

Monitoring at CCC NOC

How the Internetmanufaktur uses prometheus

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GitHub, Inc.



fjaeckel



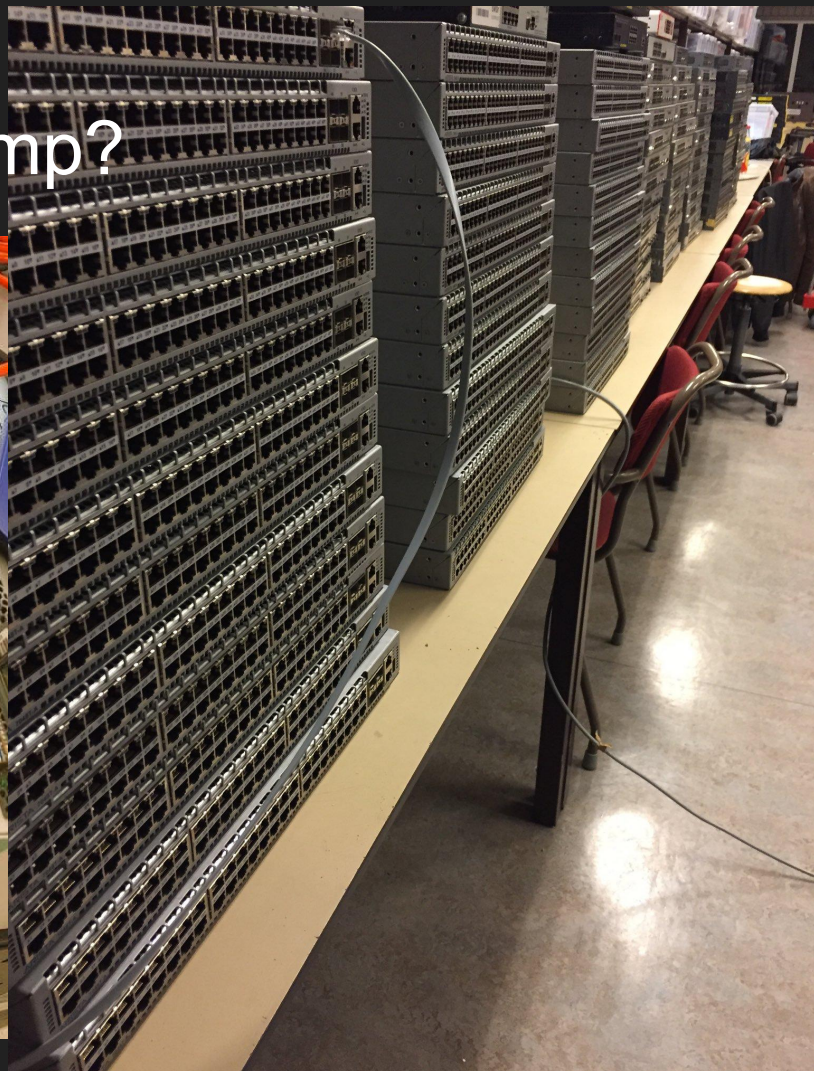
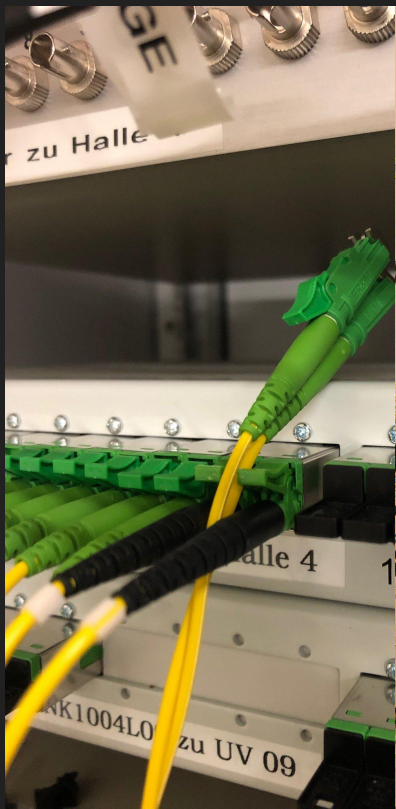
@jaycieh



Whats the CCC Congress/Camp?

