

# XRootD monitoring with Grafana and the XRootD Exporter

Jan Knedlik, GSI

14.02.2023

# Grafana & Prometheus

- Used as monitoring/visualization tool
- Easy to use/implement
- Prometheus as database for time series data (in simple cases)

-> get XRootD metrics via exporter

# mpxstats

- XRootD statistics reports
- Listens on configured UDP port
- A lot of metrics (open connections, data rate in/out, files open, inodes, ...)

-> get XRootD metrics via exporter using mpxstats

# XRootD Prometheus exporter

- Gets service metrics of the XRootD service
- Listens via mpxstats
- Python 3.X Prometheus exporter (~100LOC)
- XRootD's statistics reports via mpxstats -> prometheus metrics

# Exporter workflow

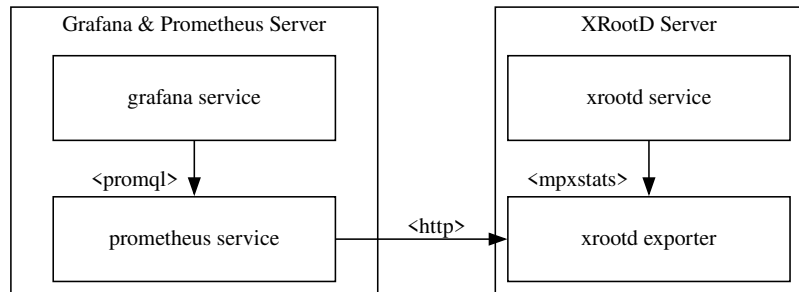


Figure 1: Exporter Workflow

# Vagrant/Ansible setup

- Simple Vagrant VM setup for developing/testing
- Provisioning via Ansible
- Example Dashboard (model) under *roles/Grafana/files/models*

# Grafana Dashboard

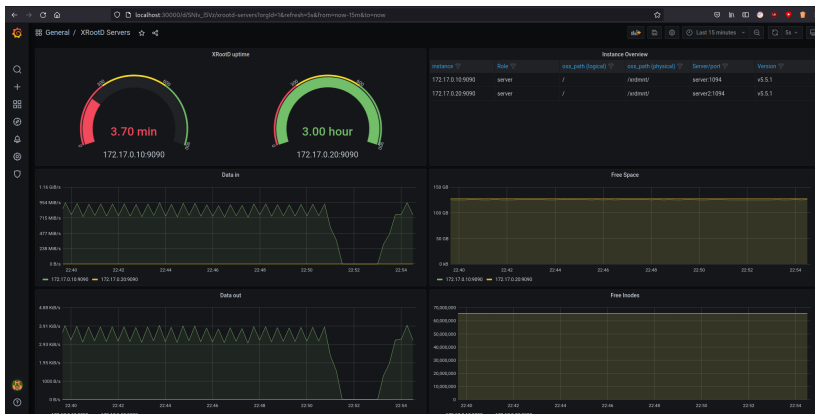


Figure 2: Simple example Dashboard using metrics

# links

- xrootd\_exporter:  
[https://github.com/GSI-HPC/xrootd\\_exporter](https://github.com/GSI-HPC/xrootd_exporter)
- Vagrant/Ansible monitoring setup:  
[https://github.com/GSI-HPC/xrootd\\_monitoring\\_setup](https://github.com/GSI-HPC/xrootd_monitoring_setup)
- mpxstats metrics: [https://xrootd.slac.stanford.edu/doc/dev55/xrd\\_monitoring.htm#\\_Toc99653729](https://xrootd.slac.stanford.edu/doc/dev55/xrd_monitoring.htm#_Toc99653729)



fin