Monitoring the world's largest digital festival

DREAMHACK

0

What's DreamHack?

A quick introduction

Photo: Gabriel Kulig

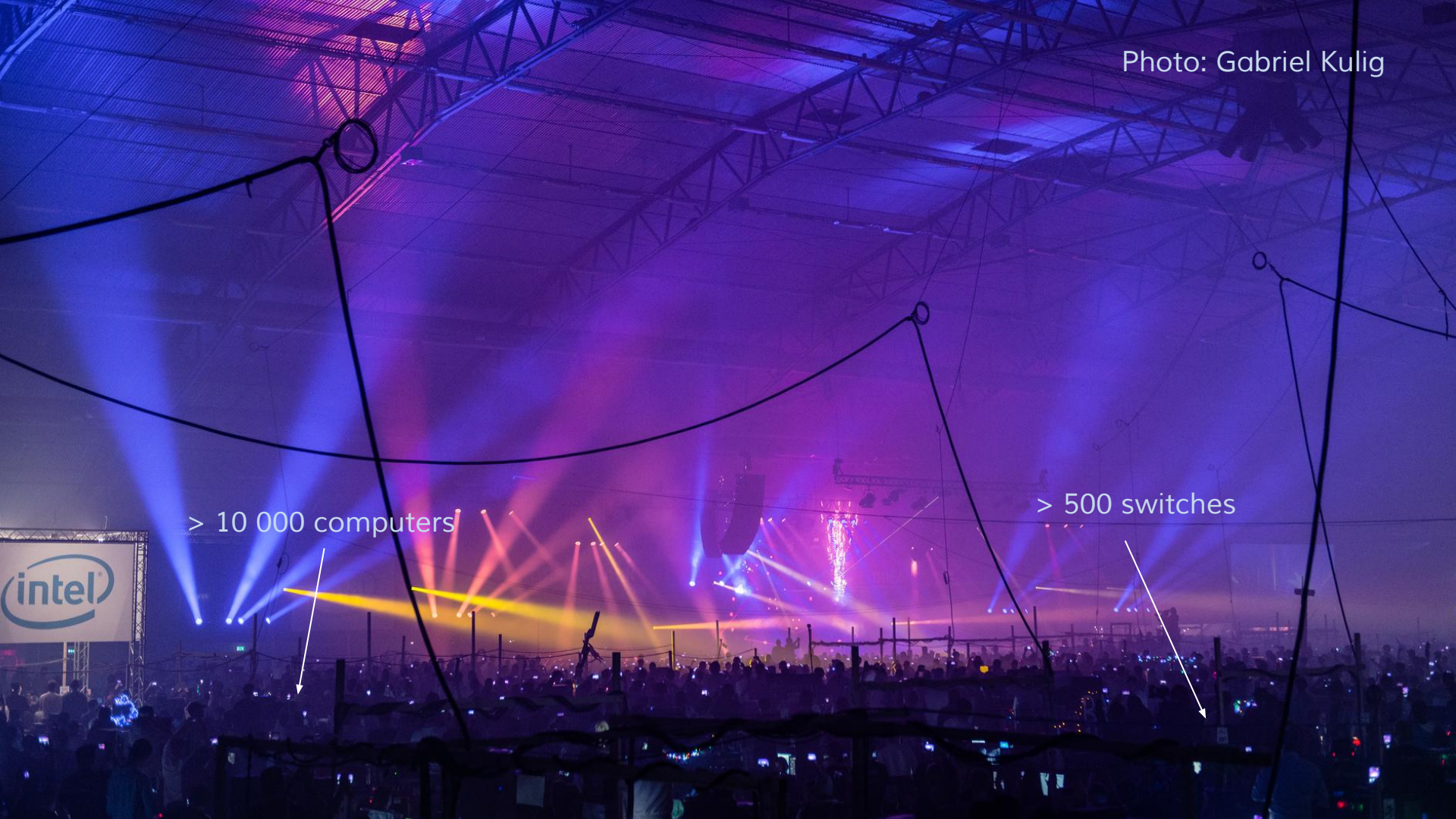


Photo: Gabriel Kulig
> 10 000 computers
> 500 switches
intel

whoami

Christian Svensson

Part of the Services team in DreamHack Tech.

