RIPE NCC
RIPE NETWORK COORDINATION CENTER

RIPE 90
Technical Report

Andrea Di Menna | RIPE 90 | 16 May 2025

And some things are still the same...

IPv6 at RIPE Meetings

RIPE Network Coordination Centre

- New IPv6 assignment - 2001:67c:64::/48
- Assigned following policies
  - 2006-01 (IPv6 PI assignments)
  - 2009-02 (Assignments to the RIPE NCC)
- Procedure took slightly longer than expected
  - We only got final approval of the assignment on Thursday before this RIPE Meeting

The Technical Team

The Technical Team

Preparations

Site inspection (~3 months in advance)

Inventory (~1.5 months in advance)

Preparations

Shipping (1 week earlier)

Set Up Weekend
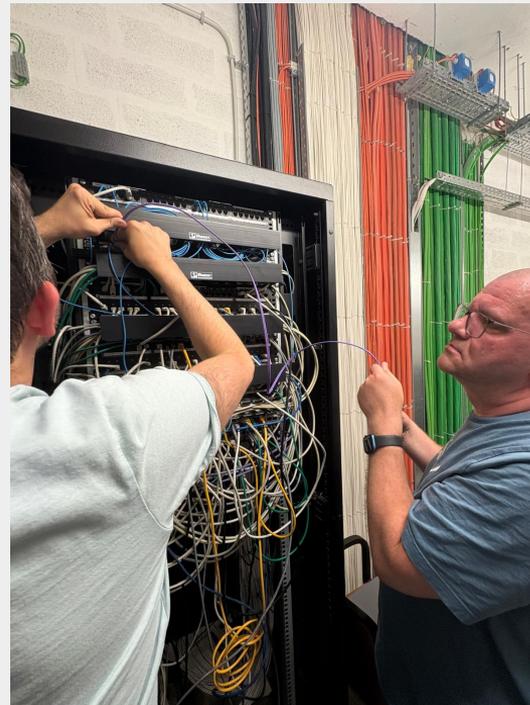
Preparations

We bring:

- 2 SuperMicro Servers (E300-9D-8CN8TP)
- 2 UPS (APC 700VA)
- 6 Juniper switches (EX2300)
- 15 Zyxel POE switches (GS1900)
- 2 boxes of 300 metre ethernet cables
- 300 ethernet cables (ranging from 1 to 30 meters)
- 50 Wi-Fi access points (AC-HD)
- 20 Raspberry Pis
- 3 presentation kits
- 130 power blocks
- Lots of gaffer tape

Logistical issues

08:00 The truck will arrive at 10:00
10:45 The truck is stuck in traffic
12:00 The truck actually didn't depart yet, will be there at 15:00
16:30 Truck arrives

FRIDAY MORNING IN THE OPS ROOM

Truck too high for the hotel entrance
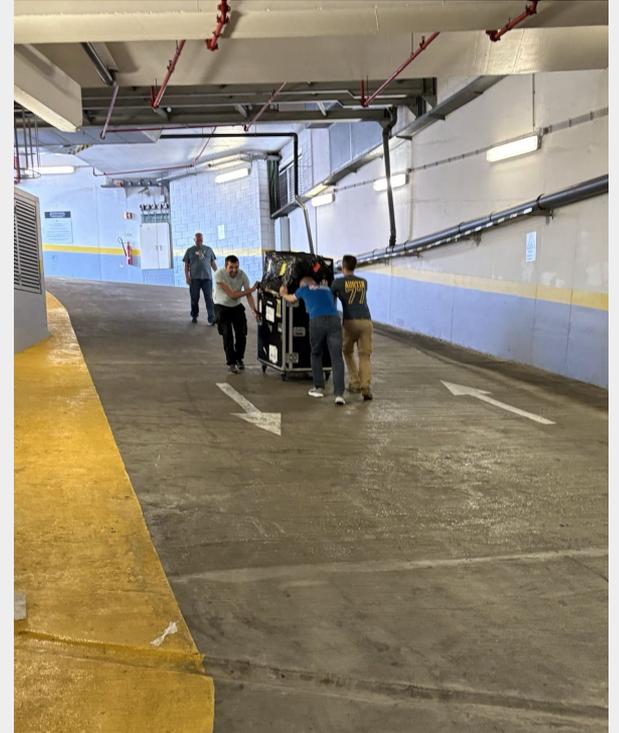
Meeting Infrastructure

