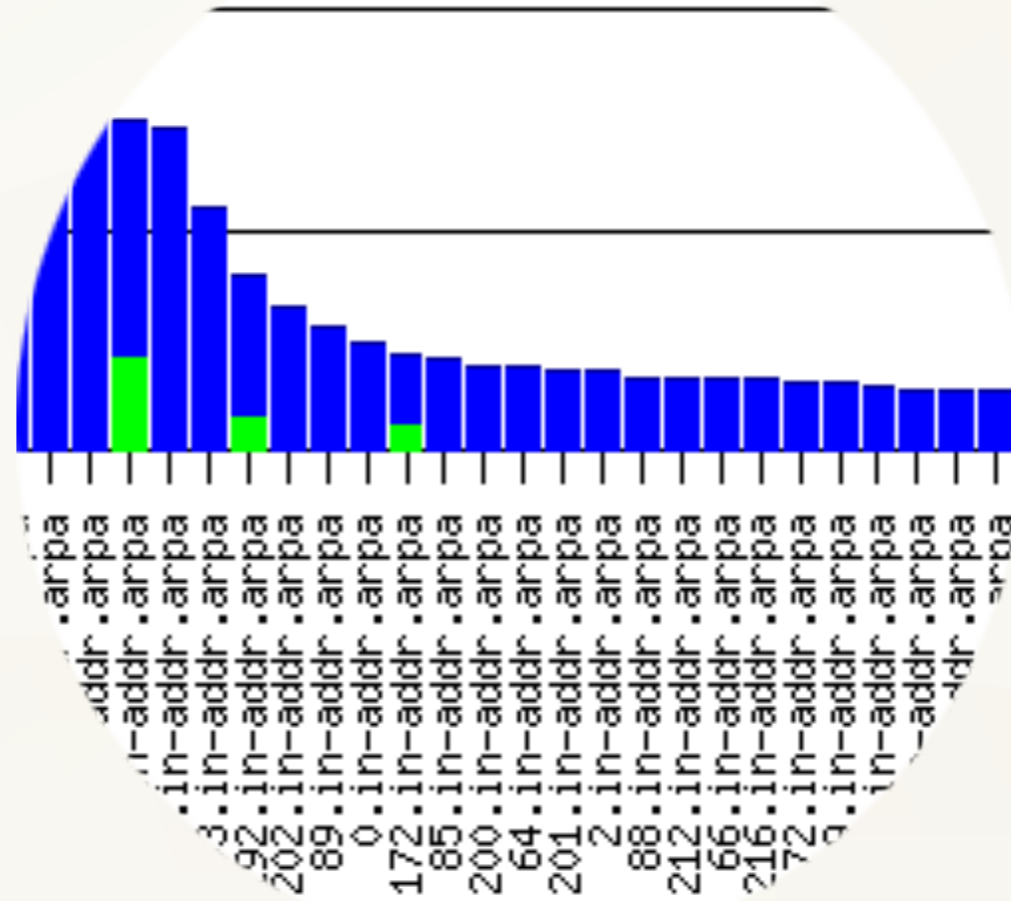
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A closer look

