Getting the Most from Number Resources

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Own Resources
Which Resources are we talking about?

• Internet resources
  – IPv4 Addresses
  – IPv6 Addresses
  – ASN (Autonomous System Numbers)
Two important definitions

- **AS** (Autonomous system)
  - An autonomous system (AS) is a collection of connected Internet Protocol (IP) routing prefixes

- **ASN** (Autonomous system number)
  - Every AS is given a specific number which is called ASN, it identifies in a unique way his IP prefixes within the Internet ecosystem

https://en.wikipedia.org/wiki/Autonomous_system_(Internet)
Private resources vs public resources

**RFC 1918**

- Address Allocation for Private Internets
  (in the next slides we explain further)

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**RFC 1930**

- Guidelines for creation, selection, and registration of an Autonomous System (AS)
  Section 10: “Reserved AS Numbers”
  64512 through 65535
Private resources vs public resources

RFC 1918 (Feb 1996) titled:

“Address Allocation for Private Internets”

…. But the concept is even older [1]
RFC 1597 (Marzo 1994)...

[1] the origin, not the allocation
Out of Curiosity: Why those addresses?

• **10.0.0.0/8**: Used by ARPANET that was shutdown during that time. Mr Jon Postel considered good idea to use this very same block

• **172.16.0.0/12**: lowest space available in the Class B space

• **192.168.0.0/16**: lowest space available in the Class C space
Maybe you are aware of this but as a reminder

- All resources assigned by RIRs (such as ARIN & LACNIC) are usable in Internet (public/global)
Importance of numbering capacity in operators (1/5)

- You can “easily” change your upstream provider (such as: I do not want to use anymore ISP 3)

Image source: https://pbs.twimg.com/media/DVMrJuqXcAAKKrl.jpg
Importance of numbering capacity in operators (2/5)

• Having your own resources is the optimal way for doing multi-homing
Importance of numbering capacity in operators (3/5)

• Your organization will appear in the Internet ecosystem
Importance of numbering capacity in operators (4/5)

• When CDNs measure traffic they measure bytes by Autonomous System Number (ASN).
Importance of numbering capacity in operators (5/5)

• Please note that LACNIC has a policy for “critical infrastructure” such as ccTLDs and IXPs) [1]

![IPv4 Addresses Reserved for Critical Infrastructure](https://prensa.lacnic.net/news/en/policies/ipv4-addresses-reserved-for-critical-infrastructure)

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• If you need to connect to other organizations the most convenient way is by having your own resources

Thanks !