Achieving Network Autonomy
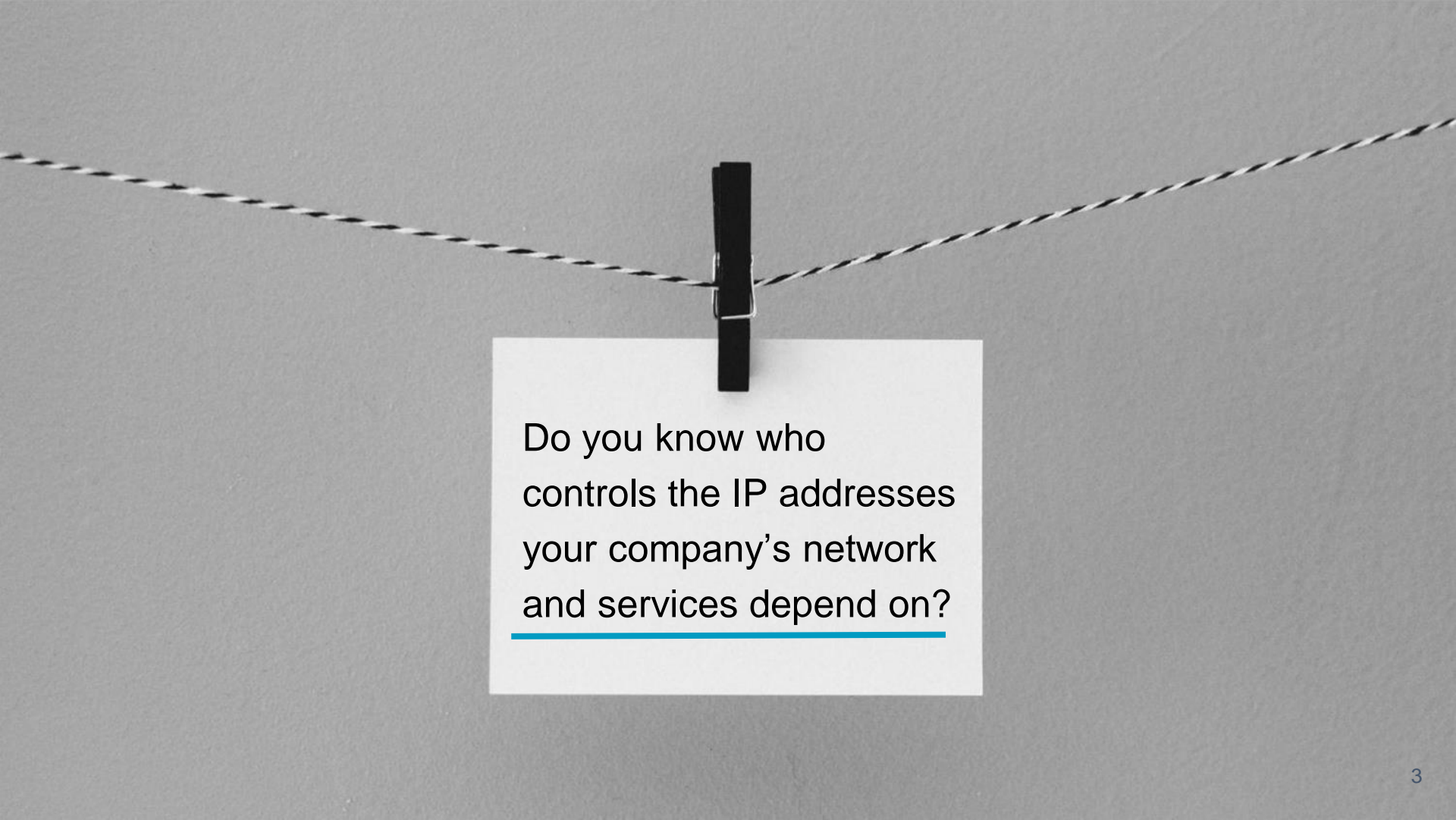
Jon Worley, Senior Technology Architect, ARIN

CanWISP, 30 March 2022

Overview

❖ IP address portability

❖ Provider-assigned vs. ARIN-issued

❖ Achieving address autonomy

❖ Check your IP addresses

❖ Getting resources from ARIN

Do you know who controls the IP addresses your company's network and services depend on?

ARIN
American Registry for Internet Numbers

Address Portability

Provider-assigned addresses
Must return if you cease service
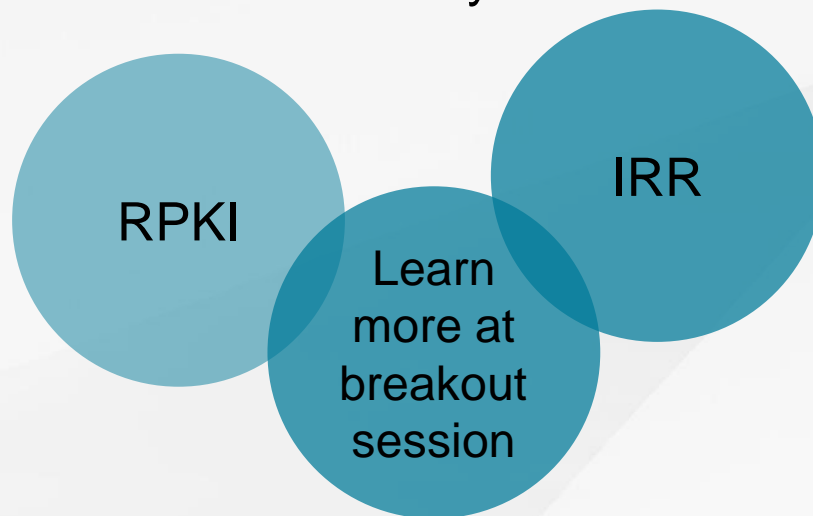
ARIN-issued space
Use with any ISPs you choose and take them with you if you cease service

