



Using Prometheus and Grafana for monitoring my power usage

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github.com/gnur

<https://snow.nl>

This is about my washing machine

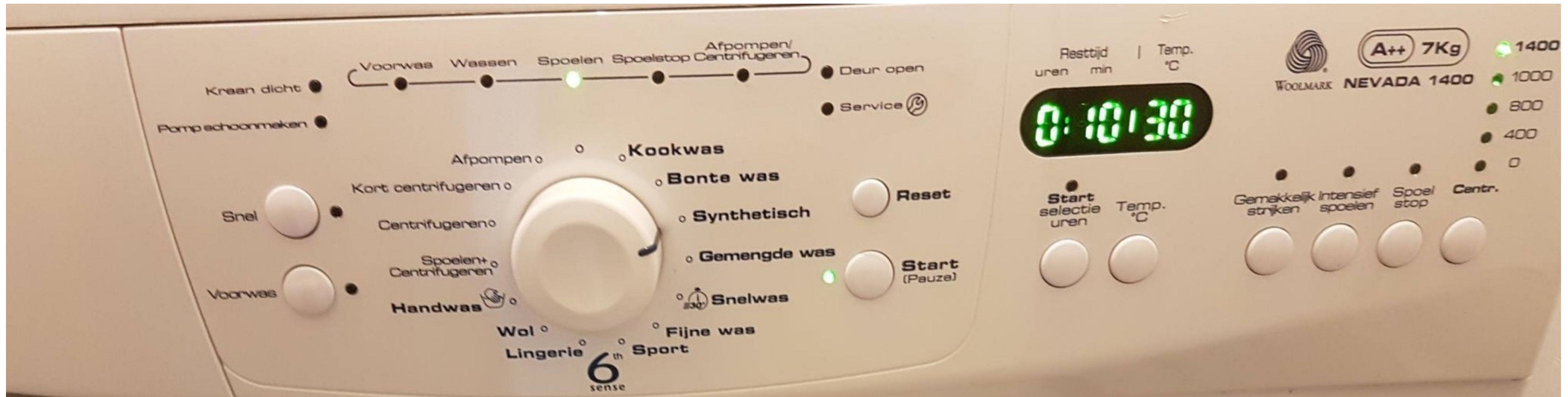
13:30 (ETA: 14:46)



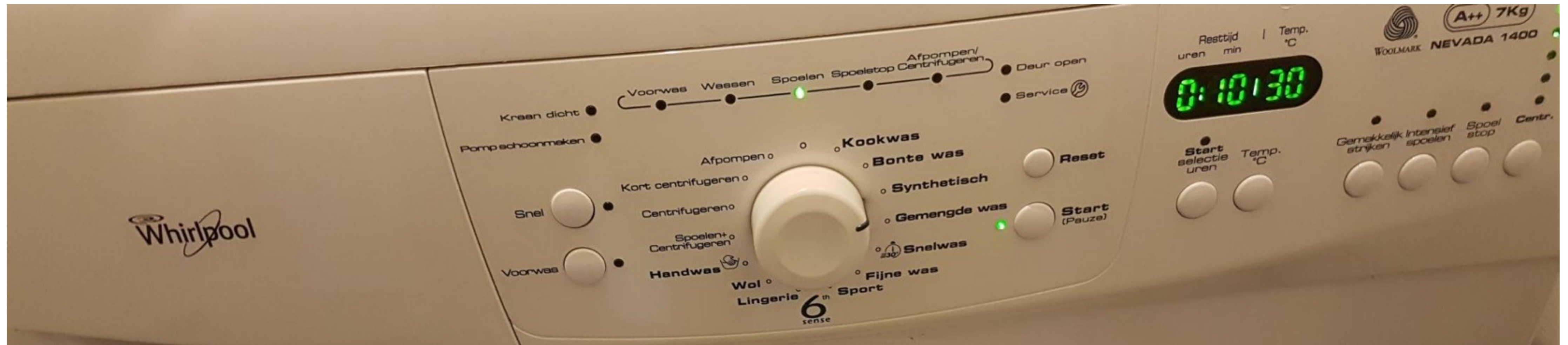
14:48 (ETA: 15:03)



15:04 (ETA: 15:14)



15:23 (ETA: 15:33)