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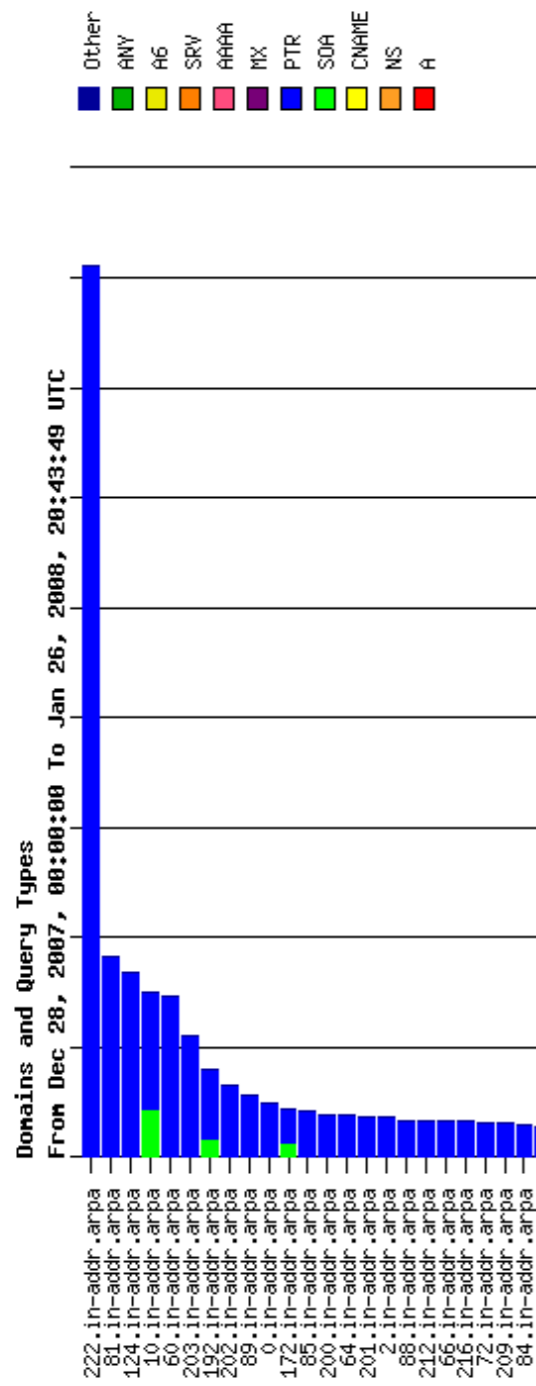
A closer look