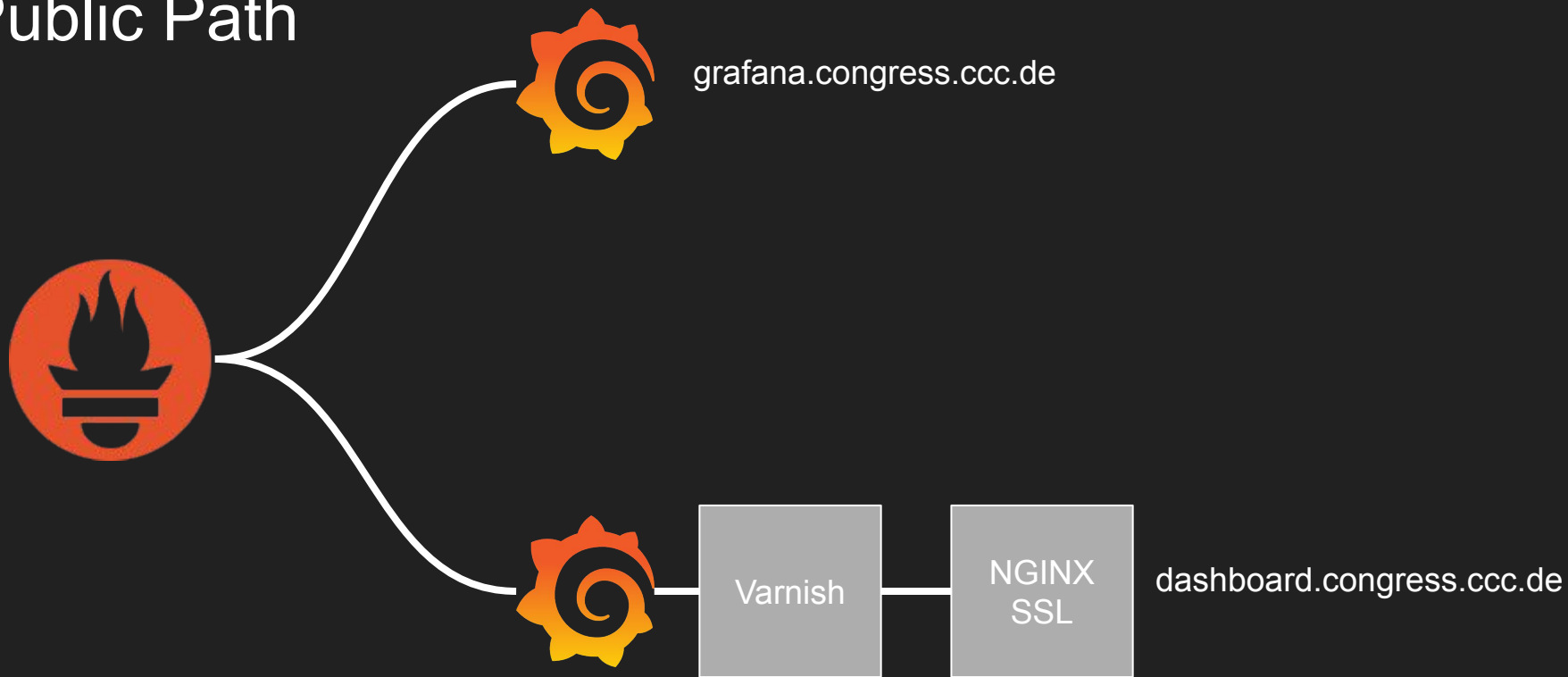
- Non-profit organisation of computer hackers/nerds/professionals
- Event that runs for 4-6 days
- Congress usually between Christmas and NYE
- Camp every 4 years, but some other camps every year
- Event run only by volunteers
- Congress ~17.000 attendees, Camp ~5.000 attendees
- >400 switches and APs, many routers, multiple hundred Gigabit/s capacity

Whats the CCC Congress/Camp?