You can find me at @bluecmd around the Internet.

1

Background

Where we were and where we went

The Past

- SNMPc
- Cacti
- IRCBot
- Scripts
  - A lot of scripts
    - for x in devices: if not x.ping(): ...

dhmon

- Short for DreamHack Monitoring
- Born out of "Because we can do better"

Objectives

- Provide a platform to monitor all infrastructure DreamHack Tech uses.
- Provide a platform to configure SLA and escalation.

dhmon DHS14

- Sensu
- Graphite
- RTG
- Cassandra

dhmon DHW14

- InfluxDB
- Memcache
- Redis
- snmpcollector

dhmon DHS15

- Prometheus
- Memcache
- snmpcollector

dhmon DHW15

- Prometheus
- snmpcollector
- A handful of other collectors

2

Today*

Where we were during DreamHack Summer 2016

dhmon DHS16

- Prometheus
- Alertmanager
- A lot of collectors

553 891

metrics

>15 000

users

3

Unforeseen Consequences

Challenges we didn't anticipate

Technical Learnings

- Clustering is hard
  - First Law of Distributed Object Design: "don't distribute your objects"
- Sharding is (usually) easy
- Do not trust something just because Hacker News says it is awesome
- Keep It Simple, Stupid applies now more than ever

Soft Learnings

- Change is hard
  - People are hard to train
  - "Where do I find the error rate graph?"
  - "I'd rather not learn a query language right now, just give me the graph"
- Seed: Monitoring owners will need to create dashboards for people to mimic
- Grow: If people are incentivized to learn the query language amazing stuff happens

4 Future

Open problems and ideas we want to explore

Untapped Data

- 99% of processed data today are SNMP polls
- Experimenting with NetFlow
  - High cardinality data, expensive
- No event processing currently
  - Huge amounts of syslog
  - SNMP traps
  - E-mails

Open Questions

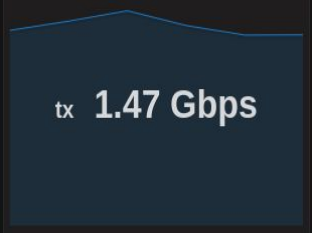
- Redundancy? 2x of everything? 2x of some things?
- Naming is hard (e.g. SNMP uses camelCase)
  - Precompute naming?
  - Is `interface_out_usage_mbps_no_high_speed` really a good name?
- What should be a label?
  - Mispredictions are painful

Open Problems

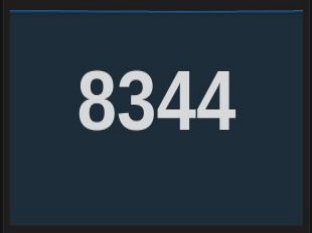
- Pre-sampled data is not really a 1st class citizen
  - (I'm being told it's WIP)
- Unit testing for alerts
- Distribution visualization
- Prom Consoles in Grafana
  - Yes yes, it's not a Prometheus issue per se etc. etc.