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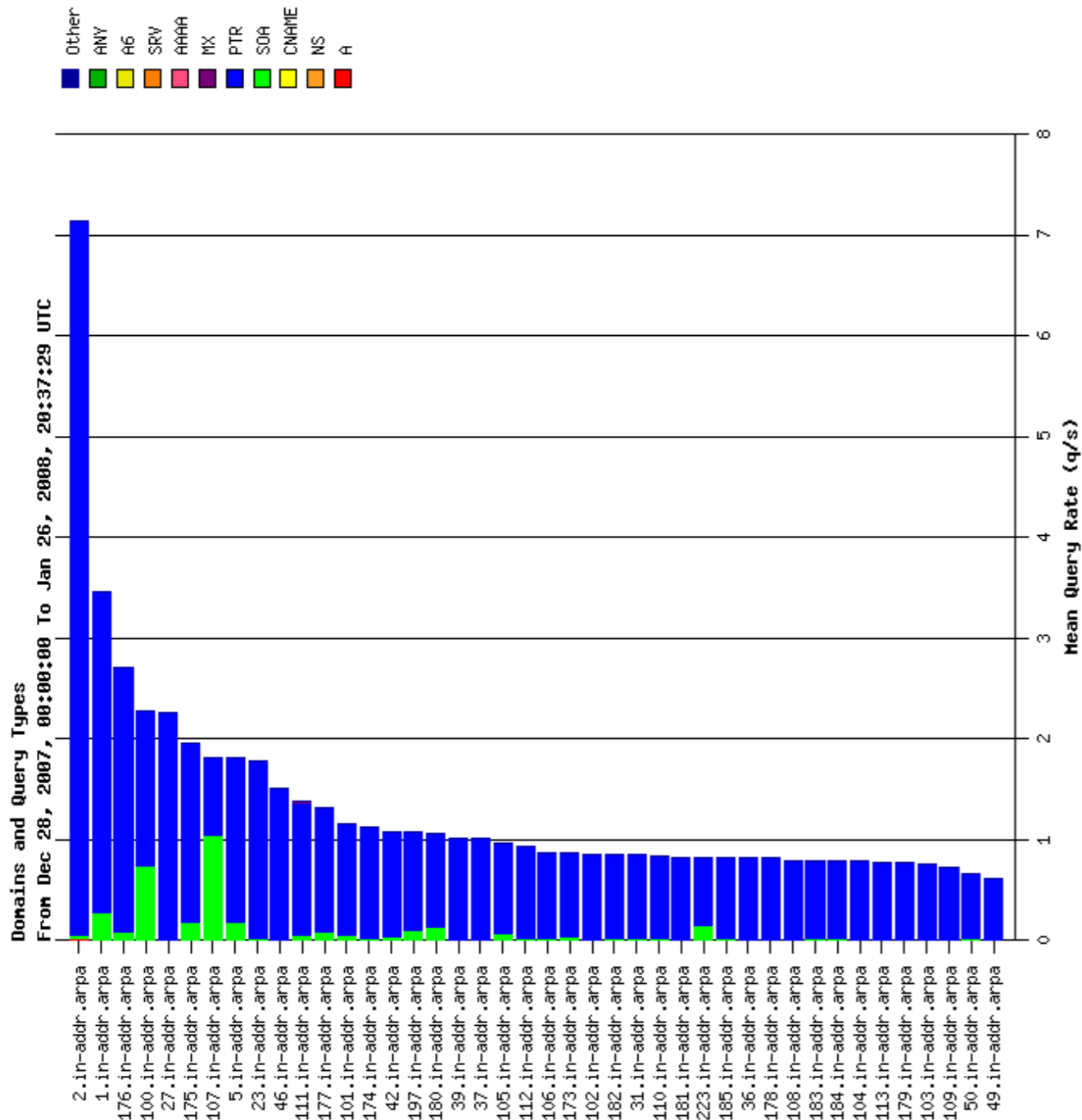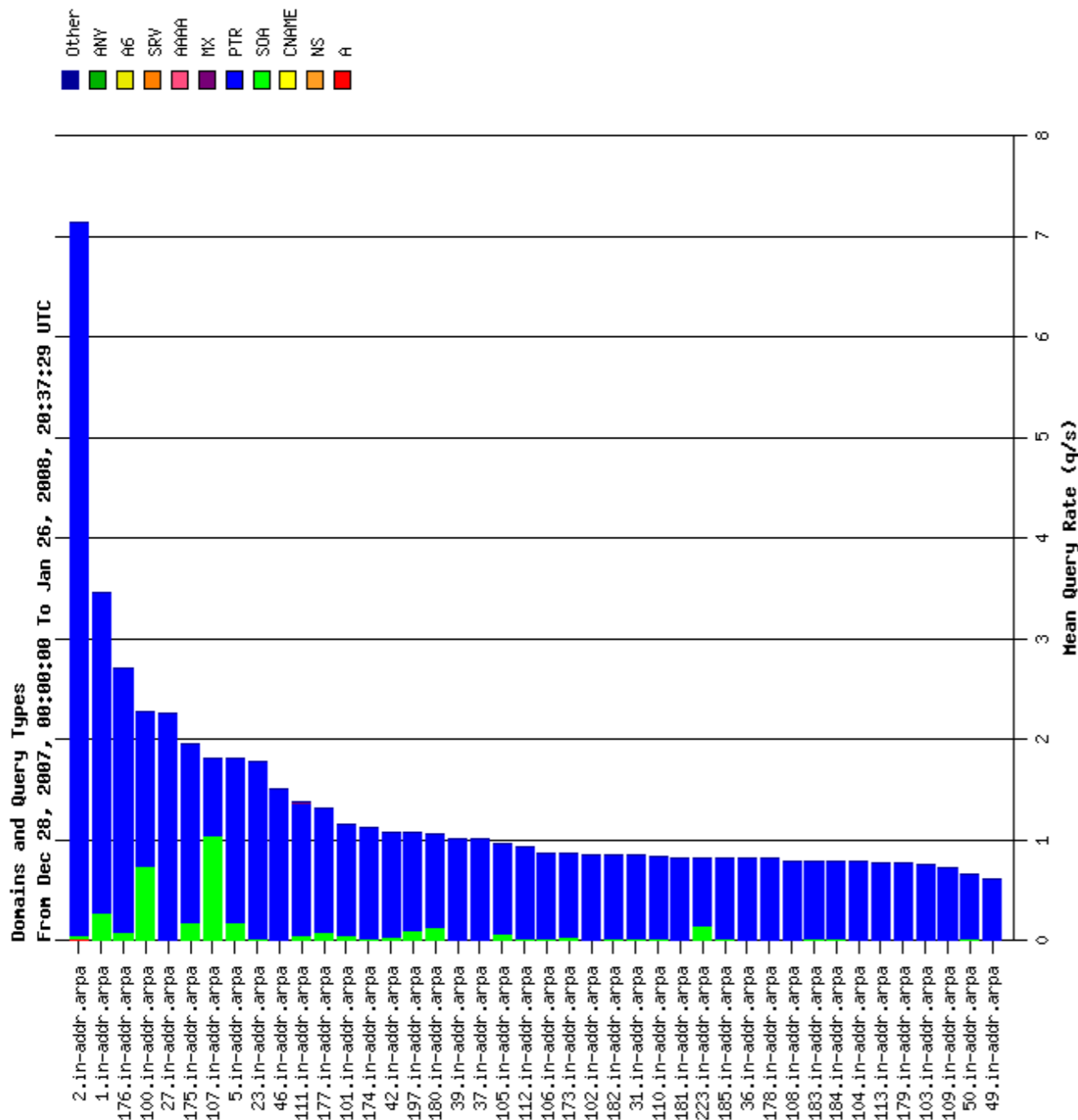
A closer look

