

AFRINIC

The Internet Numbers Registry for Africa

INTERNET PROTOCOL RESOURCES

PLANNING

THE MISSING PIECE IN IMPLEMENTING NATIONAL
(AS WELL AS EDUCATIONAL) ICT STRATEGIES

MUKOM AKONG T.  @PERFEXCELLENT

Polytechnic



Research Institute



University

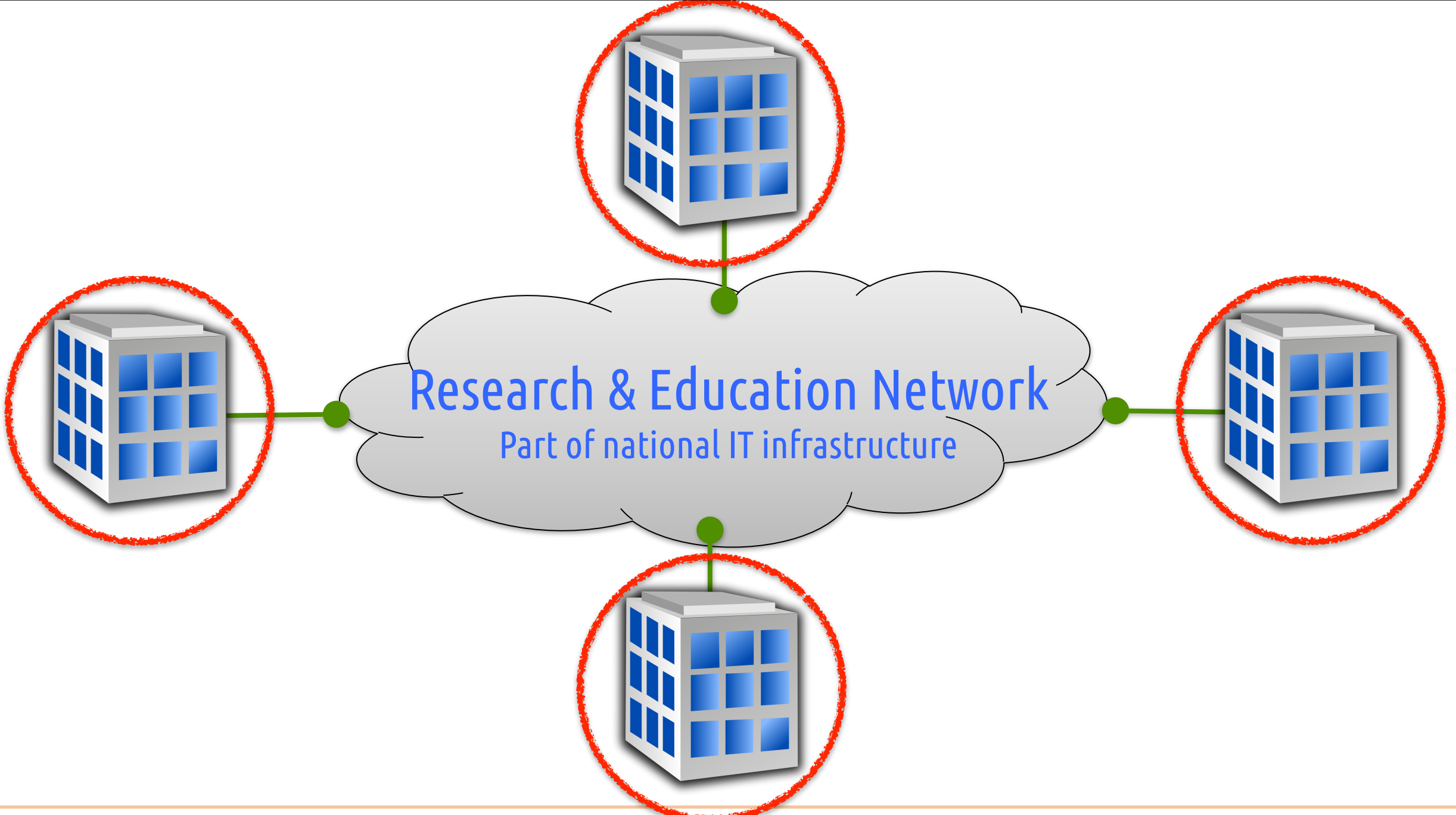
“Everyone for themselves, ...



National Lab



... ~~God~~ gov't for us all”



The diagram features a central grey cloud with a black outline. Inside the cloud, the text "Research & Education Network" is written in a blue, sans-serif font, with "Part of national IT infrastructure" in a smaller, lighter blue font below it. Four green lines radiate from the cloud to four identical icons of a grey building with blue windows. Each building icon is enclosed within a red, hand-drawn circular border. The buildings are positioned at the top, bottom, left, and right of the cloud.