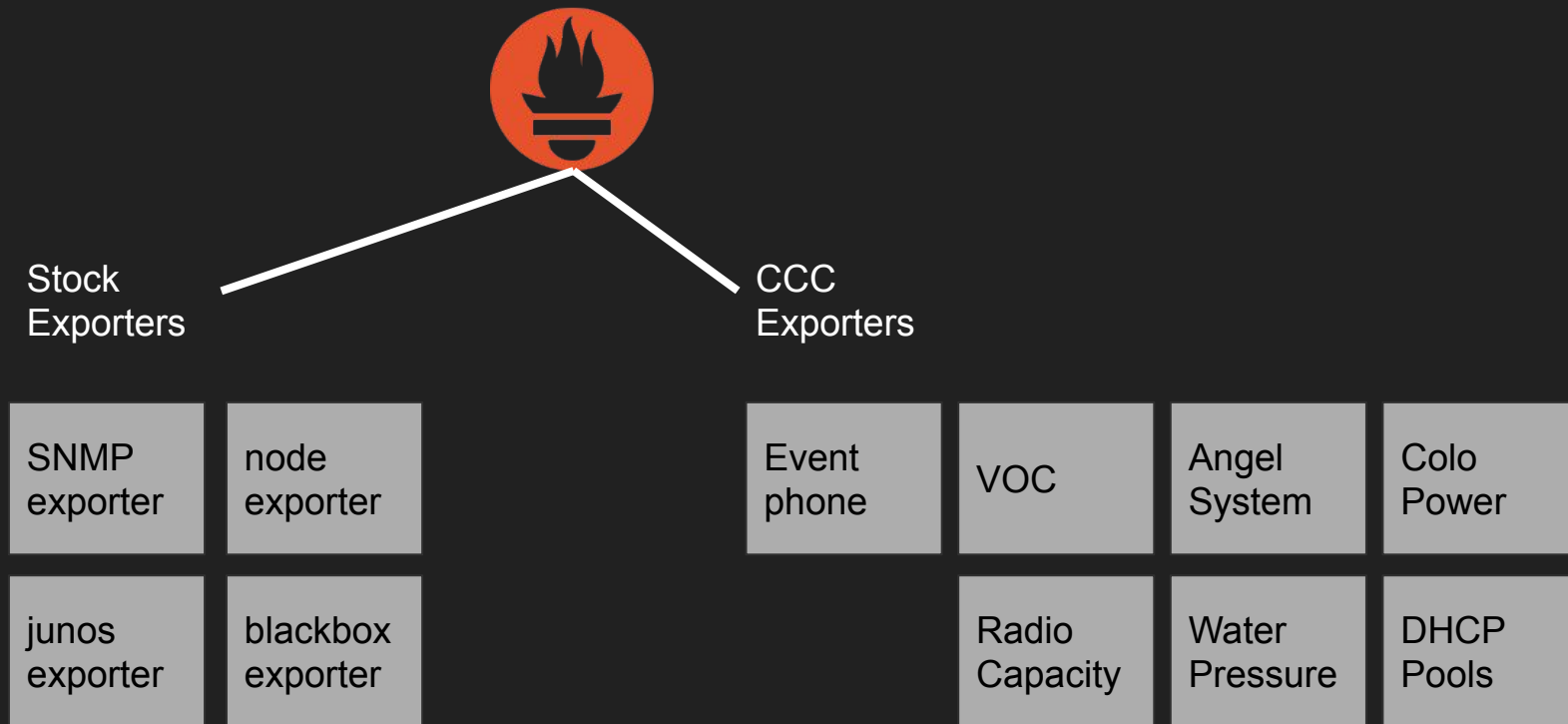


Infrastructure Layout

Public Path



Internal structure










































































Service Discovery

NETBOX

and chill

Netbox

Interfaces							<input checked="" type="checkbox"/> Show IPs
<input type="checkbox"/> Name	LAG	Description	MTU	Mode	Cable	Connection	
<input type="checkbox"/> Ma1/1	—	—	—	—	—	Virtual interface	  
<input type="checkbox"/> Ethernet3/1	—	—	—	—	#37 	JL001 xe-0/1/1	  
<input type="checkbox"/> Ethernet3/2	—	—	—	—	#40 	JL012 xe-0/1/1	  
<input type="checkbox"/> Ethernet3/3	—	—	—	—	#45 	SW036 Ethernet52	  
<input type="checkbox"/> Ethernet3/4	—	—	—	—	#46 	SW037 Ethernet51	  
<input type="checkbox"/> Ethernet3/5	—	—	—	—	#48 	SW040 Ethernet51	  
<input type="checkbox"/> Ethernet3/6	—	—	—	—	#52 	SW044 Ethernet51	  
<input type="checkbox"/> Ethernet3/7	—	—	—	—	#56 	SW050 Ethernet51	  
<input type="checkbox"/> Ethernet3/8	—	—	—	—	#61 	SW055 Ethernet51	  
<input type="checkbox"/> Ethernet3/9	—	—	—	—	#95 	JL000 xe-0/1/1	  
<input type="checkbox"/> Ethernet3/10	—	—	—	—	#65 	SW060 Ethernet51	  
<input type="checkbox"/> Ethernet3/11	—	—	—	—	#68 	SW063 Ethernet51	  
<input type="checkbox"/> Ethernet3/12	—	—	—	—	#72 	SW067 Ethernet52	  
<input type="checkbox"/> Ethernet3/13	—	—	—	—	#75 	SW190 xe-0/1/3	  
<input type="checkbox"/> Ethernet3/14	—	—	—	—	#86 	SW193 xe-0/1/3	  
<input type="checkbox"/> Ethernet3/15	—	—	—	—	#133 	SW268 Ethernet51	  
<input type="checkbox"/> Ethernet3/16	—	—	—	—	#108 	SW045 Ethernet52	  
<input type="checkbox"/> Ethernet3/17	—	—	—	—	#145 	JL017 xe-0/1/1	  