# Logical Topology
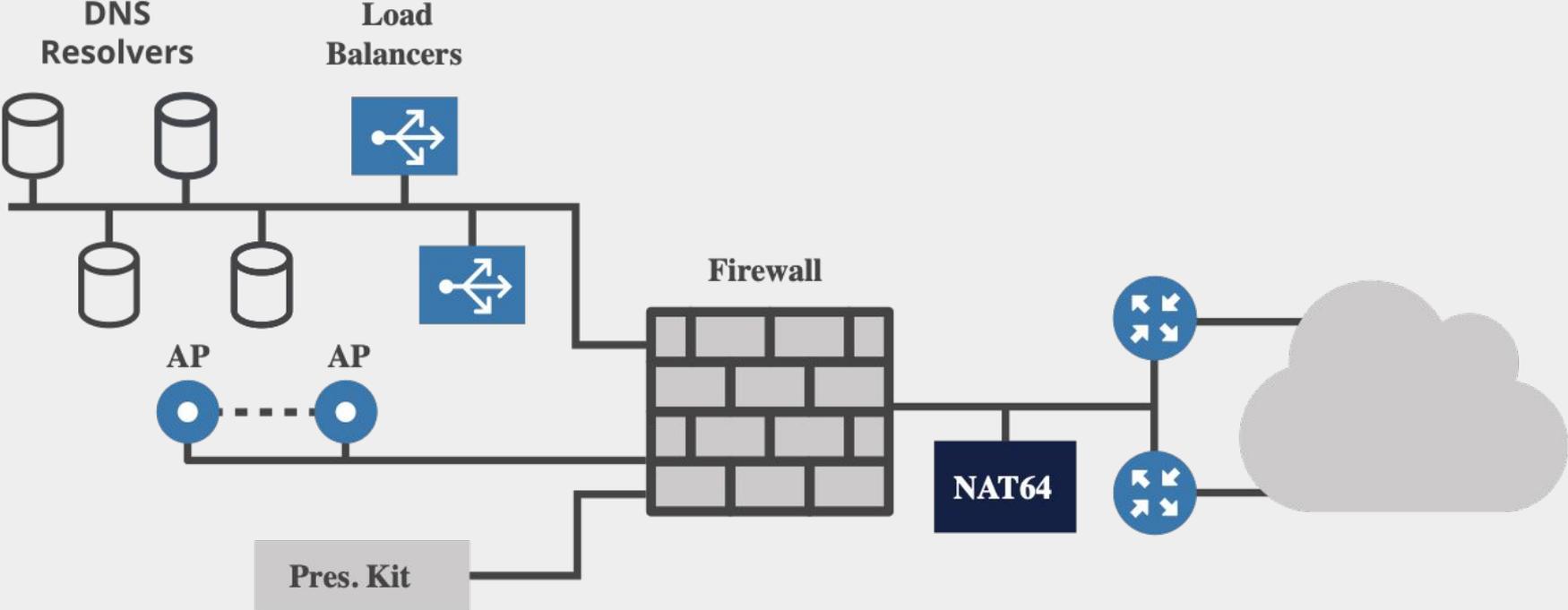
Physical Infrastructure

- The hotel allowed us to place our equipment in their server rooms

- Hypervisors running 25 VMs
  - Routers
  - Firewalls
  - DHCP servers
  - DNS Resolvers
  - Wifi controller
- Mostly deployed with Ansible

