



Monitoring outside the box:

External factors in your datacenter

07.09.2013

About me.

- Name: Alf Solli, 31 years old and married with kids.
- Zabbix admin since 1.4, in three different companies
- Employed at Eltele AS and owner of Sensorfabrikken.no

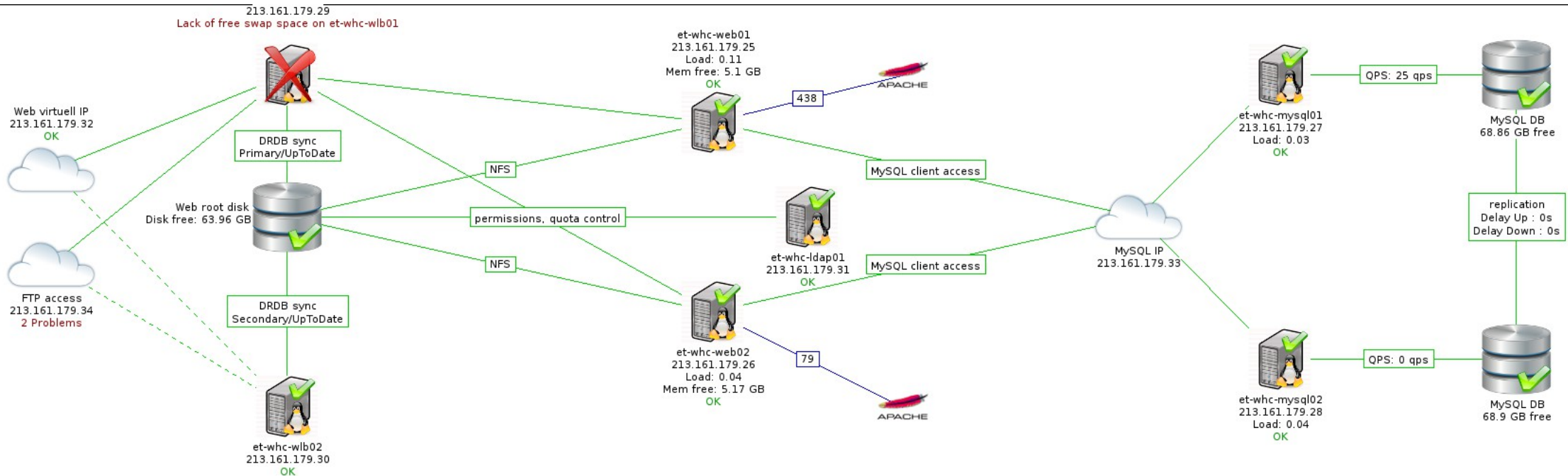
eltele



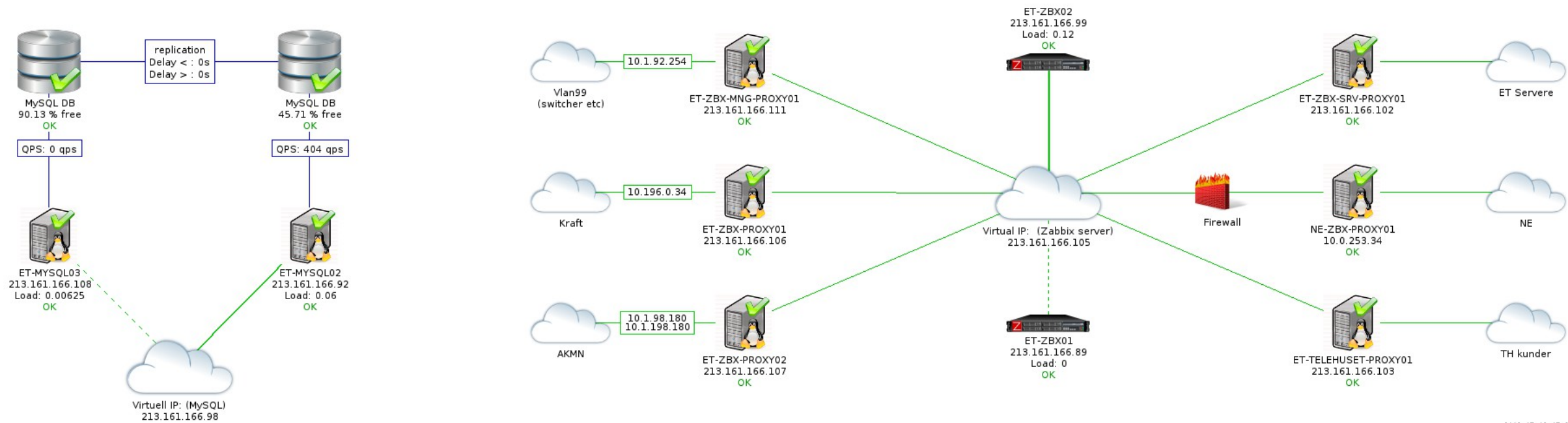
About our Zabbix installation

- ~1100 devices
 - ~87 500 Items
 - ~37 800 triggers
 - ~40 Frontend users