<input type="checkbox"/> AP353	Active	—	Camp2019	Q13	Access Point	Aruba AP-205-FIBOX
<input type="checkbox"/> AP354	Active	—	Camp2019	W13	Access Point	Aruba AP-205-FIBOX
<input type="checkbox"/> AP355	Active	—	Camp2019	M11-Building-Wall-Corner	Access Point	Aruba AP-205-FIBOX
<input type="checkbox"/> AP356	Active	—	Camp2019	U13	Access Point	Aruba AP-205-FIBOX
<input type="checkbox"/> AP357	Active	—	Camp2019	X13	Access Point	Aruba AP-205-FIBOX
<input type="checkbox"/> AP358	Active	—	Camp2019	Z15	Access Point	Aruba AP-205-FIBOX
<input type="checkbox"/> AP359	Active	—	Camp2019	L10	Access Point	Aruba AP-205-FIBOX
<input type="checkbox"/> AP360	Active	—	Camp2019	N12	Access Point	Aruba AP-205-FIBOX
<input type="checkbox"/> AP361	Active	—	Camp2019	P12	Access Point	Aruba AP-205-FIBOX
<input type="checkbox"/> AP362	Active	—	Camp2019	Q14	Access Point	Aruba AP-205-FIBOX

JL000	Inventory	—	Camp2019	Q15	Access Switch	Juniper EX4200-48P-2XFP
JL001	Inventory	—	Camp2019	Q12	Access Switch	Juniper EX4200-48P-2XFP
JL002	Inventory	—	Camp2019	T15	Access Switch	Juniper EX4200-48P-2XFP
JL003	Inventory	—	Camp2019	O13	Access Switch	Juniper EX4200-48P-2XFP
JL004	Inventory	—	Camp2019	P10	Access Switch	Juniper EX4200-48P-2XFP
JL005	Staged	—	Camp2019	—	Access Switch	Juniper EX4200-48P-2XFP
JL006	Inventory	—	Camp2019	L15	Access Switch	Juniper EX4200-48P-2XFP
JL007	Inventory	—	Camp2019	V10	Access Switch	Juniper EX4200-48P-2XFP
JL008	Inventory	—	Camp2019	P08	Access Switch	Juniper EX4200-48P-2XFP
JL009	Staged	—	Camp2019	—	Access Switch	Juniper EX4200-48P-2XFP
JL011	Inventory	—	Camp2019	R08	Access Switch	Juniper EX4200-48P-2XFP
JL012	Inventory	—	Camp2019	T10	Access Switch	Juniper EX4200-48P-2XFP
JL013	Inventory	—	Camp2019	L14	Access Switch	Juniper EX4200-48P-2XFP
JL014	Inventory	—	Camp2019	M09	Access Switch	Juniper EX4200-48P-2XFP
JL015	Active	—	Camp2019	W12	Access Switch	Juniper EX4200-48P-2XFP
JL016	Inventory	—	Camp2019	T11	Access Switch	Juniper EX4200-48P-2XFP
JL017	Inventory	—	Camp2019	P11	Access Switch	Juniper EX4200-48P-2XFP
JL018	Inventory	—	Camp2019	L11	Access Switch	Juniper EX4200-48P-2XFP
JL019	Inventory	—	Camp2019	W13	Access Switch	Juniper EX4200-48P-2XFP
JL020	Inventory	—	Camp2019	N06	Access Switch	Juniper EX4200-48P-2XFP
JL021	Inventory	—	Camp2019	P07	Access Switch	Juniper EX4200-48P-2XFP
JL022	Inventory	—	Camp2019	O06	Access Switch	Juniper EX4200-48P-2XFP
JL023	Inventory	—	Camp2019	O10	Access Switch	Juniper EX4200-48P-2XFP
JL024	Inventory	—	Camp2019	—	Access Switch	Juniper EX4200-48P-2XFP
JL025	Inventory	—	Camp2019	—	Access Switch	Juniper EX4200-48P-2XFP
JL026	Inventory	—	Camp2019	—	Access Switch	Juniper EX4200-48P-2XFP