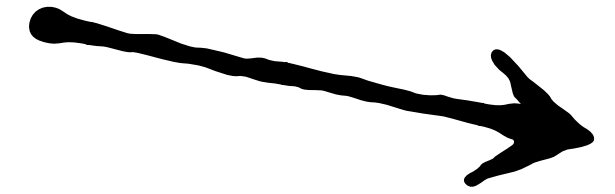
Let's go from pulling to pushing

Main quest: get notifications when the washing machine is done

Side quest: secure, private web interface for exploring power usage

The Setup



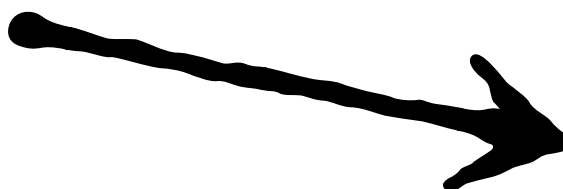


Prometheus-p1-exporter

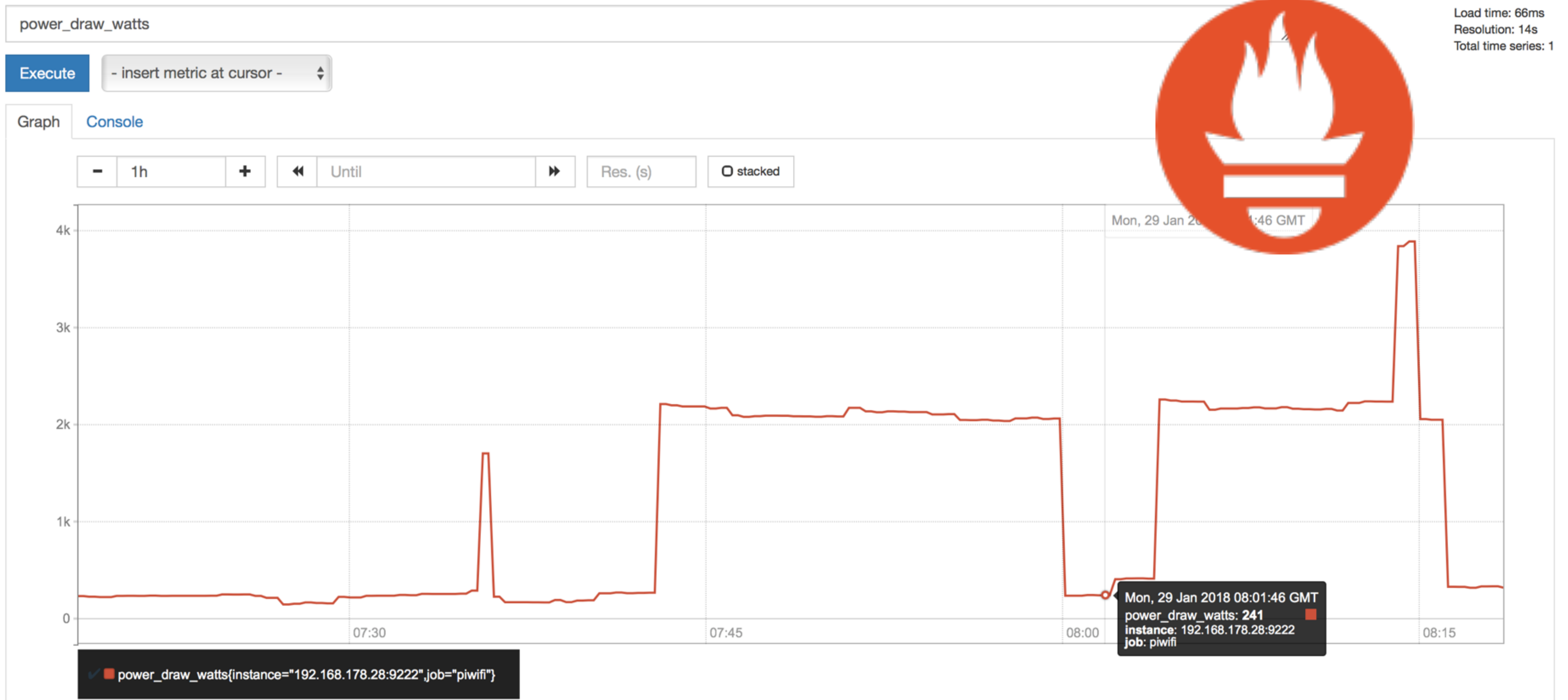
- Reads `/dev/ttyUSB0`
- Stores relevant info in global vars
- Exposes these metrics using the promhttp library (official go prometheus library)
- Prometheus scrapes the endpoint