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Wi-Fi refresh trial
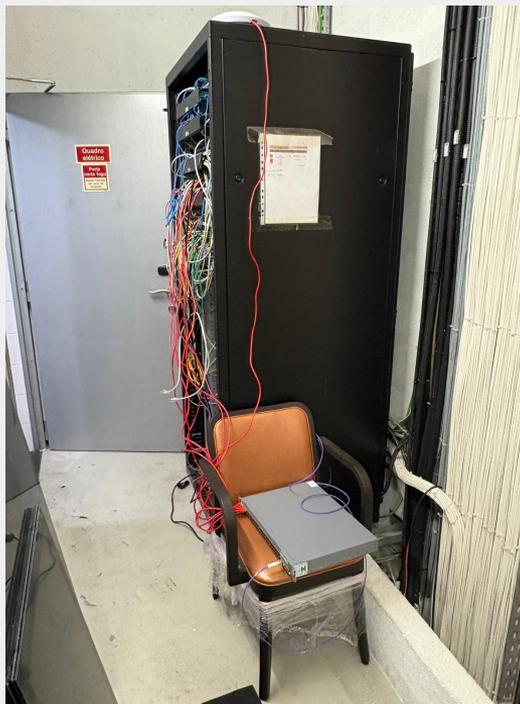
Not a very satisfying experience

- Three new **Wi-Fi 7** access points **Unifi U7 Pro Max**

  - Producing quite a lot of heat

- Support for **6 GHz band**

  - Caused **intermittent connectivity issues** for some devices

  - Wi-Fi connected, no data is received

- Taken **out of service** on Tuesday morning

  - Hopefully some future firmware upgrade fixes it

The Meeting Networks

- **Main network**
  - 5 GHz-only (6 GHz on Monday)
  - IPv6-mostly

- **IPv6-only experiment**
  - 5 GHz-only
  - no IPv4

- **Legacy network**
  - 5 and 2.4 GHz, dual-stack, WPA2
  - 2.4 GHz on **7 APs** used by **7 clients**

IPv6-Mostly Pioneers Since RIPE 85 (2022)

Other industry events are following

- See the presentation in the IPv6 WG

- Still, minor bugs observed

  - like macOS Internet Recovery

Gemini GenAI prompted by Éric Vyncke

The RIPE Meeting Network Runs on Open Source Tech

Component	Technology used
Edge routers	BIRD
Firewall	nftables
DNS Load balancer	keepalived
DNS Resolvers	BIND9
DHCP	Kea
NAT64	Jool
Statistics	collectd + InfluxDB + Grafana
Config management	Ansible

The Presentation System

Presentation System

Each room has:

- Two MacMinis
- ATEN HDMI Matrix switcher
- DSAN clicker
- Limitimer clock
- HDMI Grabber for Meetecho
- HDMI Audio extractor
- HDMI Splitters
- HDMI over ethernet extenders
- RPi for Streamtext (steno)