Dashboards and Graphs

Day

1

Days since last rodent incident

1468

Traffic Percent Ingress

11.58%



Traffic Percent Egress

13.37%



16:21:27

Outside Temperature

24

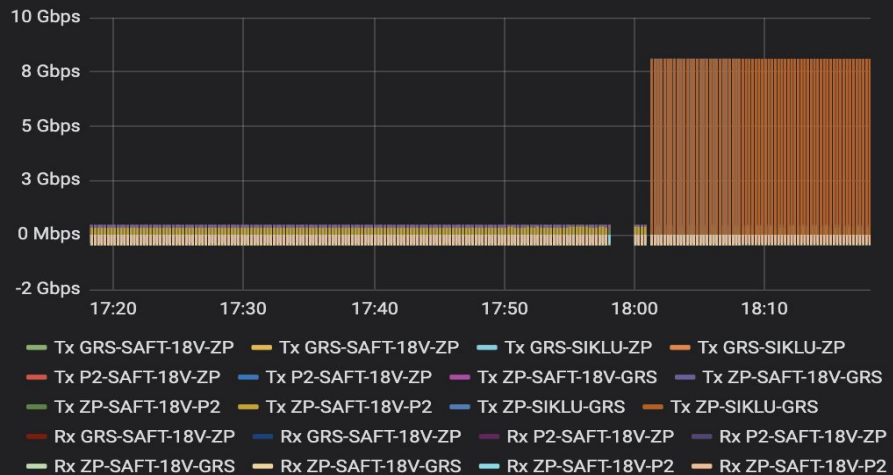


Outside Humidity

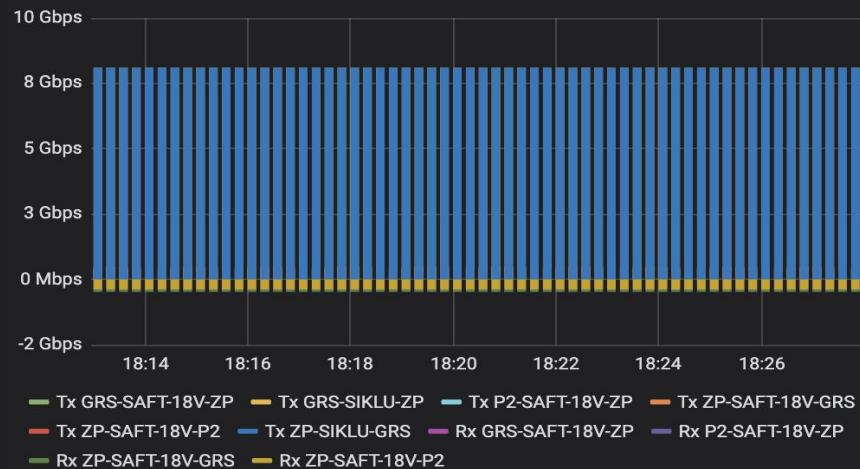
35%



Radio Capacity



Radio Capacity



Routers Up ▾

Count Distri Switches Up

Access Switches Up

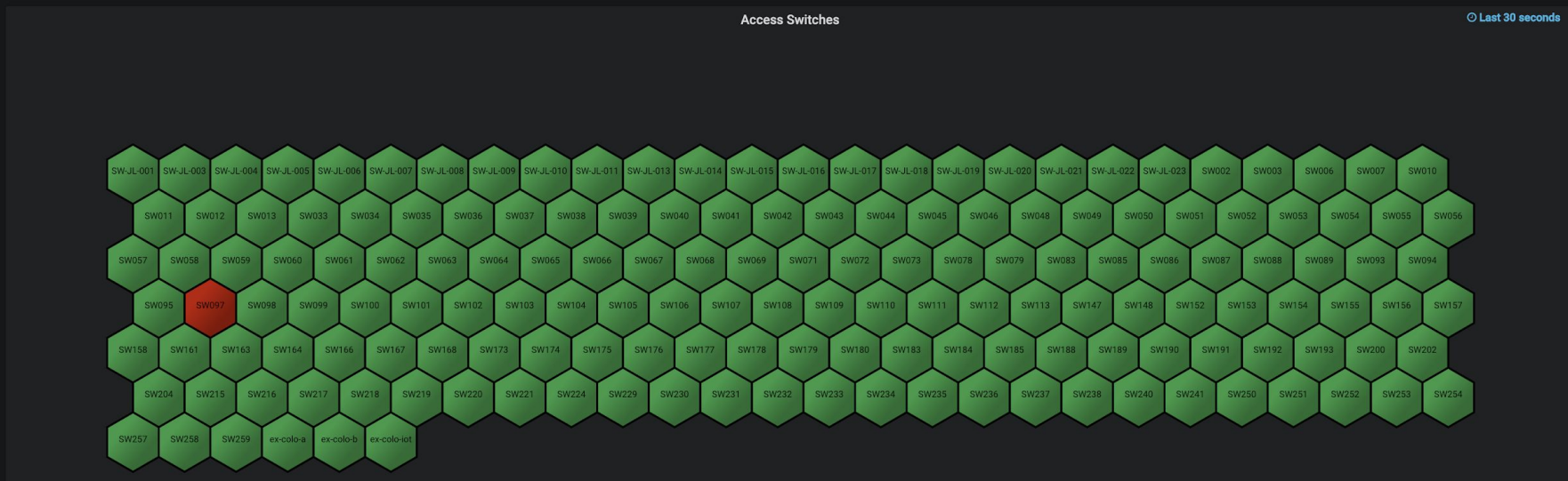
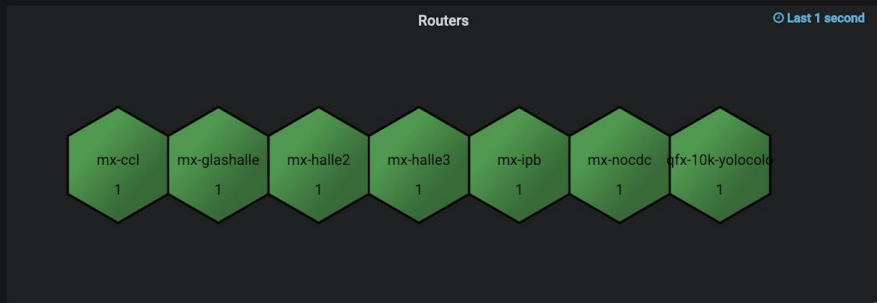
Access Switches Down

9

22

162

1





Top 5GHz Radios by Station Count

AP	Client Count ▾
AP070	198
PY-AP215-075	173
AP209	153
AP196	143
PY-AP215-041	131
AP298	125
PY-AP215-059	123
AP312	120
PY-AP215-064	117
PY-AP215-121	103

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Top 5GHz Radios by Channel Utilisation

AP	Current	Avg ▾
PY-AP215-152	30%	86%
PY-AP215-063	86%	86%
PY-AP215-186	92%	84%
PY-AP215-072	76%	81%
PY-AP215-060	41%	81%
AP284	81%	78%
PY-AP215-042	75%	78%
AP312	75%	76%
PY-AP215-043	73%	75%
PY-AP215-064	65%	75%

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Top 2.4GHz Radios by Station Count

AP	Client Count ▾
PY-AP215-075	43
PY-AP215-097	30
PY-AP215-121	19
PY-AP215-082	19
PY-AP215-217	18
AP196	16
PY-AP215-212	16
PY-AP215-091	16
PY-AP215-141	15
AP324	15

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Top 2.4GHz Radios by Channel Utilisation

AP	Current	Avg ▾
PY-AP277-011	80%	87%
PY-AP215-047	89%	76%
PY-AP215-057	90%	75%
AP249	80%	73%
AP298	85%	73%
PY-AP215-143	59%	69%
PY-AP215-049	72%	67%
PY-AP215-056	57%	67%
PY-AP215-144	92%	67%
PY-AP215-176	62%	65%