**prometheus
p1
exporter**

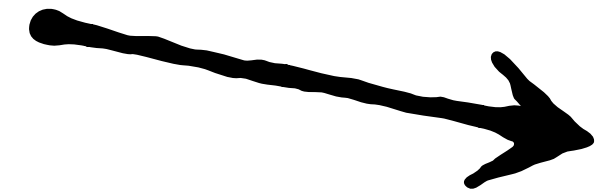


Prometheus





**prometheus
p1
exporter**



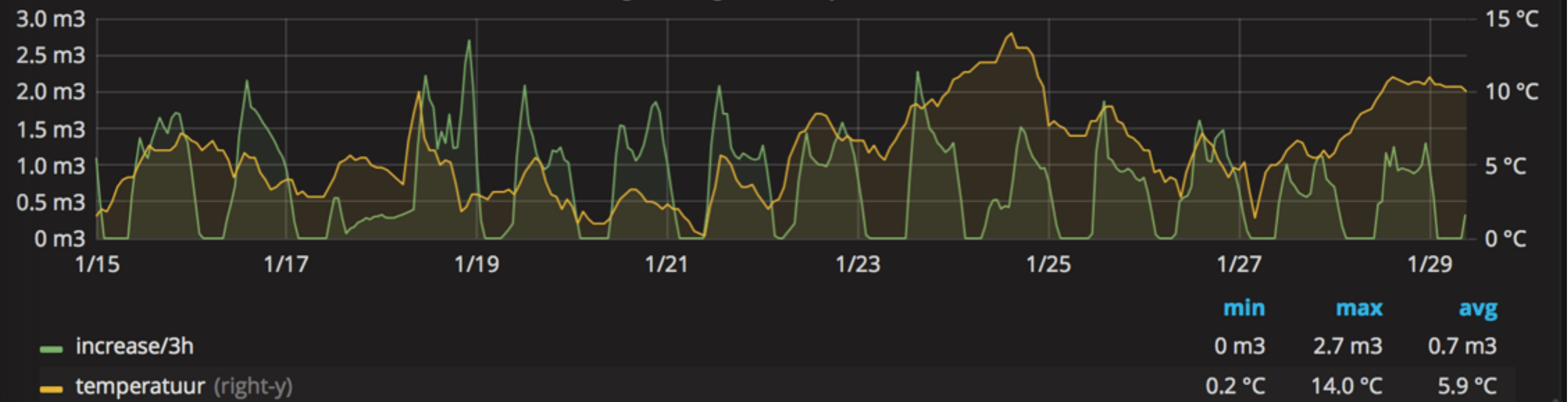
Grafana

current draw

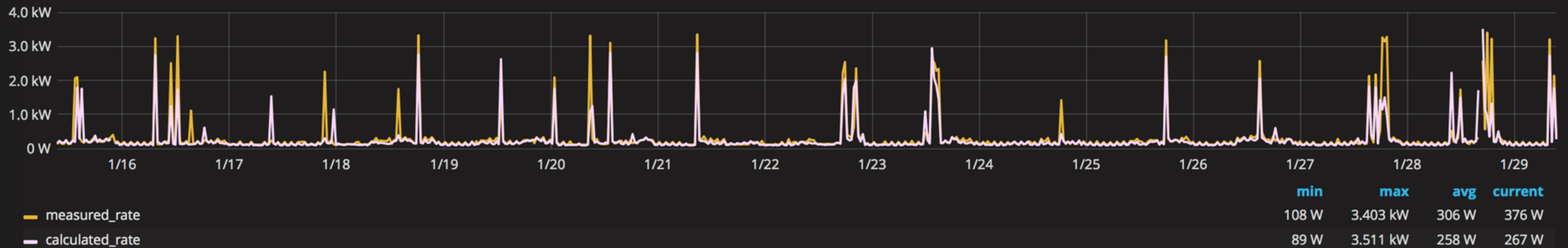


