Diploma thesis presentation

Alexandros Georgopoulos

National Technical University of Athens
School of Electrical and Computer
Engineering

Thesis title

Monitoring of data availability

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infrastructure performance of a Datacenter

Aim of thesis

- Instant data monitoring of an infrastructure

- Optimal utilization of resources

- Minimization of electrical energy consumption

- Timely notification alerting

- Prevention of possible service interruption

Monitoring

- ▶ Servers (e.g. UNIX, Windows, etc.)

- ▶ VMware servers (e.g. ESXi)

- ▶ Gitlab servers

- ▶ Web servers

- ▶ Learning Management system servers (e.g. BigBlueButton)

- ▶ SNMP devices (e.g. switches)

What type of data?

Metrics

- Numerical measures

- Sampled over time

- Number of meeting participants

- CPU utilization percentage

Log files

- Text files

- That store: events, processes, messages from devices, applications, systems etc.

- SSH login attempts

- SSH login attempts source locations

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Data storing

Metrics
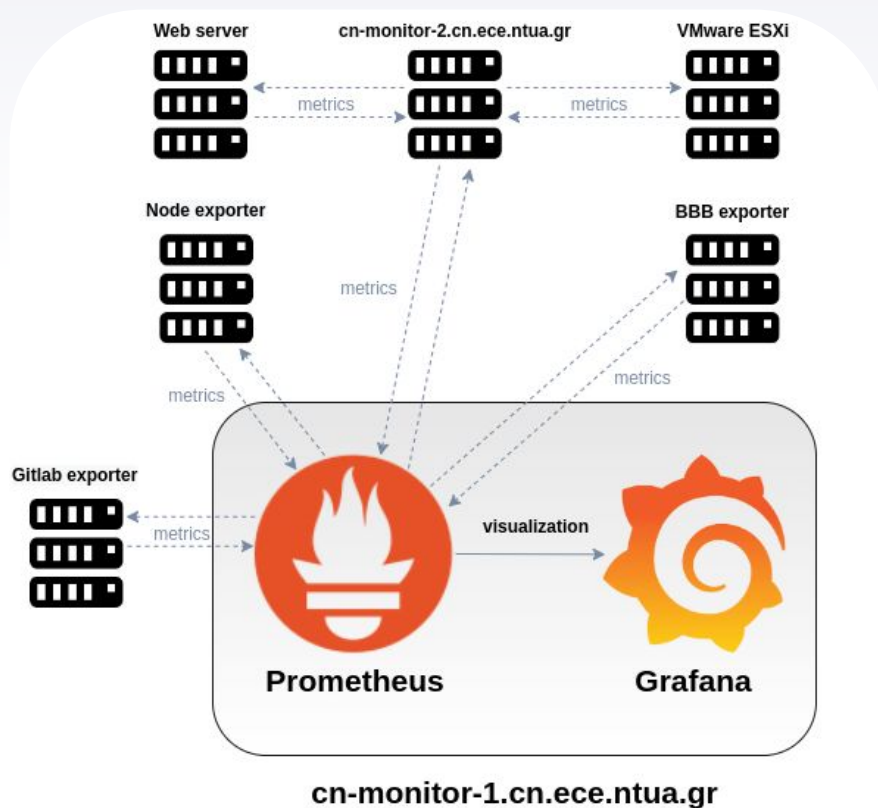
Log files

Prometheus

elasticsearch
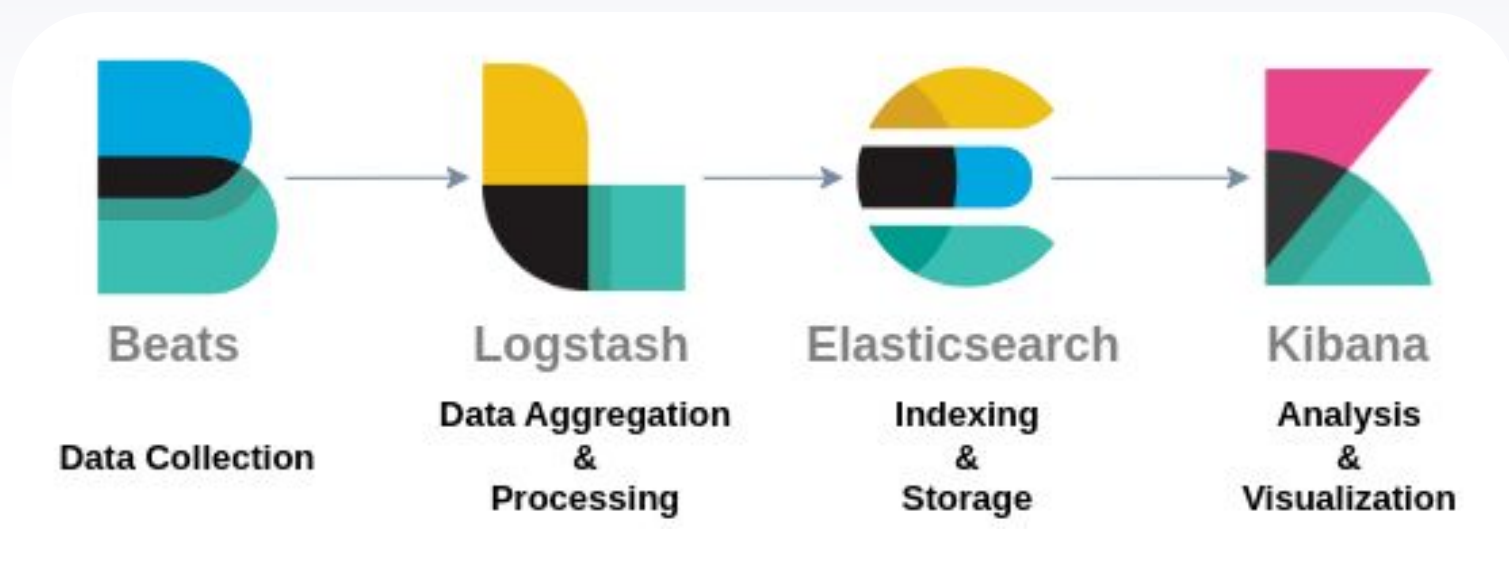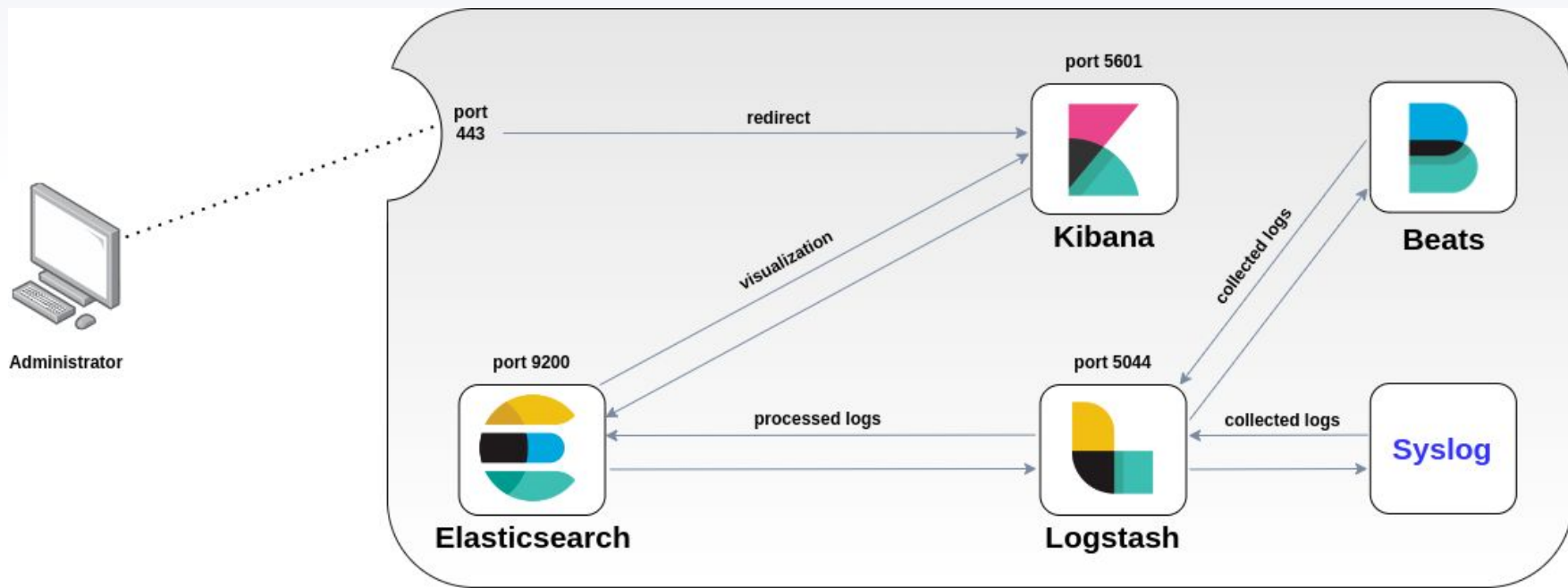
Data visualization

