



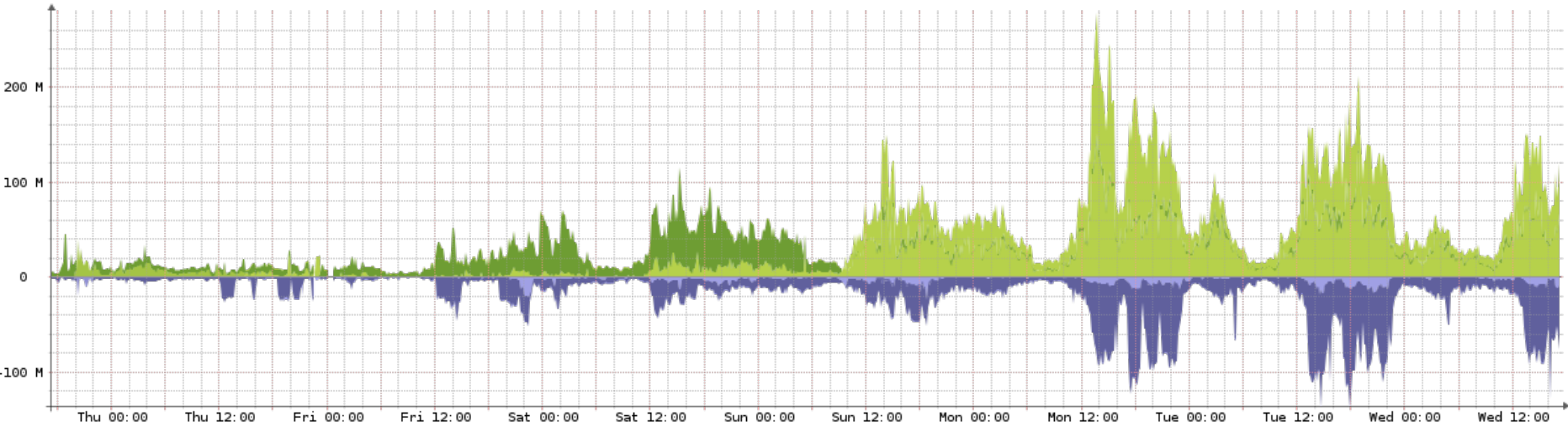
IETF 95: Buenos Aires

NOC Report

Network Basics

- 2 x 1 Gb/s links from Level 3 and 1 x 1Gb/s link from IPLAN.
- Native Public IPv4 and IPv6 from our own AS.
- Fully redundant routing and switching core.
- Sixty-three 802.11ac Access Points deployed controlled by a Cisco Wireless LAN Controller 5508.
- IETF network extended to the hotel guest rooms via wired drops in the rooms and the “ietf hotel” SSID