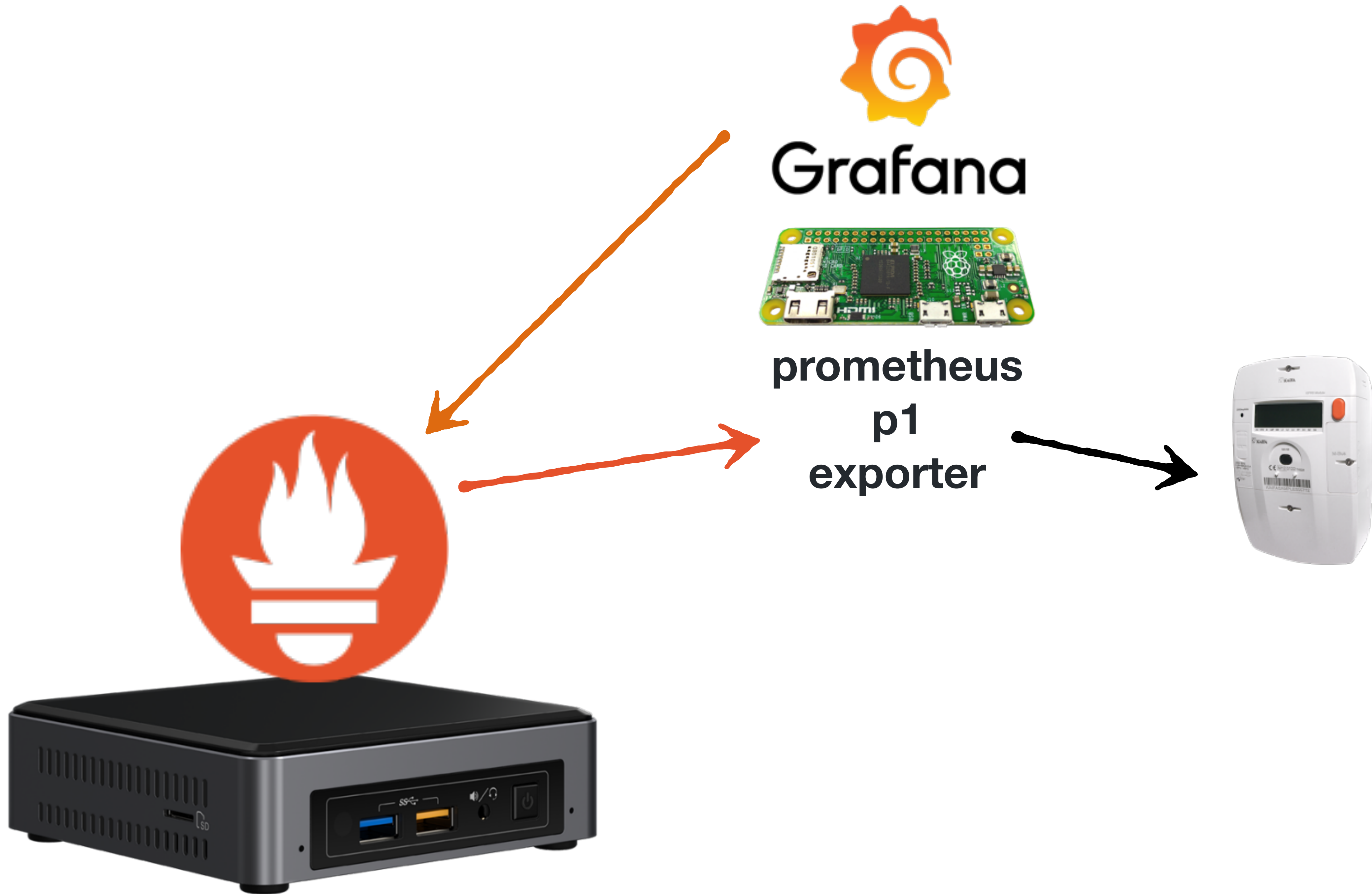
373 W

gas usage vs temperature



measured vs calcuated







Caddy



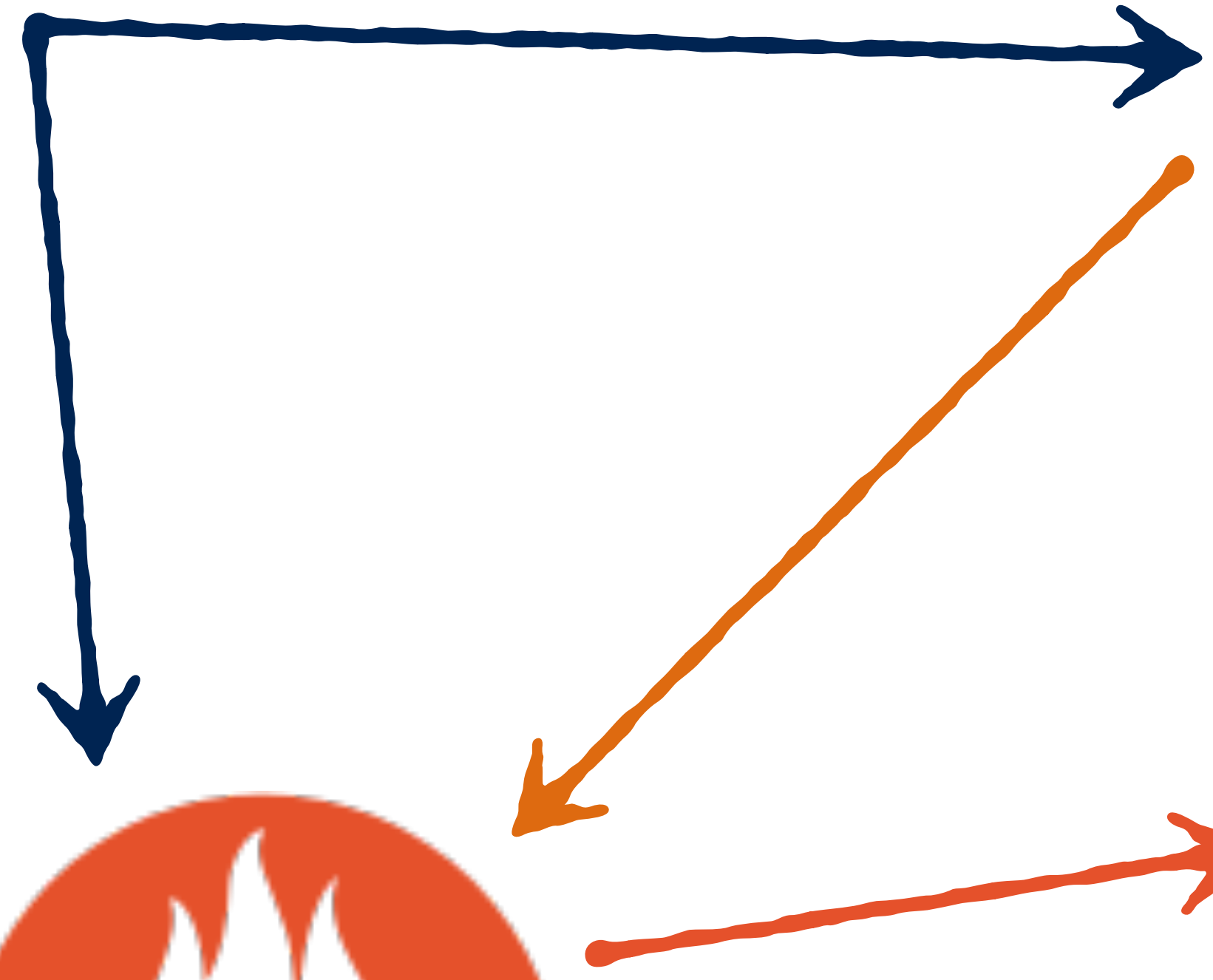
Grafana



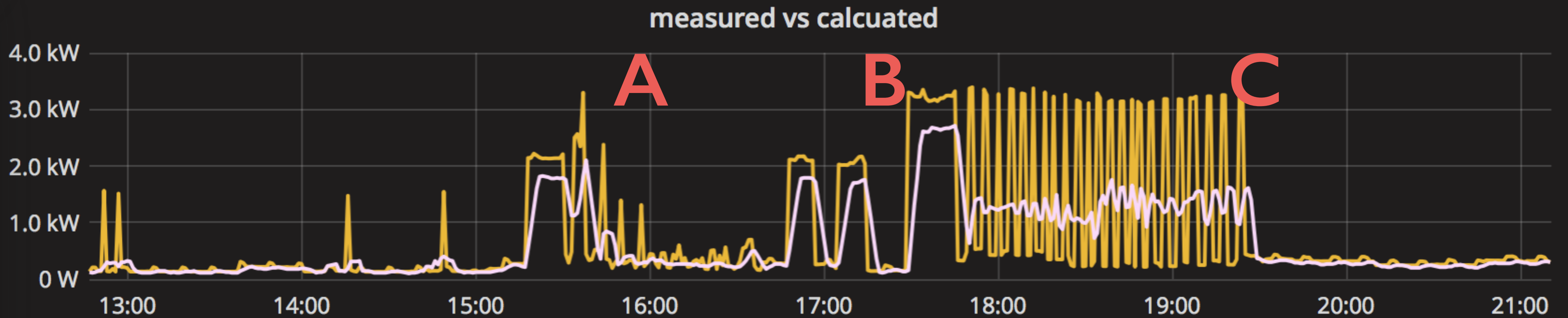