Metrics

Log files

Metrics collection

Prometheus exporters

Log files collection

Beats — Data Collection

Logstash — Data Aggregation & Processing

Elasticsearch — Indexing & Storage

Kibana — Analysis & Visualization

Data flow & Visualization

cn-monitor-1.cn.ece.ntua.gr

Alerting
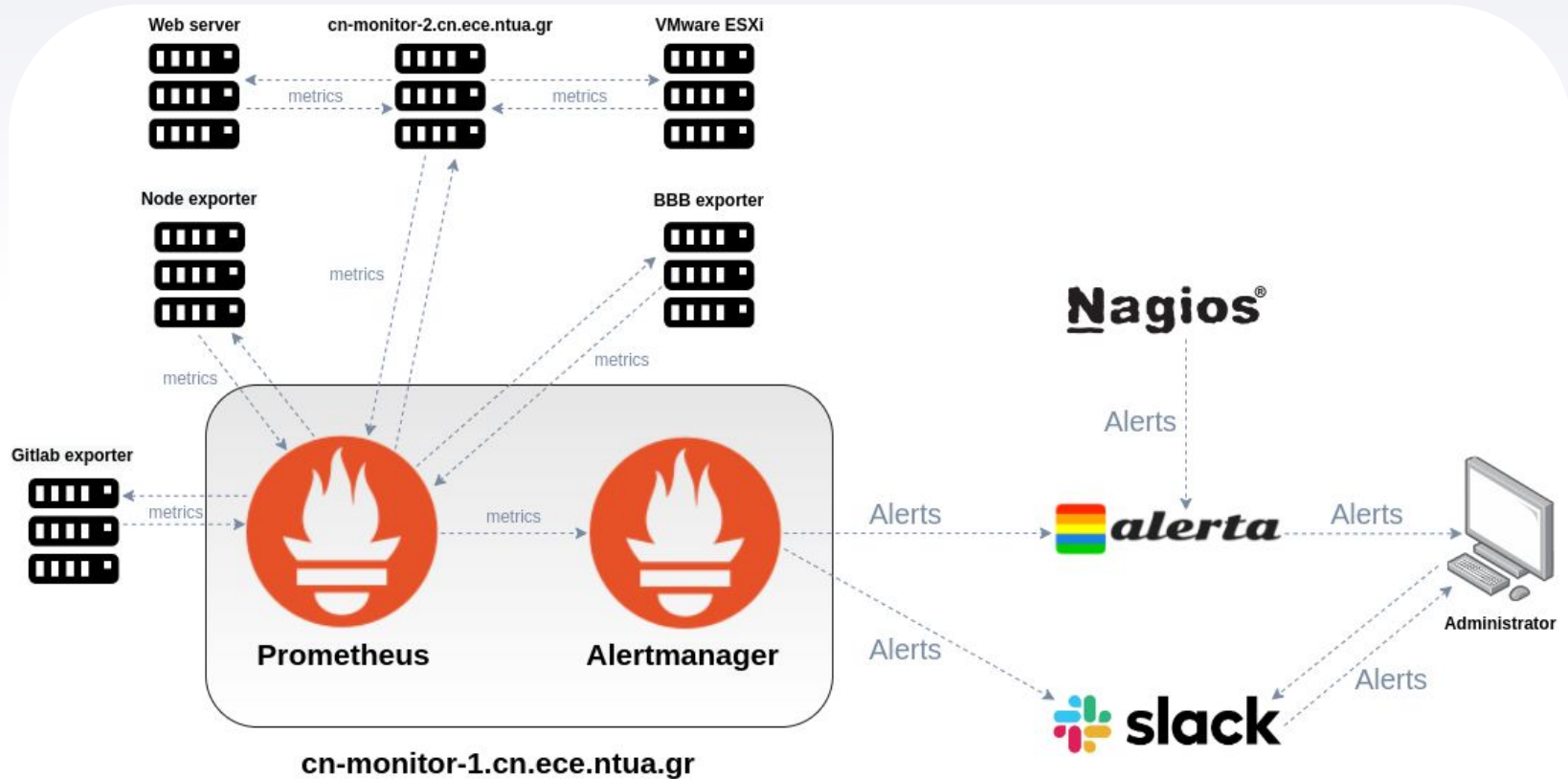
Alerts via Slack

Thank you for your interest!

For any questions:

You can find me at:

- https://www.linkedin.com/in/georgopoulos