 - ~230 NVPS
-
- HA on MySQL, Frontend and Zabbix_server
 - 6 Proxies for large customers or restricted networks
 - 70% Cisco devices
 - 15% Servers, mostly windows based
 - 15% environmental sensors and IP cameras

Zabbix Frontend cluster



Zabbix Backend cluster



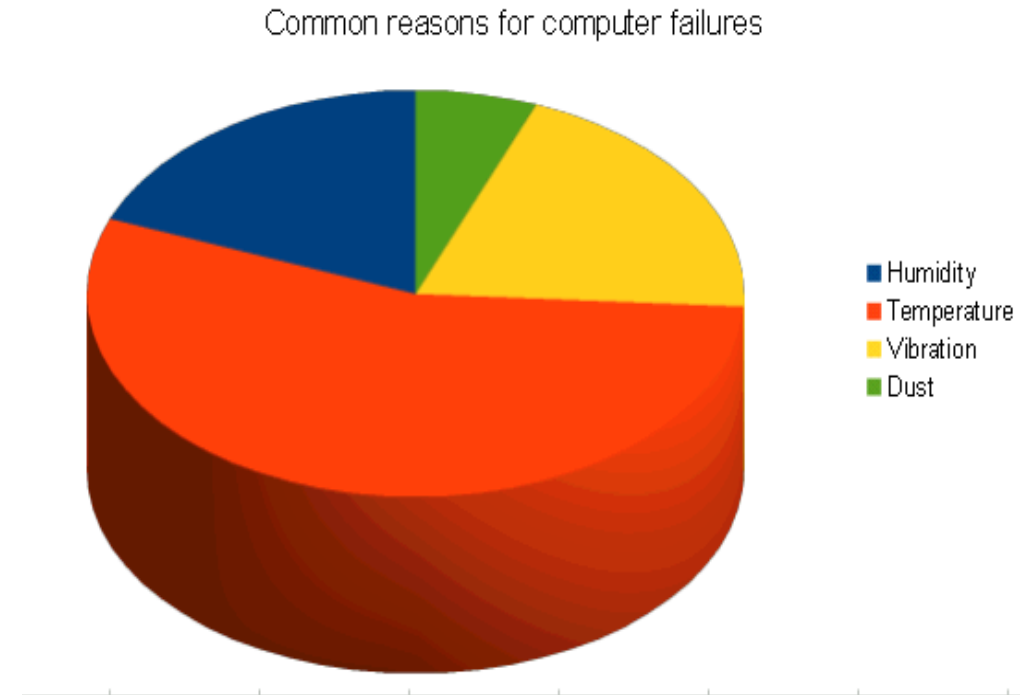
What kind of factors?

- Temperature!
- Humidity
- Light
- Contact
- Smoke/Fire
- Motion (With Infrared detector or camera)

Why?