Research & Education Network

Part of national IT infrastructure



healthcare.gov.cm



university.edu.cm



e-services.gov.cm



Common view of services on a network

But beyond the physical links, the domain names and making modern networks work are ...Internet Protocol (IP) resources.



196.216.2.100

2001:42d0:0:406::100



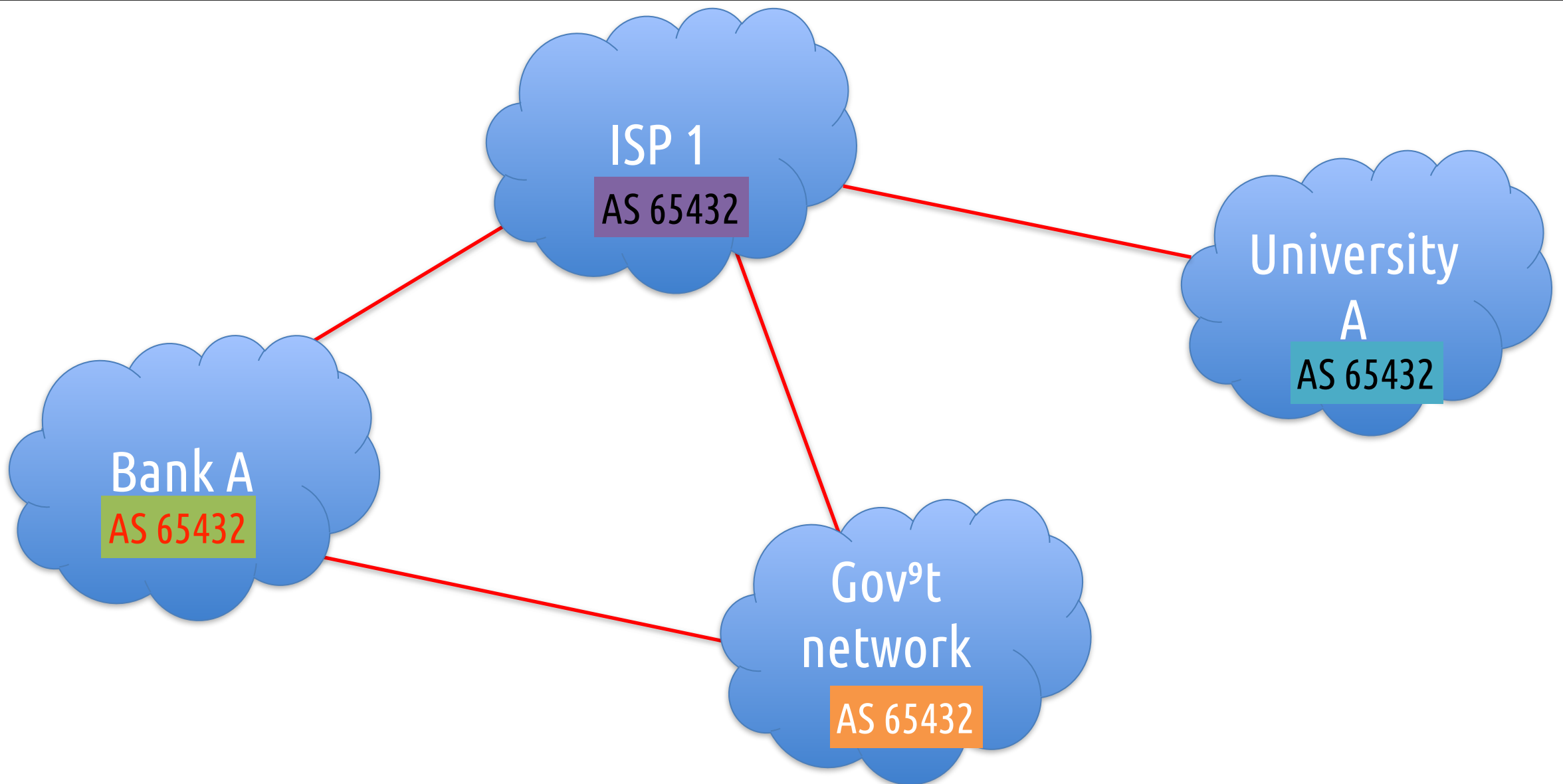
names are for
feeble-minded
humans

I created
machines to deal the
complex numbers

learn.afrinic.net



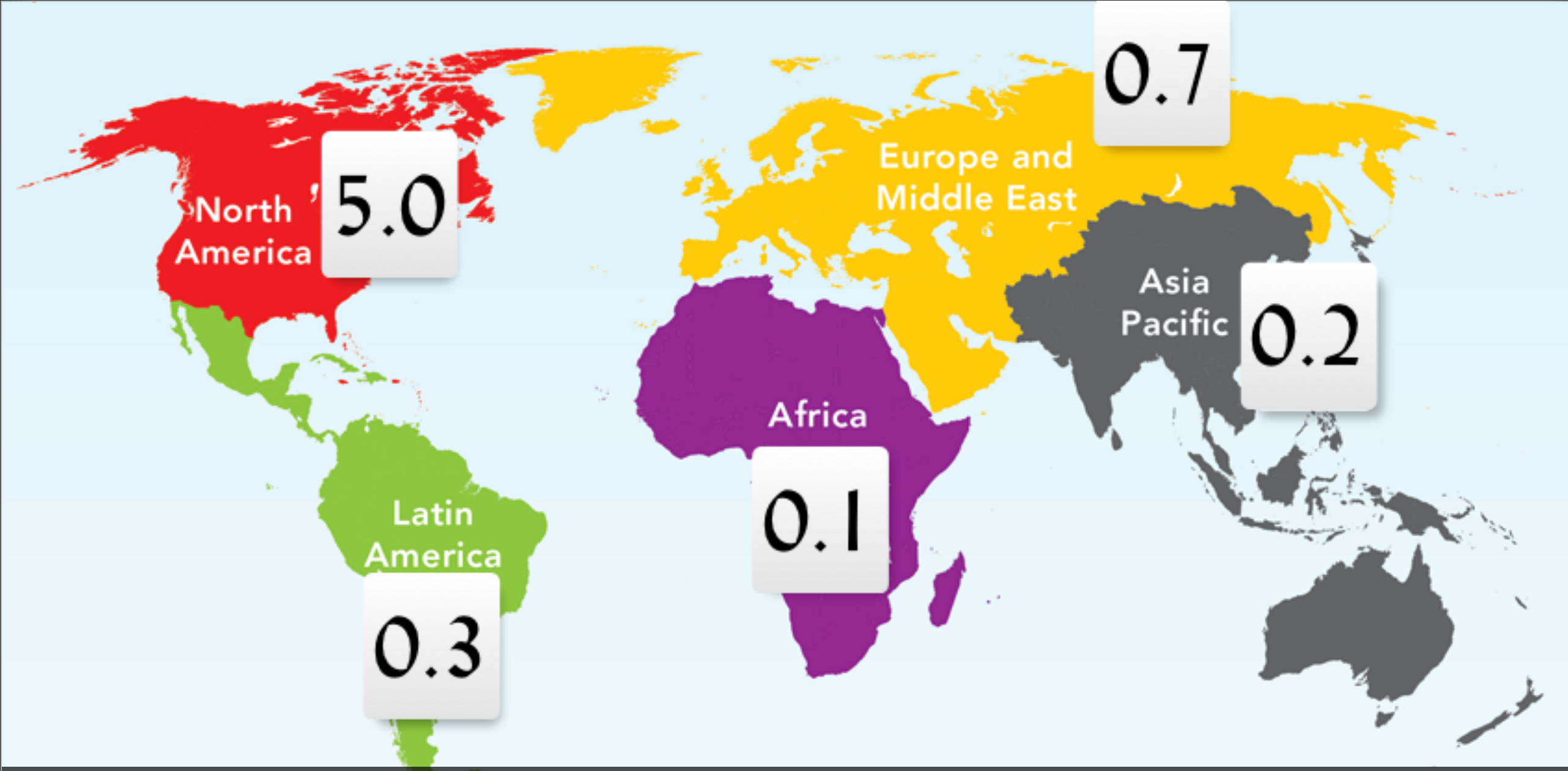
Every device on the Internet is uniquely identified by its IP address



Every network on the Internet is uniquely identified by its Autonomous System Number (ASN)



We are running out of unique addresses to power the Internet



IPv4 addresses per person by region (only one winner here!)

1

IP Resource
Planning as a
key component
of IT
infrastructure
planning &
strategy

2

Seek IP
Resource
independence
from ISPs for
qualifying
networks

3

Plan for IPv6
first (It's the
future) while
managing IPv4
(the present)

How differently must we think to resolve this?



- How many devices will we connect?
- How many institutions will we connect?
- Do we want an end-to-end network?
- How do we maintain network redundancy
- For the next 1 year

Recommendation #1: Create an IP Addressing Plan for the network



Recommendation #2: Get IPv4 addresses you need NOW (while they last)



- Fix global IPv4 address imbalance
- Remain technologically relevant
- Remove barrier to true broadband
- Make cyber security easier
- Prepare for the Internet of Things
- Prepare for the smart home and grid

Recommendation #3: Create & implement the National IPv6 Action Plan



You don't support IPv6 in your products, we are not buying from you!