1

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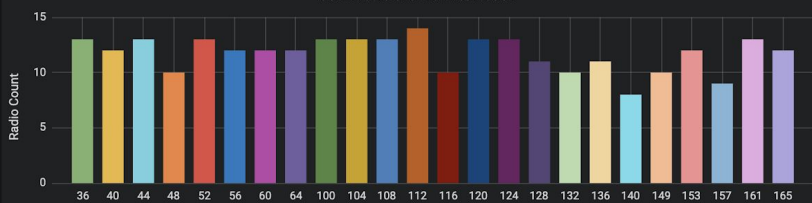
6

7

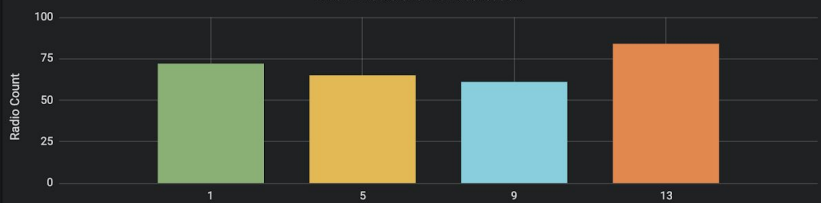
8

9

5GHz Radio Channel Distribution



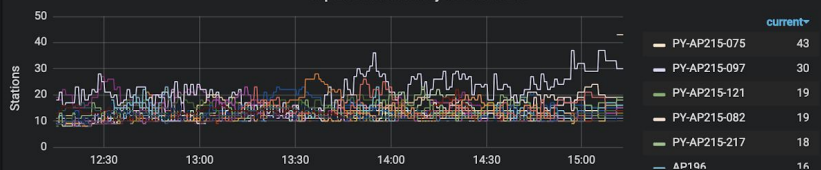
2.4GHz Radio Channel Distribution



Top 5GHz Radios by Station Count



Top 2.4GHz Radios by Station Count



5GHz Radios with High Channel Utilisation



2.4GHz Radios with High Channel Utilisation



▼ Total Transit

Total Download

5.91 Gbps

A line chart showing the total download traffic over time. The traffic starts at a low level, then rises to a peak of approximately 5.91 Gbps, and then fluctuates at that level.

Total Upload

12.79 Gbps

A line chart showing the total upload traffic over time. The traffic starts at a low level, then rises to a peak of approximately 12.79 Gbps, and then fluctuates at that level.

▼ Transit IN

Transit: CoreBeerBone IN

1.088 Gbps

A line chart showing the traffic for CoreBeerBone IN over time. The traffic starts at a low level, then rises to a peak of approximately 1.088 Gbps, and then fluctuates at that level.

Transit: DTAG IN

270 Mbps

A line chart showing the traffic for DTAG IN over time. The traffic starts at a low level, then rises to a peak of approximately 270 Mbps, and then fluctuates at that level.

Transit: GTT IN

545 Mbps

A line chart showing the traffic for GTT IN over time. The traffic starts at a low level, then rises to a peak of approximately 545 Mbps, and then fluctuates at that level.

Transit: Peering: BCIX IN

1.078 Gbps

A line chart showing the traffic for Peering: BCIX IN over time. The traffic starts at a low level, then rises to a peak of approximately 1.078 Gbps, and then fluctuates at that level.

Transit: RETN IN

2.099 Gbps

A line chart showing the traffic for RETN IN over time. The traffic starts at a low level, then rises to a peak of approximately 2.099 Gbps, and then fluctuates at that level.

Transit: SysEleven IN

826 Mbps

A line chart showing the traffic for SysEleven IN over time. The traffic starts at a low level, then rises to a peak of approximately 826 Mbps, and then fluctuates at that level.

▼ Transit OUT

Transit: CoreBeerBone OUT

370 Mbps

A line chart showing the traffic for CoreBeerBone OUT over time. The traffic starts at a low level, then rises to a peak of approximately 370 Mbps, and then fluctuates at that level.

Transit: DTAG OUT

3.81 Gbps

A line chart showing the traffic for DTAG OUT over time. The traffic starts at a low level, then rises to a peak of approximately 3.81 Gbps, and then fluctuates at that level.

Transit: GTT OUT

742 Mbps

A line chart showing the traffic for GTT OUT over time. The traffic starts at a low level, then rises to a peak of approximately 742 Mbps, and then fluctuates at that level.

Transit: Peering: BCIX OUT

2.166 Gbps

A line chart showing the traffic for Peering: BCIX OUT over time. The traffic starts at a low level, then rises to a peak of approximately 2.166 Gbps, and then fluctuates at that level.