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Query distribution over 30 days

Query distribution over 30 days

But that was just L–root

‣ The technique seems to work

  ‣ Data from other root server operators would give a broader picture

  ‣ More analysis would be useful

Moving on...

BREAKING NEWS

- 14.0.0.0/8 reclaimed in January

  - 43 /8s remain in IANA free pool

- IPv6 for root DNS servers

  - F, H, K and M

  - 4 February 2008

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IDNs

Test IDN TLDs and the IDN wiki

‣ Application testing

‣ Registry applicant testing

Script	Language	SLD.TLD U-labels	SLD A-label	TLD A-label
Arabic	Arabic	مثال.إختبار	xn--mgbh0fb	xn--kgbechtv
Arabic	Persian	مثال.آزمایشی	xn--mgbh0fb	xn--hgbk6aj7f53bba
Chinese, simplified	Chinese	例子.测试	xn--fsqu00a	xn--0zwm56d
Chinese, traditional	Chinese	例子.測試	xn--fsqu00a	xn--g6w251d
Cyrillic	Russian	пример.испытание	xn--e1afmkfd	xn--80akhbyknj4f
Devanagari	Hindi	उदाहरण.परीक्षा	xn--p1b6ci4b4b3a	xn--11b5bs3a9aj6g
Greek	Greek	παράδειγμα.δοκιμή	xn--hxajbheg2az3al	xn--jxalpdlp
Hangul	Korean	실례.테스트	xn--9n2bp8q	xn--9t4b11yi5a
Hebrew	Yiddish	בײַשפּיל.טעסט	xn--fdbk5d8ap9b8a8d	xn--deba0ad
Kanji Hirigana, and Katakana	Japanese	例え.テスト	xn--r8jz45g	xn--zckzah
Tamil	Tamil	உதாரணம்.பரிட்சை	xn--zkc6cc5bi7f6e	xn--hlcj6aya9esc7a

Test IDN TLDs and the IDN wiki

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Arabic	Persian	مثال.آزمایشی	xn--mgbh0fb	xn--hgbk6aj7f53bba
Chinese, simplified	Chinese	例子.测试	xn--fsqu00a	xn--0zwm56d
Chinese, traditional	Chinese	例子.測試	xn--fsqu00a	xn--g6w251d
Cyrillic	Russian	пример.испытание	xn--e1afmkfd	xn--80akhbyknj4f
Devanagari	Hindi	उदाहरण.परीक्षा	xn--p1b6ci4b4b3a	xn--11b5bs3a9aj6g
Greek	Greek	παράδειγμα.δοκιμή	xn--hxajbheg2az3al	xn--jxalpdlp
Hangul	Korean	실례.테스트	xn--9n2bp8q	xn--9t4b11yi5a
Hebrew	Yiddish	בײַשפּיל.טעסט	xn--fdbk5d8ap9b8a8d	xn--deba0ad
Kanji Hirigana, and Katakana	Japanese	例え.テスト	xn--r8jz45g	xn--zckzah
Tamil	Tamil	உதாரணம்.பரிட்சை	xn--zkc6cc5bi7f6e	xn--hlcj6aya9esc7a

▸ Application testing

▸ Registry applicant testing

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45,000 page views on 1st day