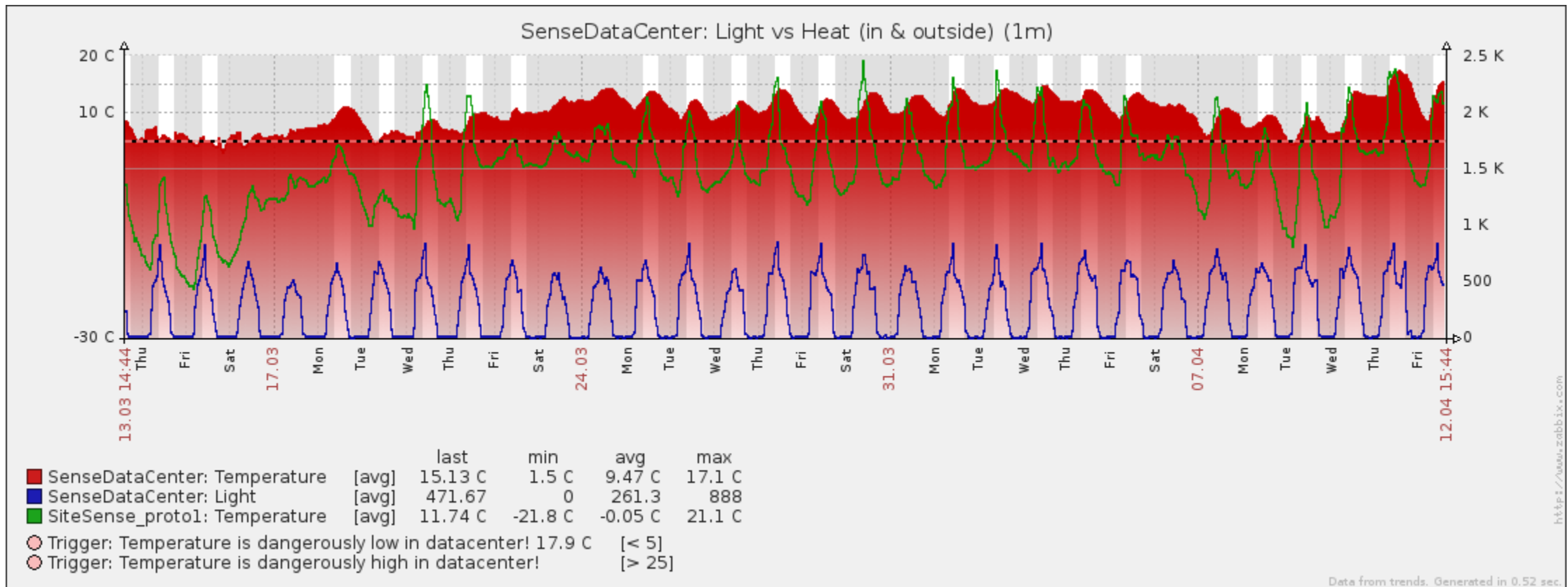
The top 4 causes of failures in electronic equipment:

- Temperature: 55%
- Vibration: 20%
- Humidity: 19%
- Dust: 6%



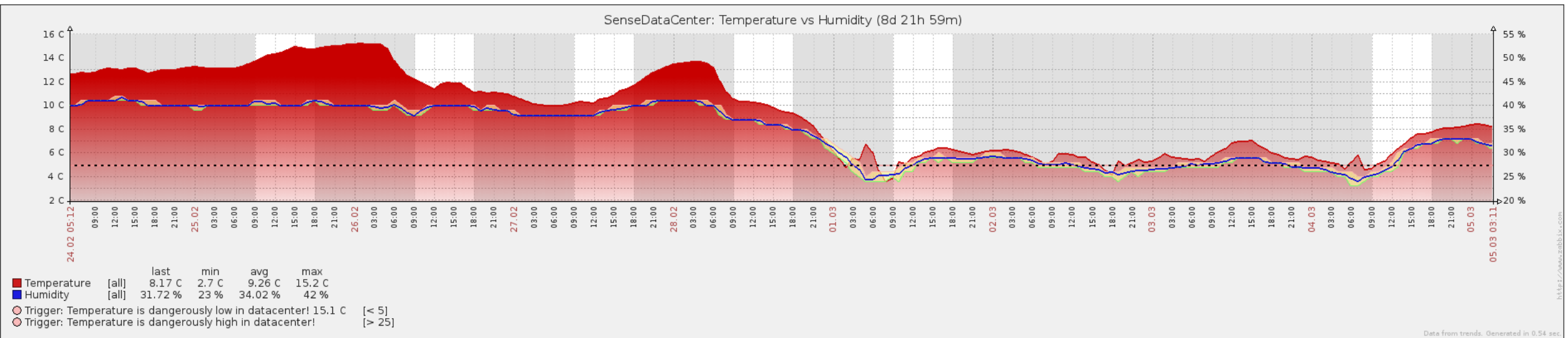
Source: mentor.com, mechanical analysis

Example 1: Temperature (related to light)



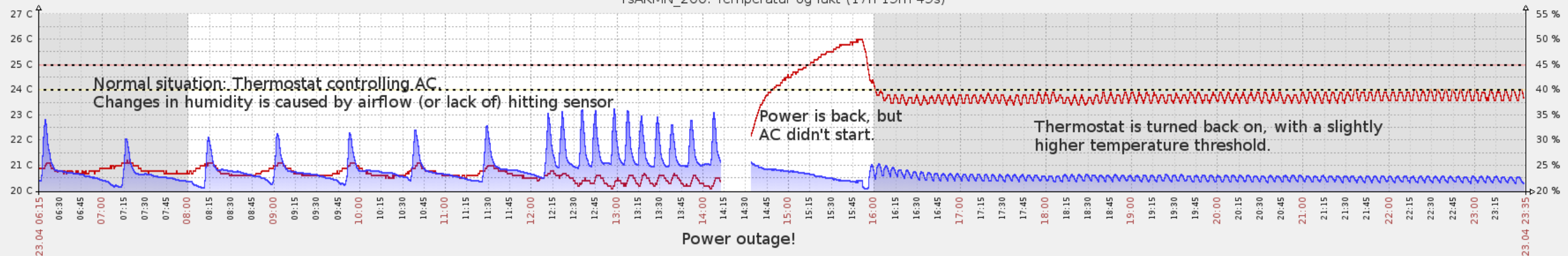
Example 2: Humidity

- How safe are these levels?