Presentation System Wiring

Statistics

Network Traffic
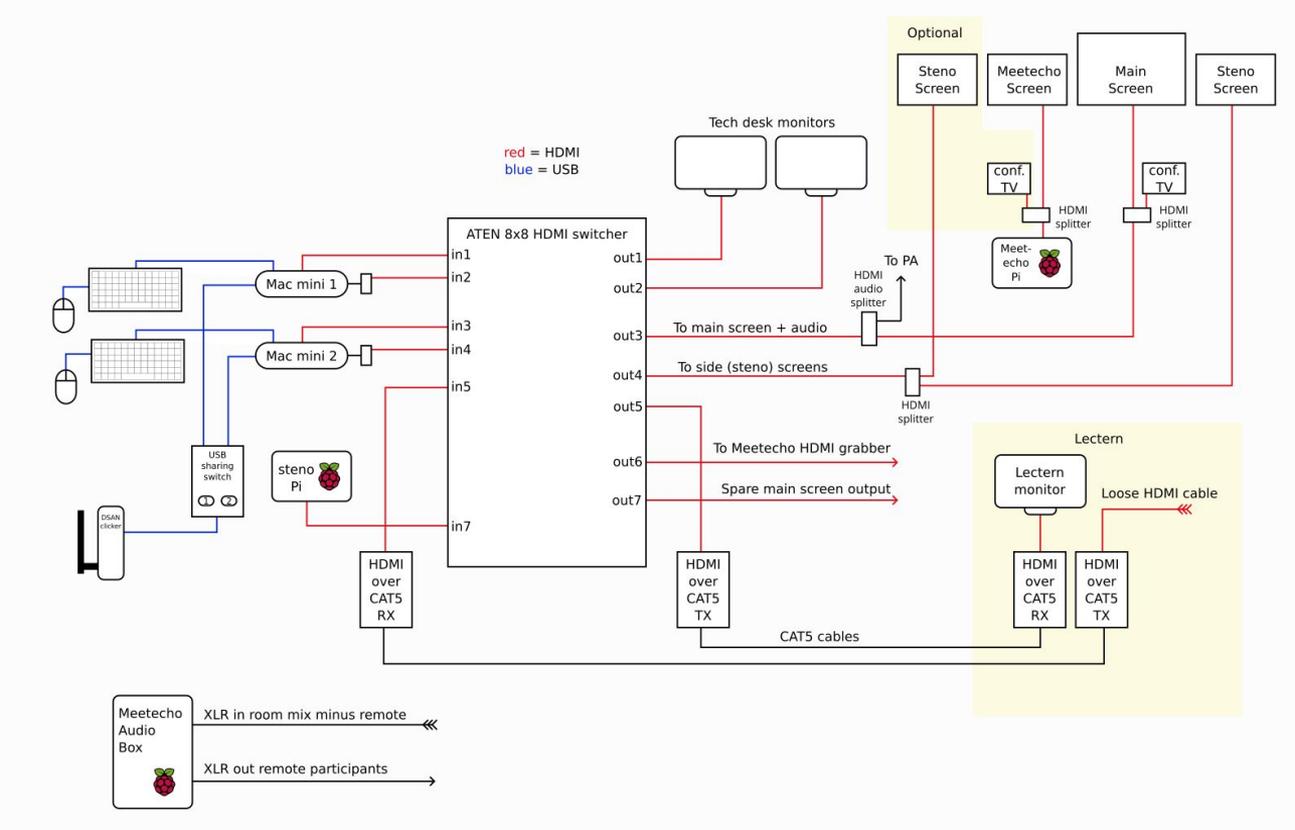
Sorry, we don't have an IPv4 vs. IPv6 comparison

IPv6-Only vs Dual Stack on Main network

More and more devices opting out from using IPv4

NAT64 statistics
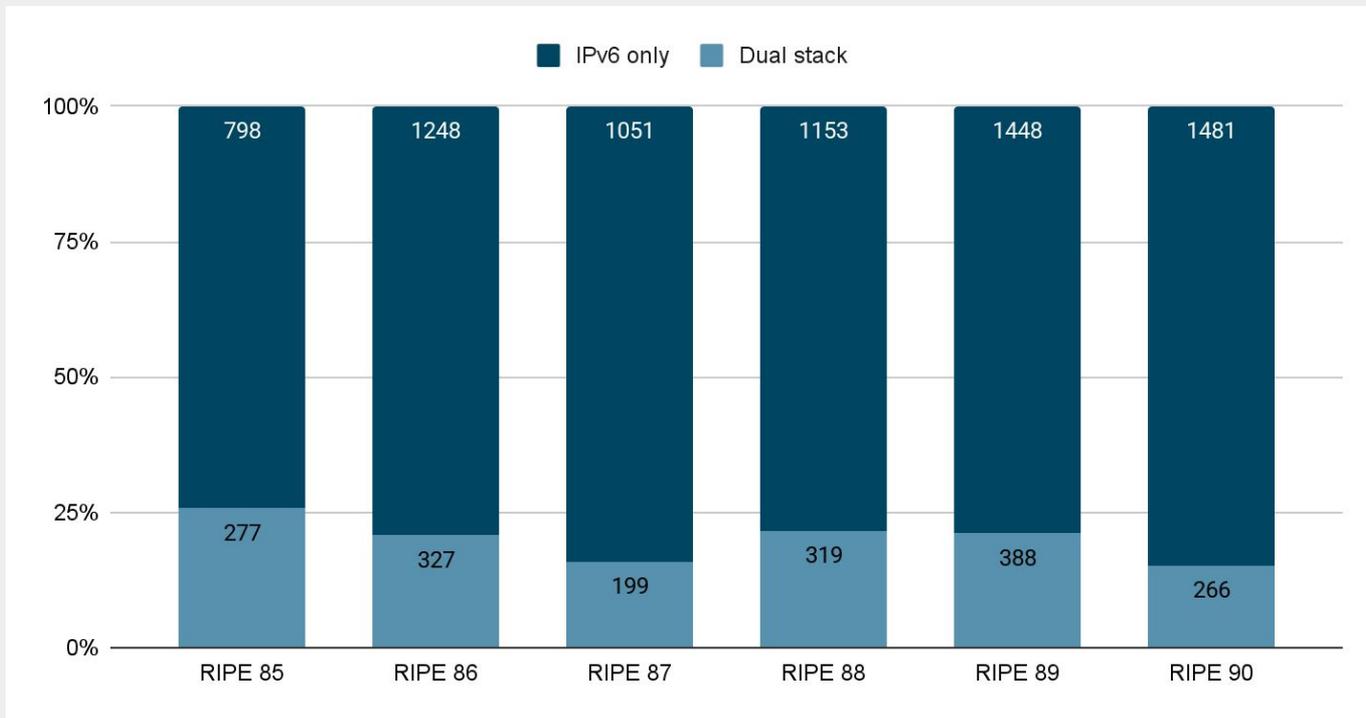
We could still fit behind a single IPv4 address