Recommendation #4: Immediately update all ICT procurement to mandate IPv6

1 IP Resource Strategy Planning & training

2 One of the world's best IPv6 courses

3 Testbeds & manuals for hands-on training

4 Turnkey training content & tools to share

How AFRINIC can help!

**IT
Regulators**

**Other
technical
training
org's**

**ICT
Ministries**

**Partner
with AFRINIC**

**Higher
Education
Institutes**

**Research
&
Education
Networks**

IPv4 & IPv6 Strategy & Planning training

Facilitate IP Resource strategy for gov⁹ts

Next generation (IPv6) Internet training

1

Research & Educational networks are the most effective way for large-scale sharing of educational resources

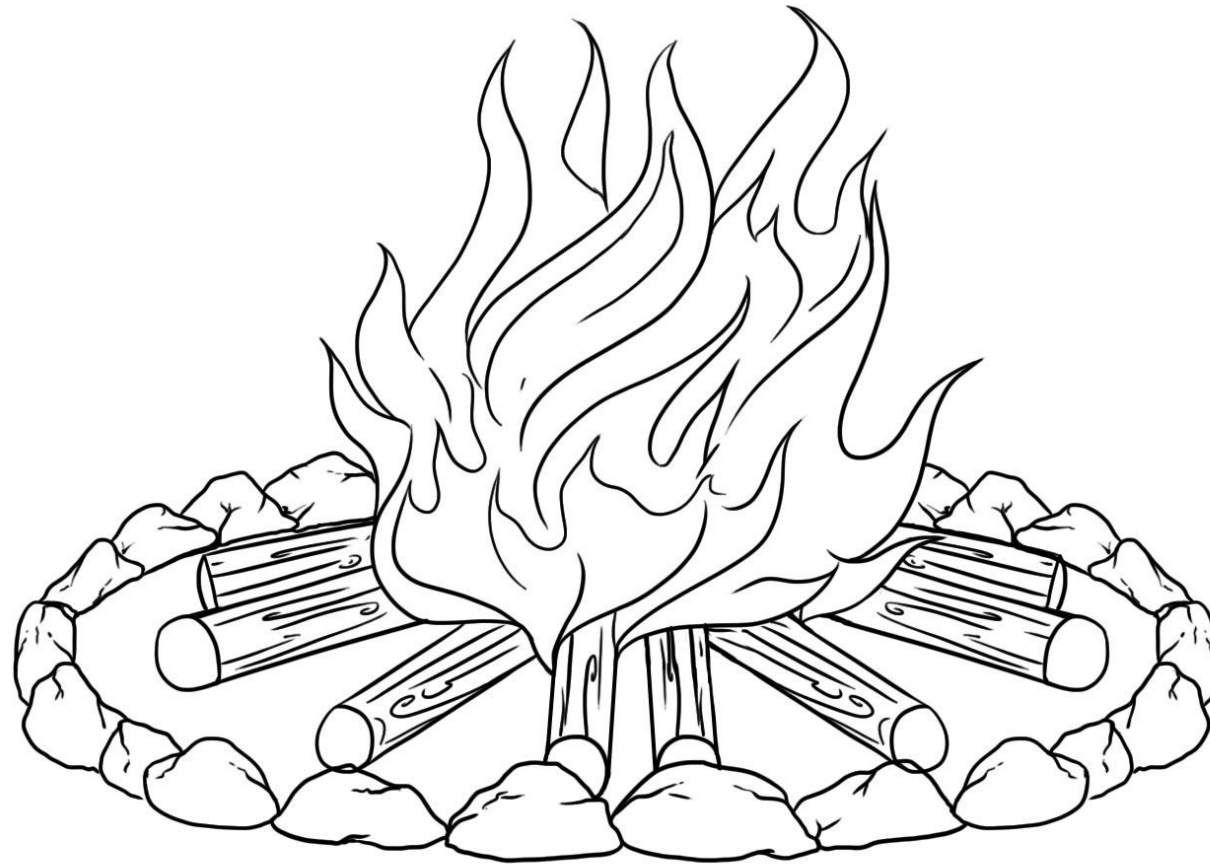
2

Good networks require IP Resource (address + ASN) planning. Do yours.

3

Future-proof educational ICTs by mandating the support IPv6

In a nutshell ...



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Merci! Thank You ! Sh⁹kran

tamon@afrenic.net



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