Total Incoming Traffic

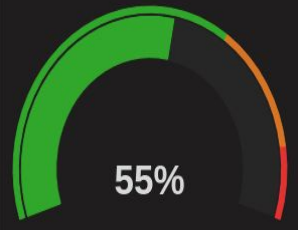
Total Outgoing Traffic



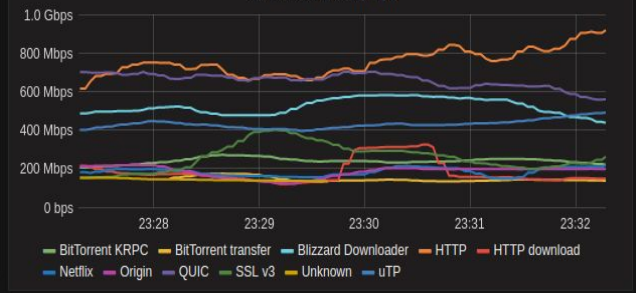
Number of DHCP Leases



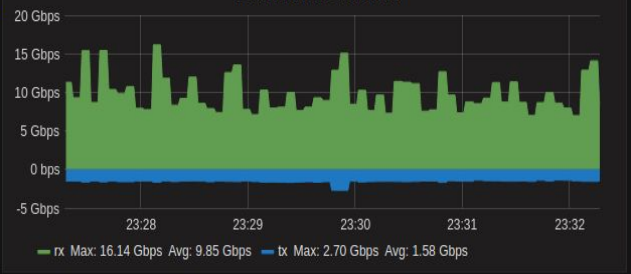
Event Progress



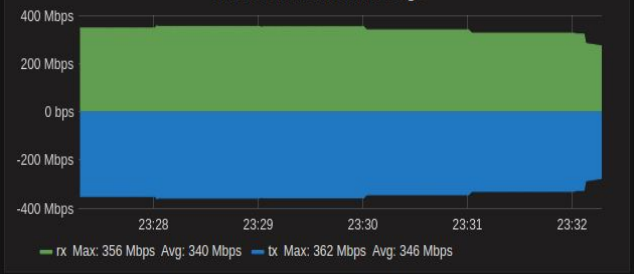
Top 10 Services by bps



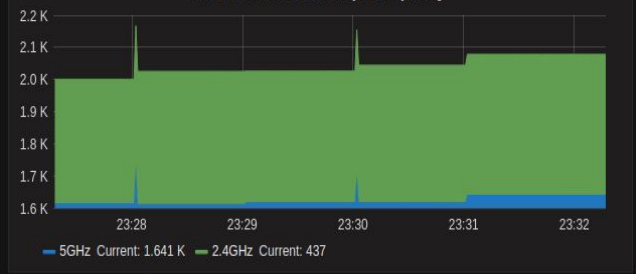
Total Network Bandwidth



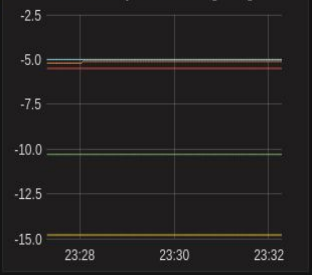
WiFi Ethernet Bandwidth Usage



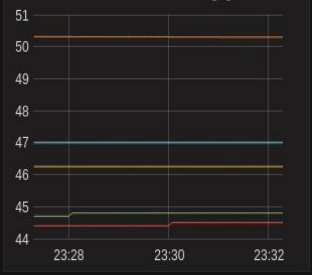
Number of WiFi clients per frequency



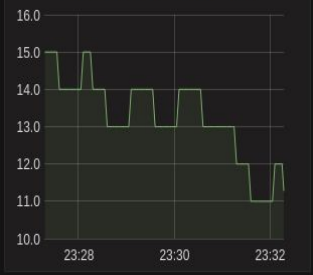
5 Worst Optical Power [dBm]



5 Hottest Switches [C]

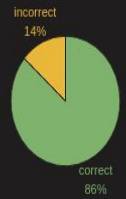


SNMP collections over 5 min



SNMP Collection Latency [s]