Wi-Fi Statistics

Wi-Fi 5 (ac) is getting old

Wi-Fi Statistics
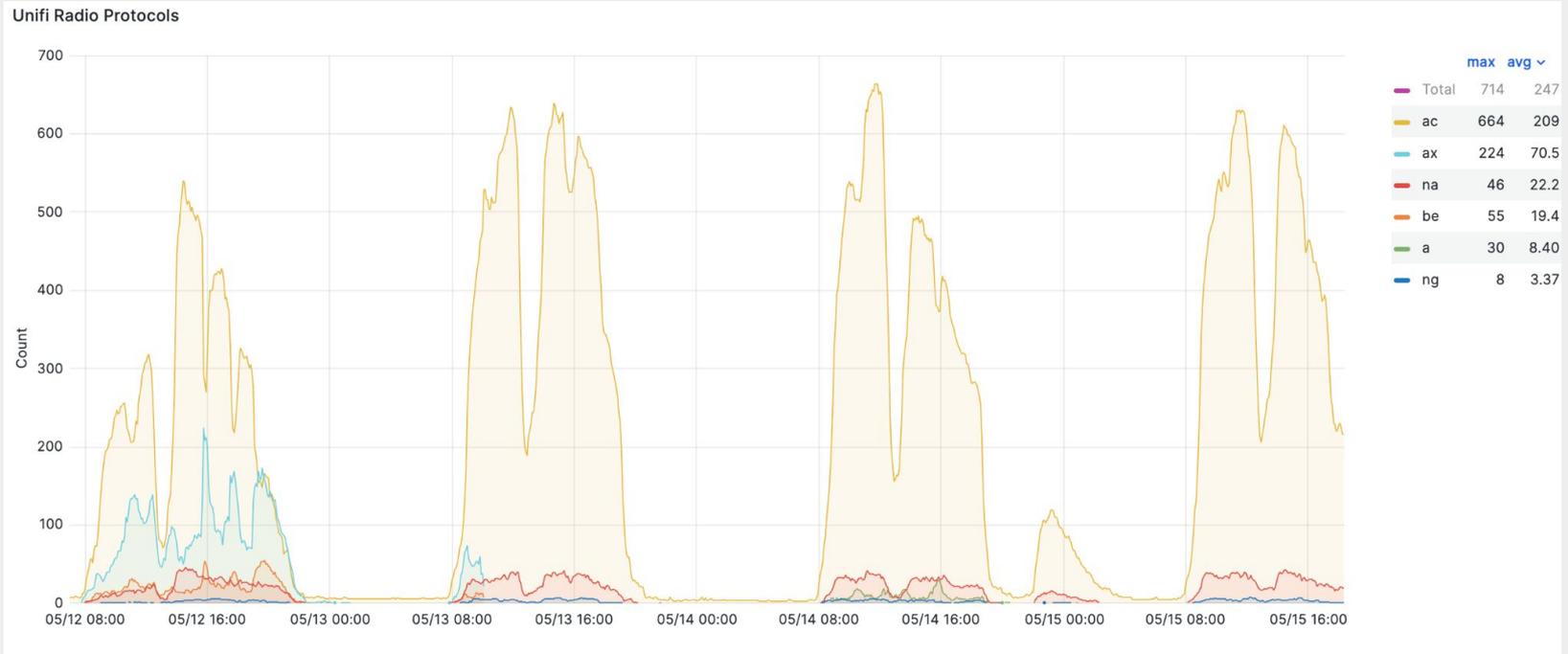
Majority use the default meeting network

