Monitoring outside the box:

External factors in your datacenter

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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
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

- Normal situation: Thermostat controlling AC.
- Changes in humidity is caused by airflow (or lack of) hitting sensor.

Power is back, but AC didn't start.

Thermostat is turned back on, with a slightly higher temperature threshold.

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<table>
<thead>
<tr>
<th>Temperature</th>
<th>last</th>
<th>min</th>
<th>avg</th>
<th>max</th>
</tr>
</thead>
<tbody>
<tr>
<td>RsAKMN_200</td>
<td>22.7°C</td>
<td>20.1°C</td>
<td>22.38°C</td>
<td>28°C</td>
</tr>
</tbody>
</table>

Triggers:
- RsAKMN_200: Temperature high! [> 24°C]
- RsAKMN_200: Humidity high! [> 60%]
- Temperature sensor (sensor) PC: [0°C]
Example 4: Security

- Situation normal..
Example 5: Security breach

- Alarms triggered!
Example 6: Building overview
Example 7: Custom dashboard
Questions?
Demo time!