Example 3: Power outage incident

rsAKMN_200: Temperatur og fukt (17h 19m 49s)



■ Temperatur	[avg]	last	min	avg	max
■ Humidity	[avg]	23.7 C	20.1 C	22.38 C	26 C
○ Trigger: Read 0 on temp. Check sensor on rsAKMN_200		21.4 %	20.3 %	23.55 %	36.4 %
○ Trigger: Too hot (23.6 C)					
○ Trigger: rsAKMN_200: Humidity high!					

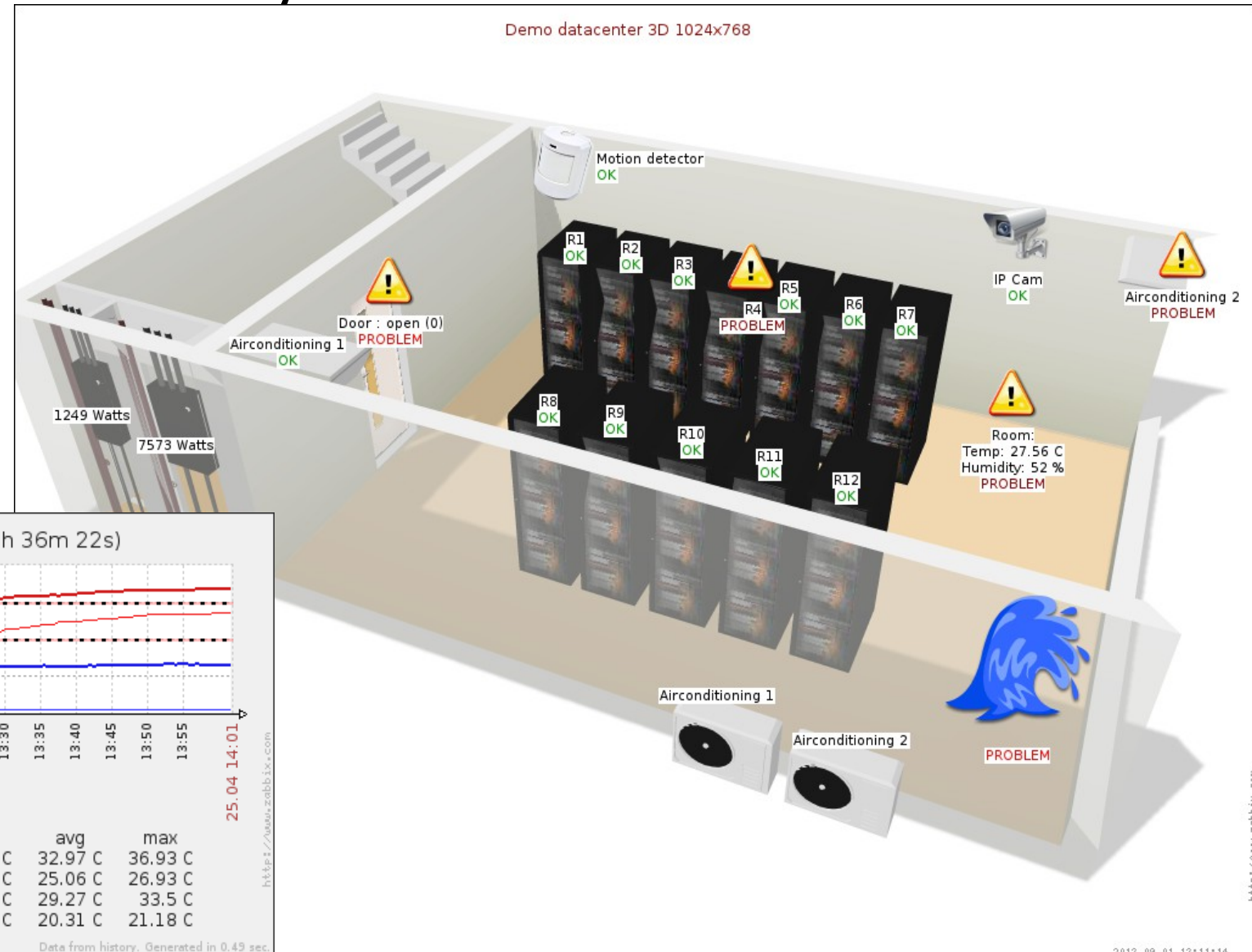
Example 4: Security

- Situation normal..