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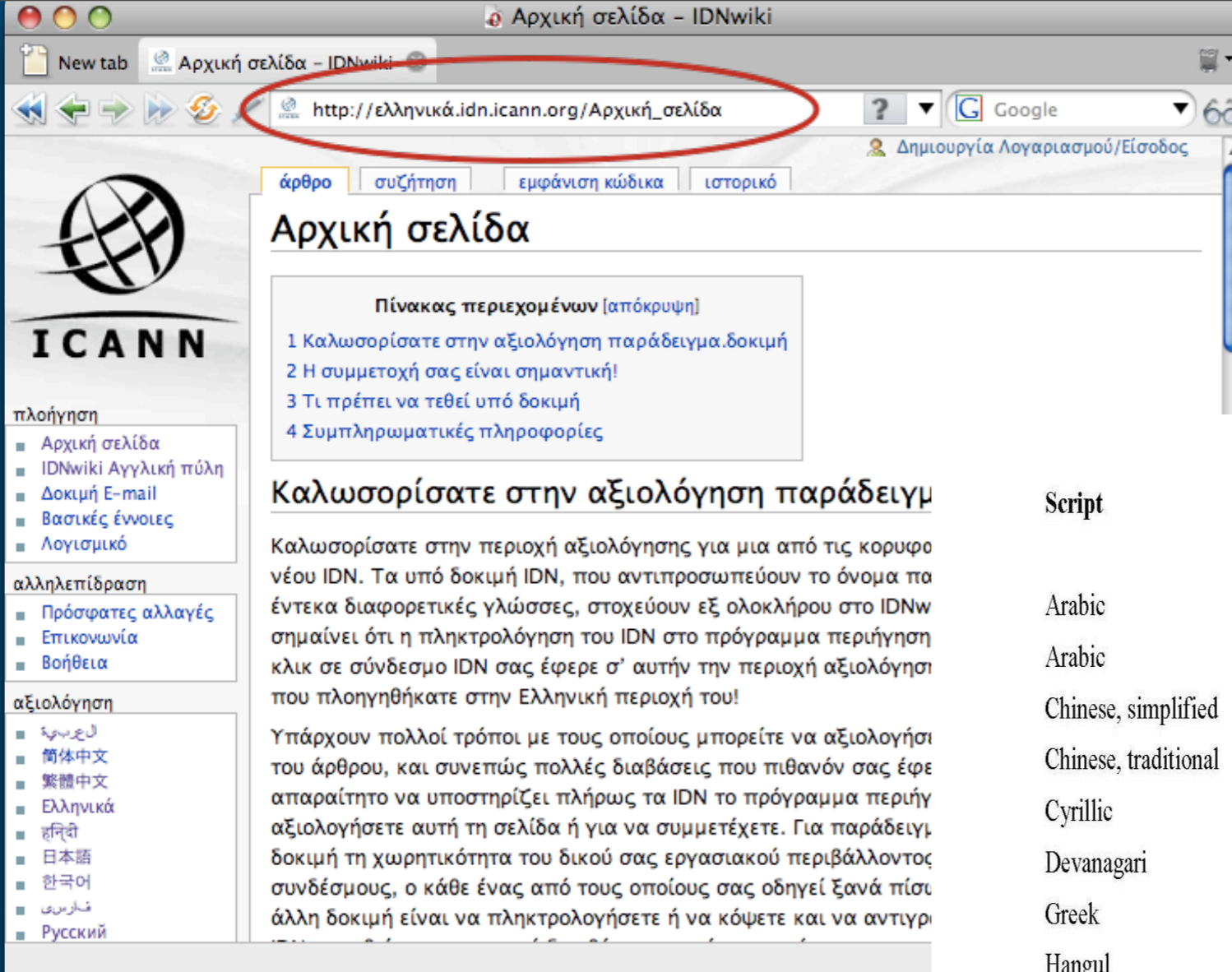
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Almost 500,000 page views so far

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IDNwiki test results

‣ Browsers work but need tweaking

‣ Word & PDF keep formatting and URL links OK

‣ E-mail

  ‣ formatting lost but functionality remains

  ‣ protocol support in development

  ‣ draft-ietf-eai-framework-05.txt

  ‣ http://www.icann.org/topics/idn/

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TLD Allocation Policies & Processes

‣ ccTLDs match the ISO3166 list

‣ New gTLDs introduced by application

‣ Neither fits IDNs well

‣ ICANN staff does **not** set policies

Planned
IDN timeline

Planned IDN timeline

July 2008

ccNSO Fast Track delivers a limited number of IDN "ccTLDs"

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Q3 2008

GNSO Fast Track Applicants able to submit expressions of interest in IDN "gTLDs"

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2013

Long-term Policy for IDN TLDs policy agreed and in operation

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Questions & Answers

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