Wi-Fi Statistics
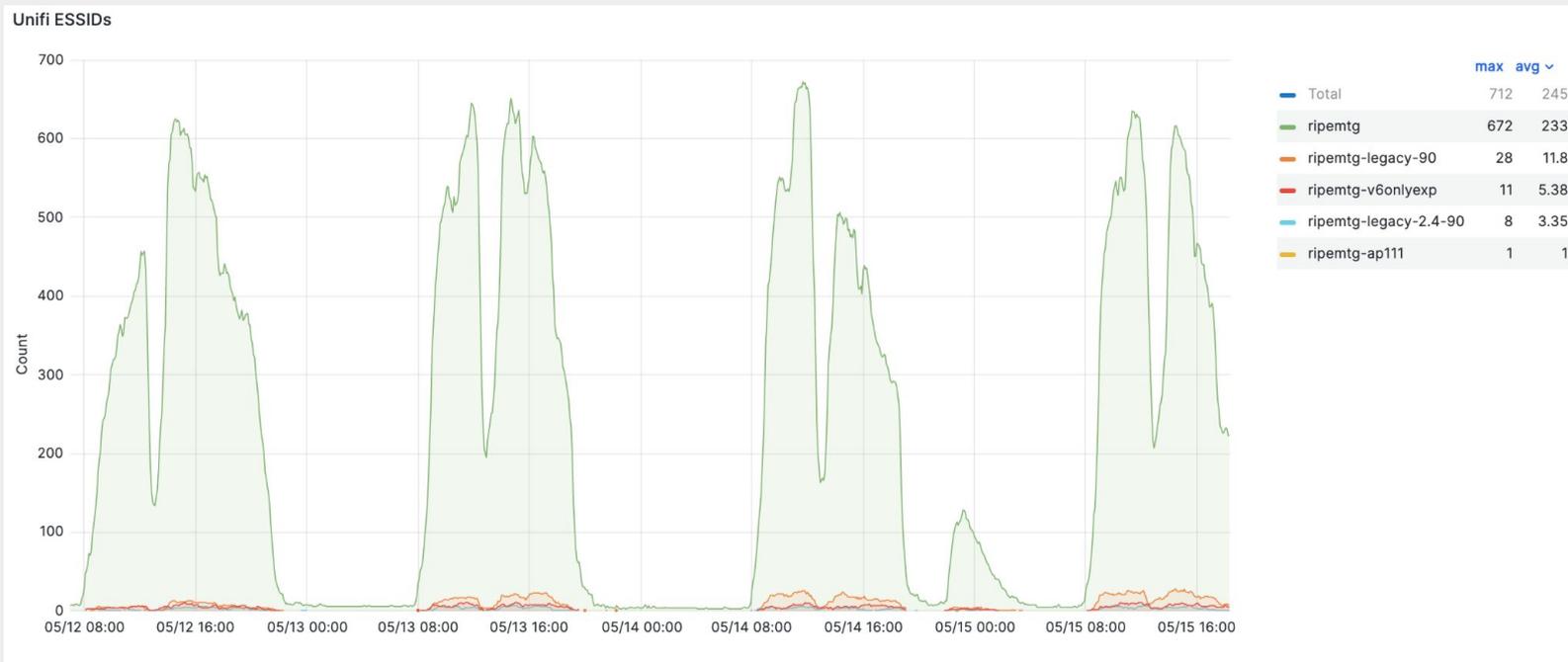
The Access Point next to the barista gets the most users