Example 5: Security breach

- Alarms triggered!



Example 6: Building overview

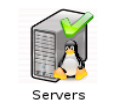
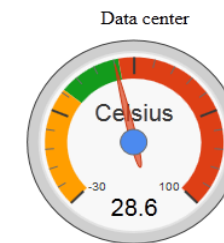
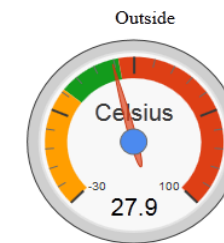
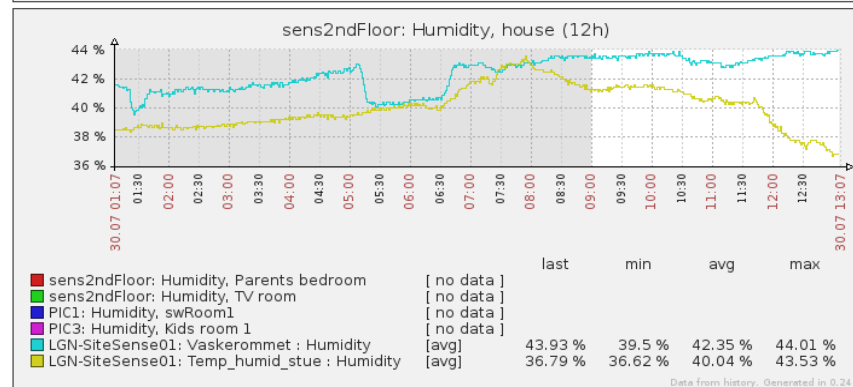
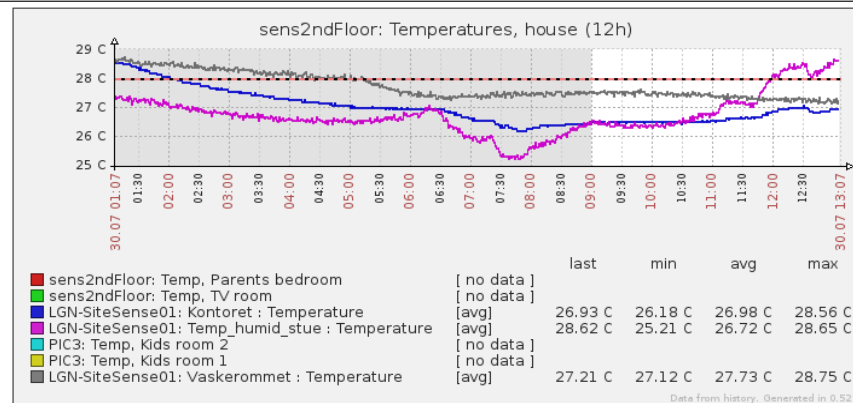
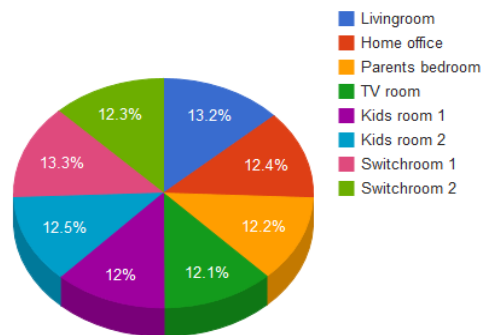


Example 7: Custom dashboard



2013.07.30 13:07:05

Heat distribution, house



Servers



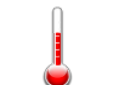
Network



CCTV



Humidity & pressure



Temperatures



Light



Building overview

2013.07.30 13:07:07

STATUS OF TRIGGERS [13:07:08]

Host		Issue	Last change	Age	Info	Ack	Actions
SenseDataCenter		Temperature is dangerously high in datacenter! 28.6 C	29 Jul 2013 06:43:37	1d 6h 23m		No	1 1
LGN-IPCAM01		LGN-IPCAM01: Device offline	29 Jul 2013 00:15:20	1d 12h 51m		No	1 1
LGN-SiteSense01		Datacenter secured	28 Jul 2013 23:11:26	1d 13h 55m		No	1

3 of 3 issues are shown

Questions?

Demo time!