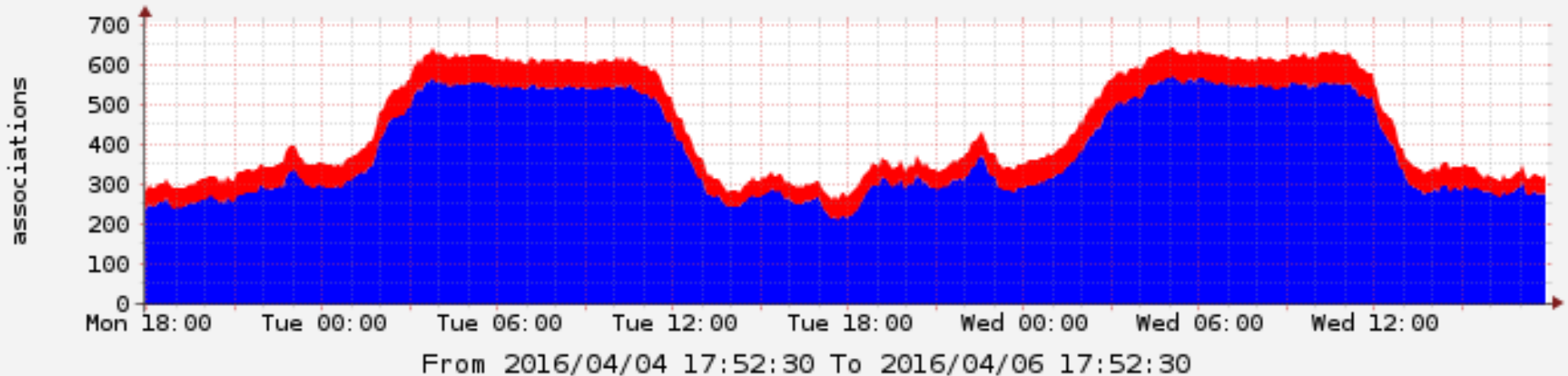
Traffic



bps		Current	Average	Maximum	Total
rtra	<	63.01Mb	21.26Mb	147.34Mb	12.68TB
ge-1/1/1	>	8.16Mb	2.36Mb	21.77Mb	1.41TB
rtrb	<	0.00 b	877.90kb	40.10Mb	523.58GB
ge-1/1/1	>	0.00 b	89.71kb	19.16Mb	53.50GB
rtrscoutb.meeting.	<	84.42 b	137.30 b	2.39kb	80.16MB
eth7	>	51.73 b	30.92 b	1.92kb	18.05MB
rtrscouta.meeting.	<	4.42Mb	1.39Mb	14.13Mb	812.97GB
eth7	>	83.31kb	160.71kb	7.77Mb	93.83GB
rtra	<	12.15kb	9.45Mb	99.25Mb	5.64TB
ge-1/1/0	>	67.88Mb	18.96Mb	125.92Mb	11.31TB
rtrscoutb.meeting.	<	0.00 b	0.00 b	0.00 b	0.00 B
eth6	>	0.00 b	0.00 b	0.00 b	0.00 B
rtrscouta.meeting.	<	0.00 b	0.00 b	0.00 b	0.00 B
eth6	>	0.00 b	0.00 b	0.00 b	0.00 B
rtrb	<	0.00 b	0.00 b	0.00 b	0.00 B
ge-1/1/0	>	0.00 b	0.00 b	0.00 b	0.00 B
rtra	<	0.00 b	0.00 b	0.00 b	0.00 B
ge-1/1/2	>	0.00 b	0.00 b	0.00 b	0.00 B
rtrscoutb.meeting.	<	0.00 b	0.00 b	0.00 b	0.00 B
eth5	>	0.00 b	0.00 b	0.00 b	0.00 B
rtrscouta.meeting.	<	0.00 b	0.00 b	0.00 b	0.00 B
eth5	>	0.00 b	0.00 b	0.00 b	0.00 B
rtrb	<	51.80Mb	15.38Mb	136.02Mb	9.17TB
ge-1/1/2	>	4.45kb	23.36kb	9.58Mb	13.93GB
Aggregate Totals\					
3.60TB	<	0.00 b	47.62Mb	277.57Mb\	
1.61TB	>	0.00 b	21.27Mb	136.12Mb\	

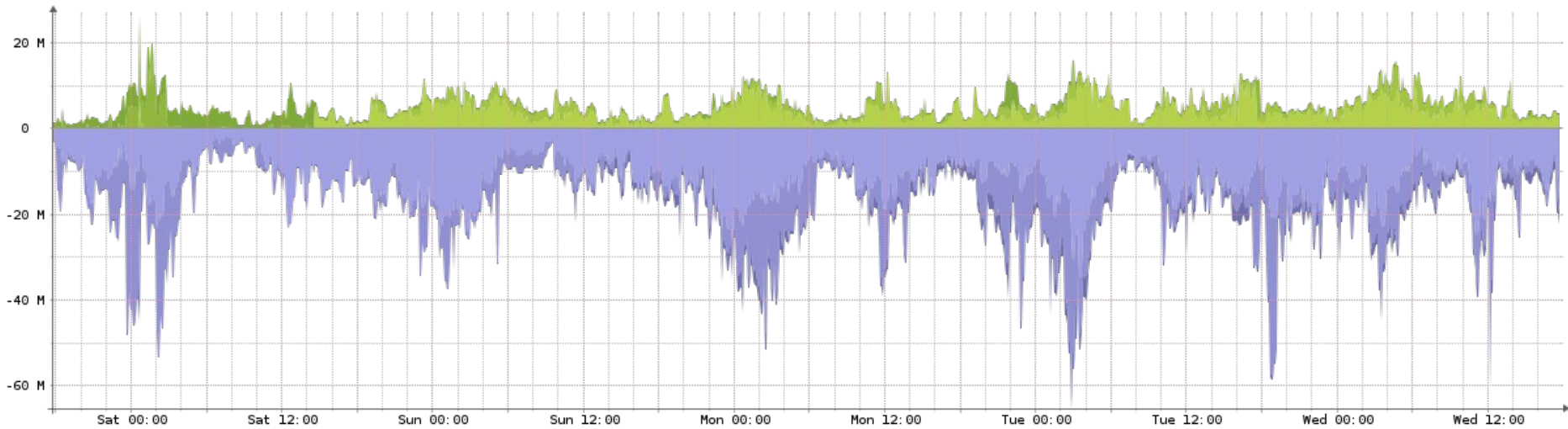
Guestroom MAC addresses

Aggregate Hotel Wired/Wireless Learned MAC Addresses



802.11 MAC Addresses:	Current: 280	Average: 393	Maximum: 570
Wired MAC Addresses:	Current: 43	Average: 57	Maximum: 78
Total MAC Addresses:	Current: 323	Average: 451	Maximum: 640

