nog.fi workshops

Agenda

- what nog.fi workshops are?
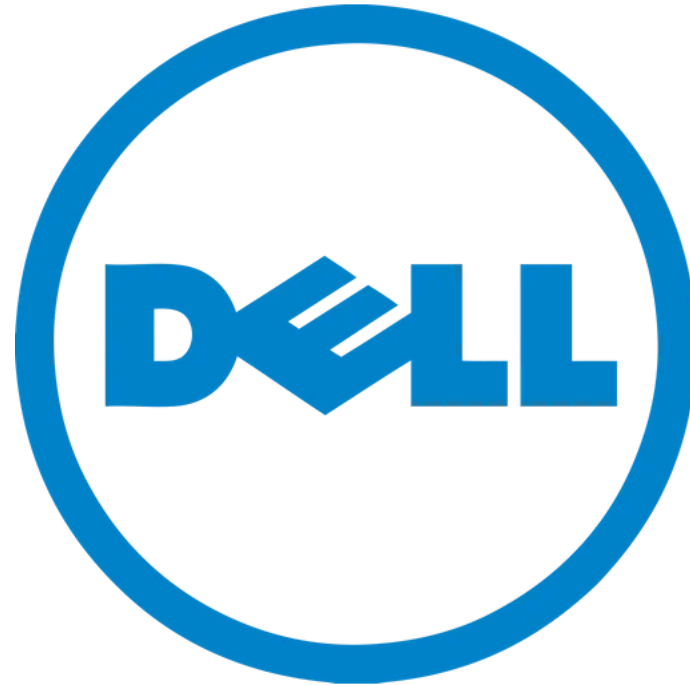- first workshop
- proposal for the next workshop

What nog.fi workshops are?

- events for gathering around with like-minded people
- hands-on work on selected topic
  - hackathon?
- learn something new
- get to know each other
- share knowledge
- have a good time

The first workshop

- the agenda of the first workshop was "open source Python tools for network automation"
- first workshop were held 12.9 in Helsinki and 27.9 in Tampere
  - 20 participants in Helsinki and 10 in Tampere

The sponsors of the first workshop

The first workshop

- Agenda of the first workshop
  - Dell Sonic BGP Ansible demo
  - Presentation of open source Python tools for network automation
    - from screenscraping to gNMI

The first workshop

- Agenda of the first workshop
  - Hands-on tasks with provided code samples
    - examples of all presented tools
  - network automation competition!
    - "write a plot of a movie to switch interface descriptions"
    - get a point for each configuration change
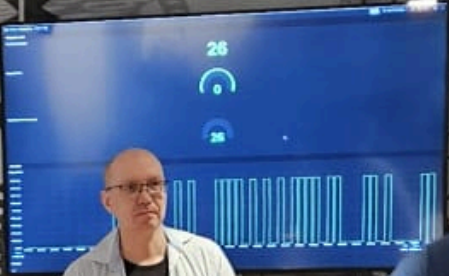   - team with pygnmi implementation won!

Next workshop?

Ideas for workshops

- discussion
  - Mattermost channel #Presentation and Workshop Proposals
  - workshop-discuss@sympa.nog.fi
- ideas
  - DNS Catalog Zones for Secondaries (Aleksi Suhonen)
  - Integrating with PeeringDB (Aleksi Suhonen, Livio Morina)
  - building Netbox integrations
  - Napalm Driver for Fortigate

Proposal for the next workshop

Open source telemetry stack

Why modern telemetry stacks are not being used?

- ease of setting up incumbent tools with SNMP
  - plenty of existing templates for data collection etc
- multivendor/legacy infra
  - some devices support only SNMP and gNMI support would require another tooling
- lack of time / resources to replace existing tools

Workshop agenda

- build an open source project to get started with telemetry with minimal effort
  - docker-compose / helm
- readily available templates for data collection of most common metrics
  - interface metrics / CPU / memory / temperature / transceivers / routes / etc
- multivendor support
- multiple data collection methods
  - gNMI, SNMP etc

Telemetry workshop

- Proposed tech stack
  - Data collection
    - gNMIc / Telegraf
  - Time Series Database
    - influxdb / prometheus
  - Data visualization & alerting
    - Grafana
  - Inventory
    - git / netbox / infahub / nautobot / something else?

Telemetry workshop

- workshops in which we work on each of the components
- multiple sessions with the same agenda
  - Helsinki, Tampere, Oulu?

Data collection

- preparing the configuration templates for gNMIc/Telegraf
- data normalization on the collection, not when data is used for visualization/alerting
  - memory metric can be stated as b, B, MB, percentage etc depending on the vendor
    - for example, convert it as percentage from all OSs
  - processors / starlark
- requires lot of testing with various vendors/OSs

Visualization & Alerting

- Grafana dashboards

- Grafana alerting

- support for influxdb and prometheus queries

Inventory & deployment

- create configurations for data collection based on the source of truth
  - webhooks / event rules / custom scripts
  - netbox / nautobot / infrahub / servicenow?
- python scripts
- gitsync / s3 / ci