prometheus

p1

exporter

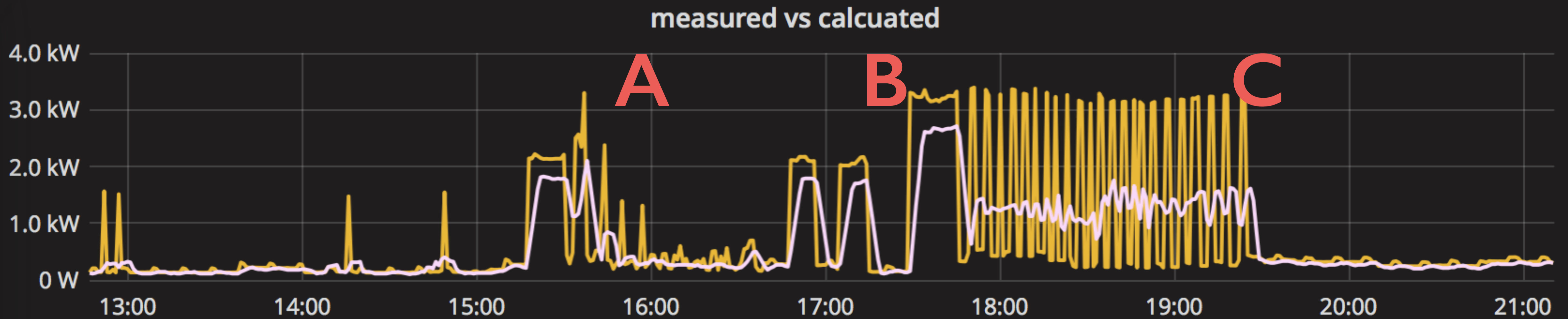


Quiz



	min	max	avg	current
measured_rate	128 W	3.391 kW	757 W	299 W
calculated_rate	100 W	2.711 kW	634 W	300 W

Quiz



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Washing machine

Microwave

Oven

Let's go from pulling to pushing

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Let's go from pulling to pushing