Aggregate Hotel Traffic

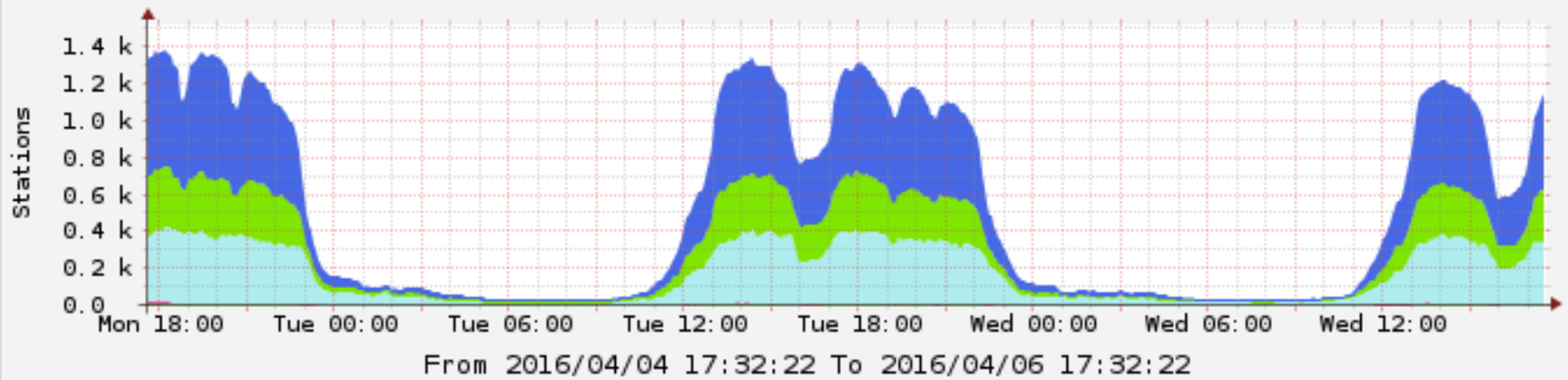


bps		Current	Average	Maximum
■	rtrscoutb	< 2.77Mb	3.24Mb	12.22Mb
■	eth0.2136	> 16.61Mb	11.55Mb	35.11Mb
■	rtrscouta	< 464.13kb	1.13Mb	8.76Mb
■	eth0.2144	> 2.71Mb	6.01Mb	41.08Mb
■	rtrscouta	< 9.94kb	326.46kb	16.57Mb
■	eth0.2144	> 264.09kb	187.74kb	23.48Mb
■	rtrscouta	< 264.86kb	737.42kb	10.36Mb
■	eth0.2136	> 2.68Mb	1.01Mb	9.66Mb

\ Aggregate Totals \				
293.46GB	<	0.00 b	5.43Mb	26.42Mb \
1.01TB	>	0.00 b	18.72Mb	65.36Mb \

Wireless Associations

WLC Protocol Counts



a (5GHz) Stations	Current: 6	Average: 2	Maximum: 9
b (2.4Ghz) Stations	Current: 0	Average: 0	Maximum: 2
g Stations	Current: 5	Average: 2	Maximum: 8
n (2.4GHz) Stations	Current: 336	Average: 167	Maximum: 413
n (5Ghz) Stations	Current: 282	Average: 118	Maximum: 339
ac Stations	Current: 509	Average: 228	Maximum: 674
Total Stations:	Current: 1137	Average: 518	Maximum: 1379

What's New

- We've moved to 100% controller-based access points (lightweight mode).
- User experience testing using Netbeez throughout the meeting space.
- We're now using a number of automation tools to provision devices and manage name/address space.

Network Team

IETF NOC Team Volunteers:

- Hirochika Asai (WIDE)
- Randy Bush (IJJ)
- Joe Clarke (Cisco)
- Colin Doyle (Right! Systems, Inc.)
- Bill Fenner (Arista)
- Joel Jaeggli (Fastly)
- Bill Jensen (University of Wisconsin - Madison)
- Hans Kuhn (NSRC)
- Warren Kumari (Google)
- Lucy Lynch (NSRC)
- Jim Martin (Internet Systems Consortium)
- Christian O'Flaherty (ISOC)
- Karen O'Donoghue (ISOC)
- Clemens Schrimpe

Verilan:

- Sean Croghan
- James Dishongh
- Nick Kukich
- Edward McNair
- Con Reilly

Thank You

- **IPLAN & Level 3**
 - Connectivity
- **Cisco**
 - Gear contribution
- **Juniper**
 - Gear contribution
- **A10 Networks**
 - Gear contribution
- **Netbeez**
 - Gear contribution
- **OSC Radiator**
 - Licensing
- **Ubiquiti Networks**
 - Gear contribution



And our friends here at the Hilton Buenos Aires

We'd like to bid a fond farewell to our dear co-worker, Chris Elliott (chelliot). He was a friend, a mentor, a co-conspirator. His contributions to the IETF community are immeasurable. He will be deeply missed.