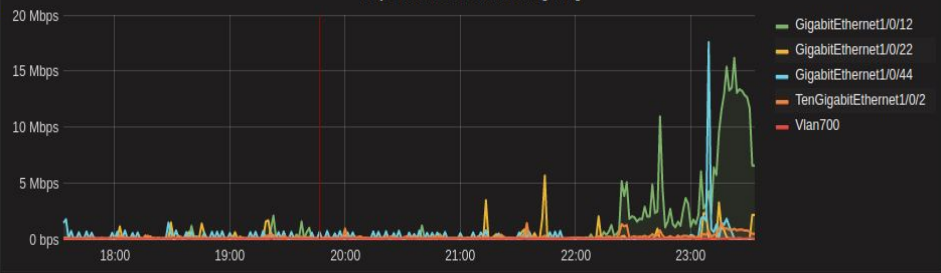
Rancid Status [#]



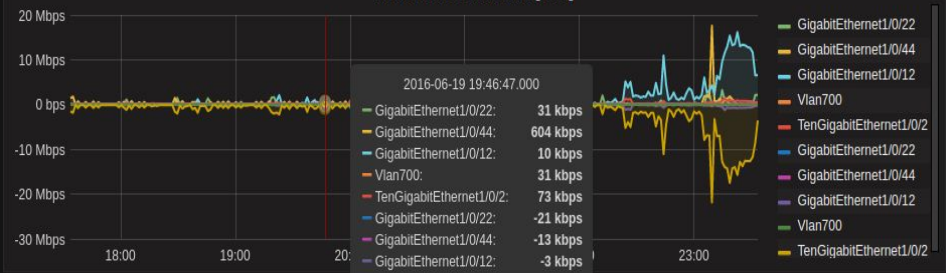
SNMP Status [#]

switch: a-lobbynorthwest-sw ▾

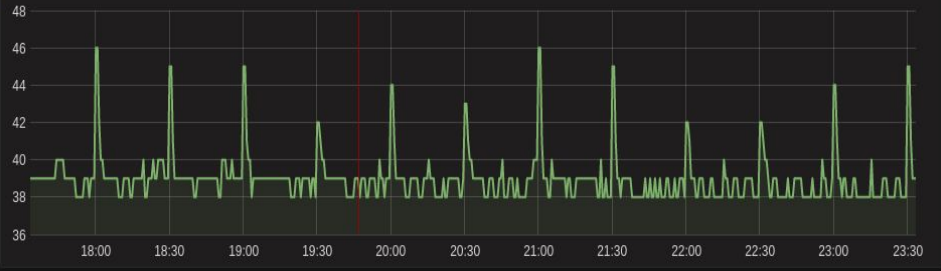
Top 5 Interface Bandwidth [bit/s]



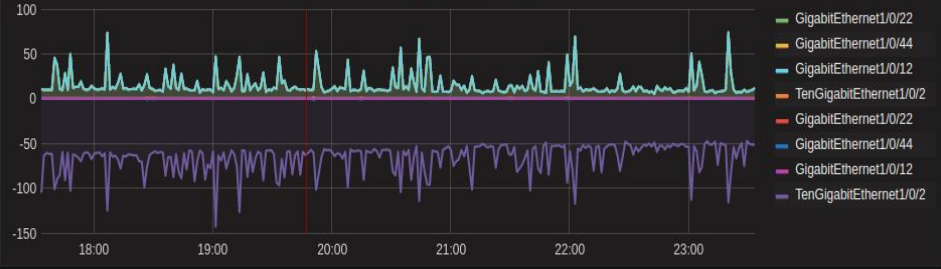
All Interface Bandwidth [bit/s]



CPU Load



Broadcast Rate 3min



Multicast rate 3min

Keep in touch

- Check out https://github.com/dhtech
- Join us! Let me know if this sounds cool, you're not afraid of carrying stuff, and want to hack on things

Thanks to

- DreamHack Tech for being an awesome team
- Prometheus Contributors for a great product and answering our endless questions
- Grafama for disguising ugly data in nice graphs
- DreamHack Coverage, iksaif and Unsplash for the photographs
- SlidesCarnival for the presentation template

Thanks!

Any questions?

You can find me at @bluecmd on almost any place on the Internet if you think of something later.