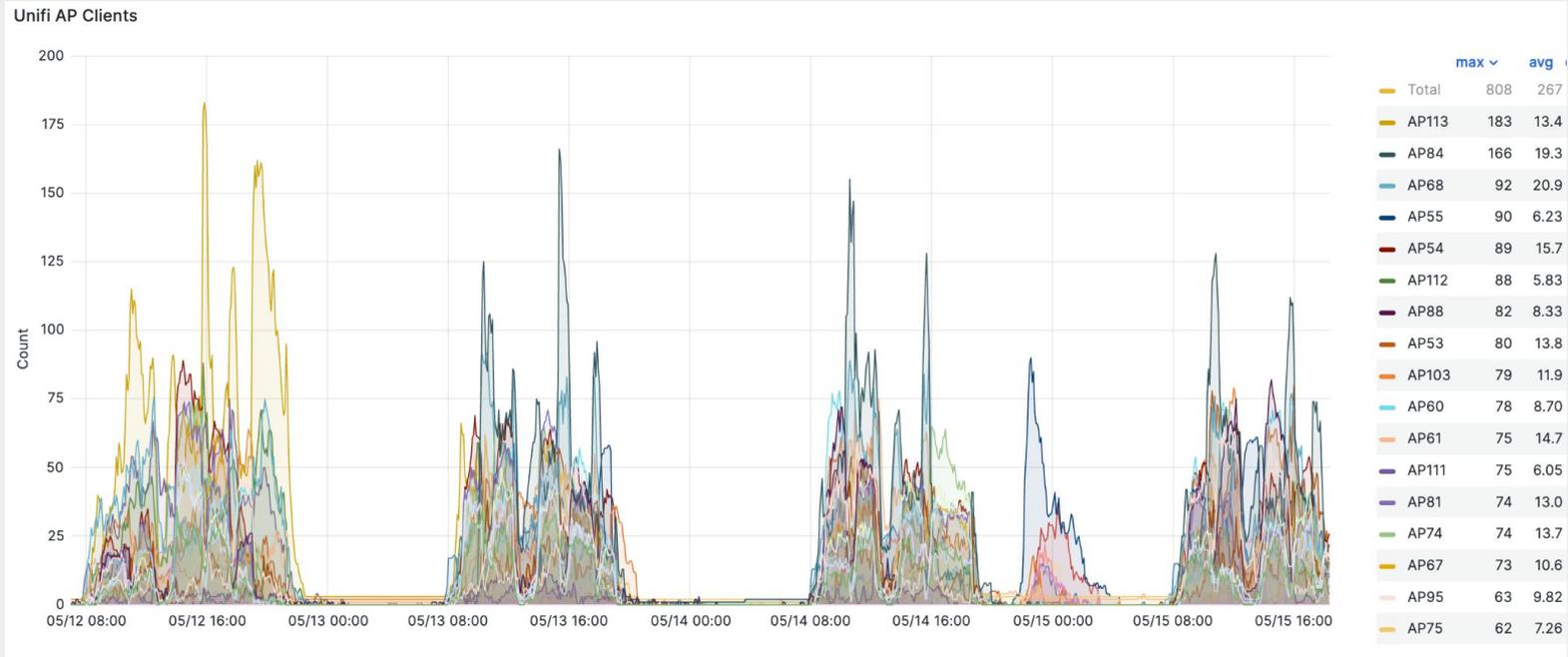
Access Point Placement
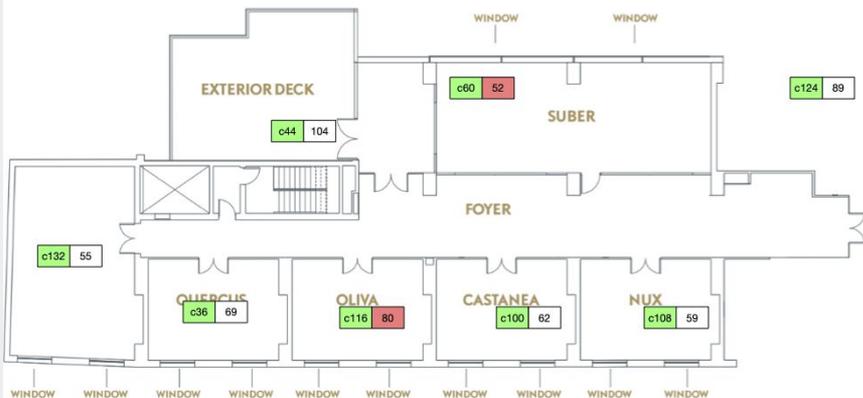
Floor 1