~~Main quest: get notifications when the washing machine is done~~

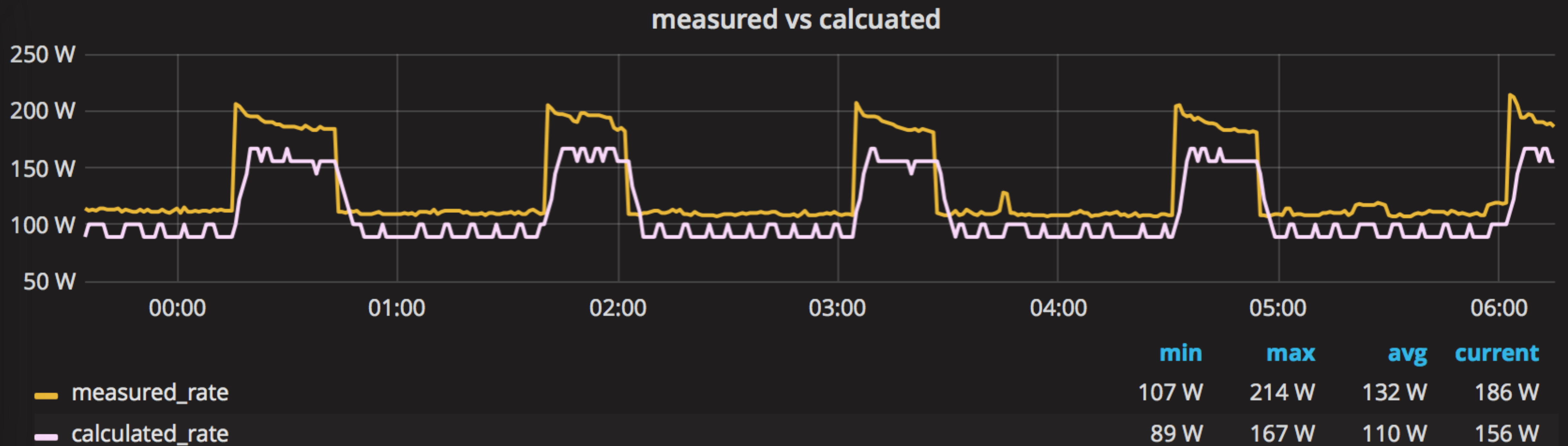
Side quest: secure, private web interface for exploring power usage

Let's go from pulling to pushing

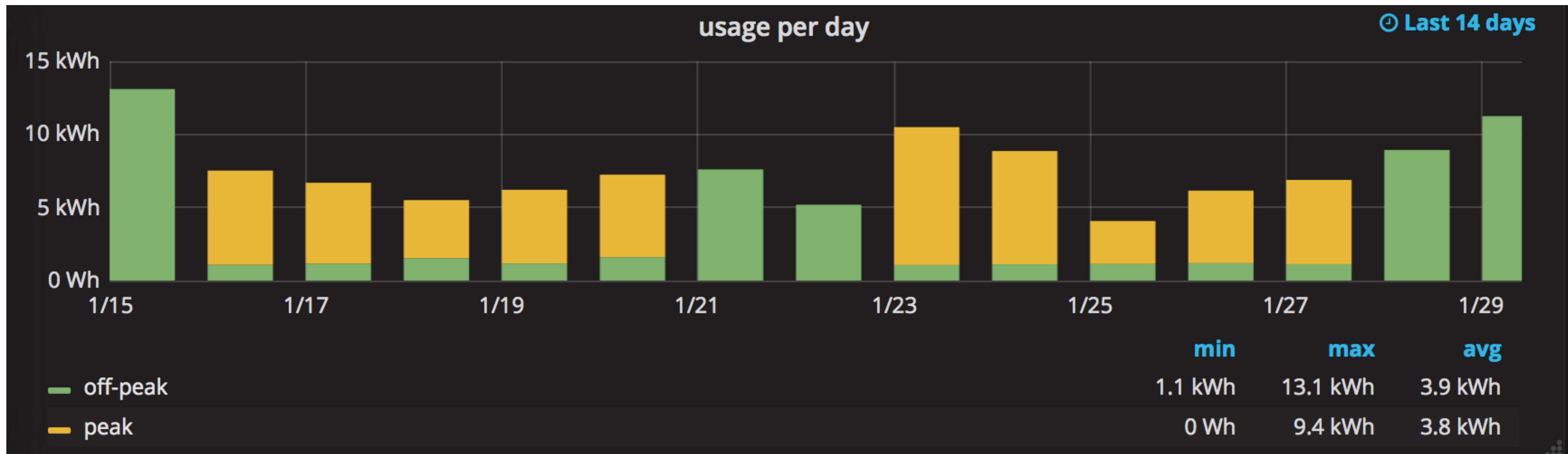
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Side quest: secure, private web interface for exploring power usage

Interesting graph #1



Interesting graph #2



Sources

- <https://prometheus.io>
- <https://grafana.com/>
- <https://caddyserver.com/>
- <https://github.com/gnur/prometheus-p1-exporter>
- https://github.com/prometheus/client_golang
- <https://github.com/prometheus/alertmanager>