Transit: RETN OUT

4.45 Gbps

A line chart showing the traffic for RETN OUT over time. The traffic starts at a low level, then rises to a peak of approximately 4.45 Gbps, and then fluctuates at that level.

Transit: SysEleven OUT

1.250 Gbps

A line chart showing the traffic for SysEleven OUT over time. The traffic starts at a low level, then rises to a peak of approximately 1.250 Gbps, and then fluctuates at that level.

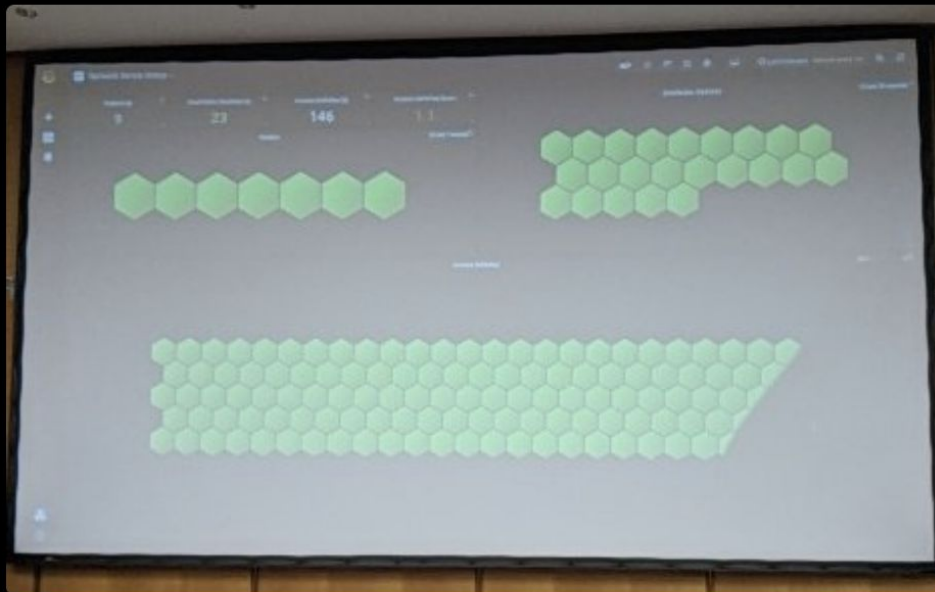


danrl

@danrl_com



A rare moment 8n @c3noc: All access switches are green! 👍



♡ 119 9:17 PM - Dec 25, 2018 · Leipzig, Germany



💬 23 people are talking about this





Jared Naude

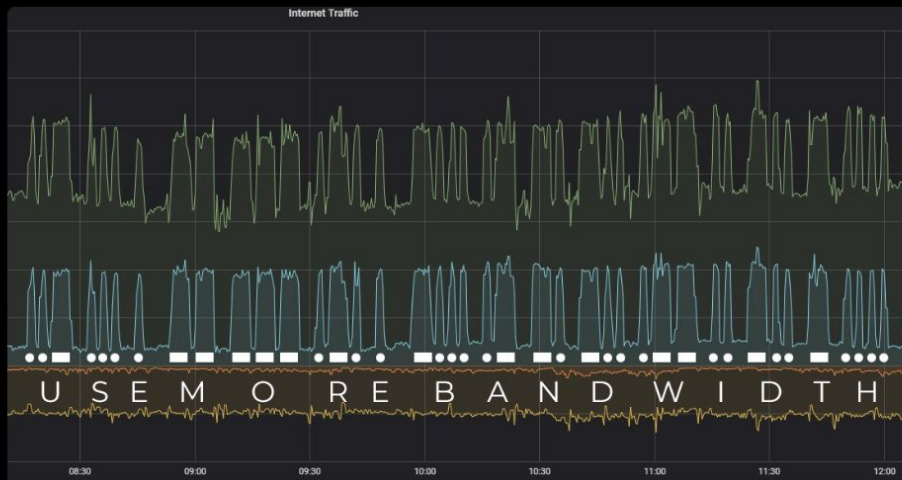
@JaredNaude



Someone sent a message using IPv6 packets constructing a message using morse code that is visible from the monitoring system:

"Use more bandwidth"

Really cool! 😊 #35c3 @c3noc



♡ 744 11:29 AM - Dec 30, 2018



💬 335 people are talking about this



Thanks for listening!