IP Address Autonomy

Your organization directly holds the
rights for IPv4 & IPv6 address blocks

ARIN's Routing Security

Routing security services allow registrants to publish information about how IP addresses may be routed

RPKI

IRR

Learn more at breakout session

Check your IP Addresses

Who controls IP addresses in your network

Go to ARIN's Whois

Enter an IP address used in your network

Direct allocation =
registered to your organization & is portable

Reassignment/reallocation =
obtained from an ISP & is not portable
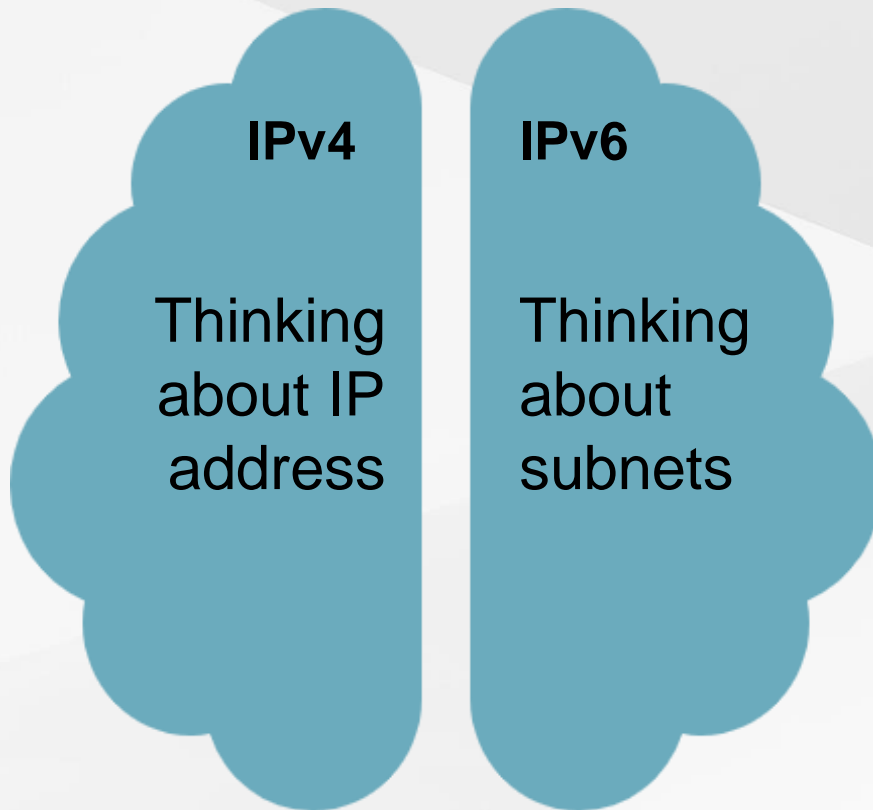
Get your own space from ARIN

IPv6 is a great place to start building your autonomy

Being IPv4-only has costs

Qualification criteria are simple

Ability and room to grow

Changing your mindset

IPv4

Thinking about IP address

IPv6

Thinking about subnets

IPv6 ISP Block Size

/48
Typically assigned to customers
Could be smaller for residential

/32
Enough to number 65,000+ customers
Could request /36 to keep fees low

Larger blocks
Number of serving sites
Number of customers

Anatomy of an IPv6 Address

Make the address work for you!

2001:0DB8:0234:AB00:0123:4567:8901:ABCD

0 = Northeast hub
1 = Southeast hub
2 = Central hub
3… Future hubs

Site within that hub or region

Designates the subnets within a site

Yes, ARIN's free pool depleted back in 2015,

so what are the options to

obtain **IPv4** now?

Transfer on the IPv4 market

Reserved block for special use cases

IPv4 Waiting List

IPv4 Transfer Policies

Mergers and Acquisitions (NRPM 8.2)

Traditional transfer from merger, acquisition, or reorganization supported by legal documentation

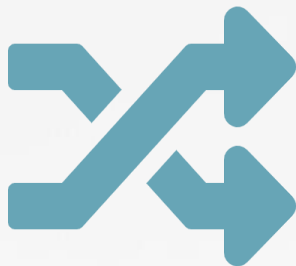**Transfer to a Specified Recipient (NRPM 8.3)**

IPv4 market transfer from one organization to another that it specifies, supported by justified need (within the region)

Inter-RIR to a Specified Recipient (NRPM 8.4)

IPv4 market transfer from one organization to another that it specifies, supported by justified need (between regions)

Transfer Updates

- ❖ Number is stabilizing
- ❖ Processing time is stabilizing
- ❖ Transfer activity increasing LRSA coverage
- ❖ Most specified transfer blocks are small

Once you register an IPv6 block with ARIN…

Eligible to request a /24 of IPv4 space as frequently as every 6 months

Basic Requirements:
- Dual-stacking key infrastructure
- Numbering translation pools

ARIN IPv4 Waiting List

Based on availability, we fill requests each quarter

Main requirements:

- Have a /20 or less through ARIN already
- Have efficiently used any previous space you've been issued
- Request up to a /22 based on your 24-month projected need

Get an ASN from ARIN

Autonomous System Number:

Recommended if you plan to multi-home, peer, or use a unique routing policy for your network

Achieving Network Autonomy

- Set your own routing security policies
- Avoid disruptions
- No worrying about your network going down due to a former ISP's policies

Need more information?

ARIN Registration Services
can help you get
and manage resources

- Hours: 7:00 AM - 7:00 PM ET
- Phone: +1.703.227.0660

Thank You