	5 Ghz
	2.4 Ghz

Floor -1

We are here

Access Point Placement

Coffee Statistics
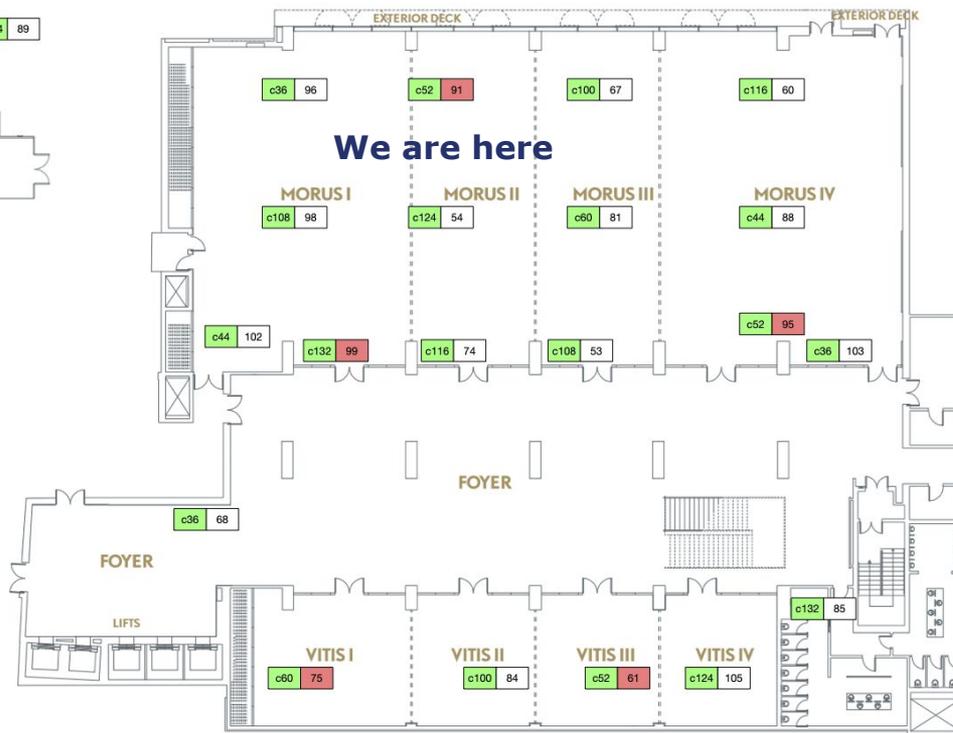
Words cannot espresso how much you bean to me

3888 shots

7 kgs of coffee

18 gms per shot

Special Thanks

Remote Participation	Stenographers	Host
Tobia Castaldi Antonio Bevilacqua Alessandro Toppi Alessandro Amirante Paolo Navarretta	Mary Mckeon Tina Kealy Anna Papa Murphy Aideen Kelly	Dora Miranda Assis Guerreiro
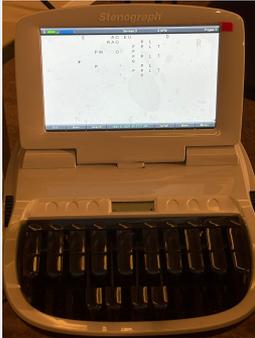
Questions & Comments ?

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