

IISAS Cloud infrastructure

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Institute of Informatics, Slovak Academy of Sciences (IISAS)

Short instruction to IISAS

- Full name: Institute of Informatics, Slovak Academy of Sciences
- Established in 1956 as Laboratory of Theoretical and Applied Mechanics in Slovak Academy of Sciences
- 6 departments, 63 scientists:
 - Department of Parallel and distributed computing is the largest one, with long history in R&D in Grid/Cloud computing
- 11 H2020 projects, 5 HE projects
- Publisher of journal Computing and Informatics

IISAS computing infrastructure

IISAS Computing infrastructure

- Shared computing room with different systems (Cloud, Hadoop, HPC, storage, AI servers, ...)
- Global monitoring system
- No global firewalls so far, firewalls are configured at server level



IISAS FedCloud OpenStack site

Positives:

- Among the first sites in EGI Federated Cloud
- The first site with GPUs
- High A/R rates

Negatives:

- Modest computing capacity
- Outdated HW

Updated status from 2022

- New GPU nodes
 - Old NVIDIA K20 GPUs decommissioned
 - 11 new NVIDIA A100 added
 - Provided as VA in EGI-ACE
- New storage added
 - Nearly 400TB added

New procurement

- A national project for updating computing infrastructure approved
 - Consortium: NCC for HPC and IISAS for Cloud
 - Total budget 80M EUR, about $\frac{1}{2}$ for hardware, the rest for operation (personnels, energy, ...)
 - Public procurement is in intensive preparation
- Cloud partition (IISAS)
 - Should be around $\frac{1}{3}$ of total budget for HW
 - Focusing on GPUs

IISAS Softwares & Services

Softwares

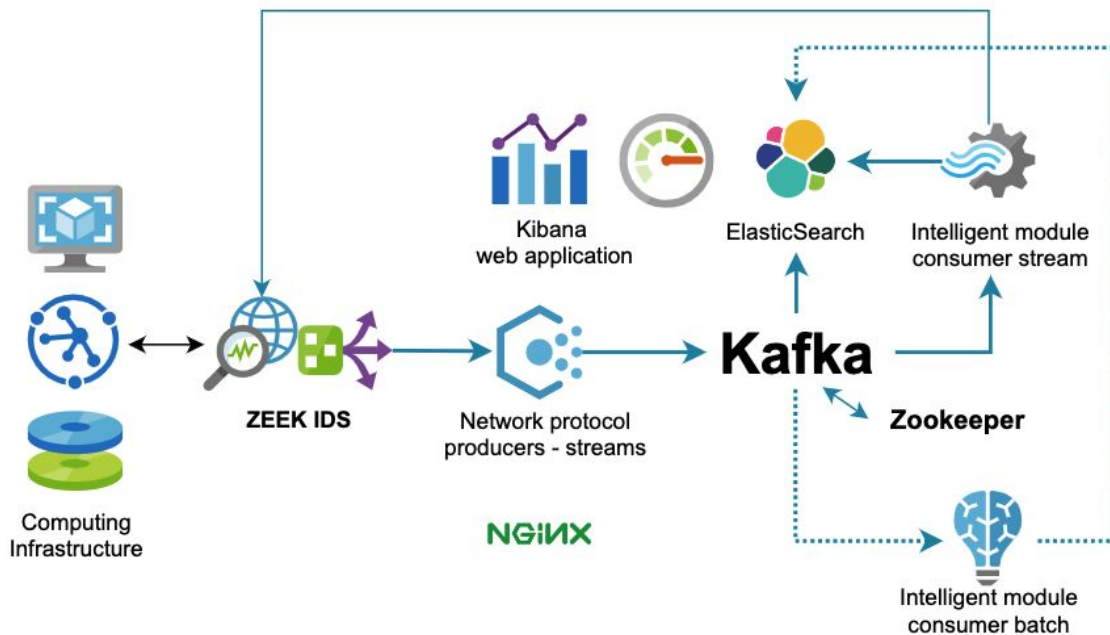
- Rich software ecosystems for different purposes
 - Cloud and containers
 - Natural language processing
 - AI & Machine learning
 - Numerical modeling
 - Software development
 - ...

Services

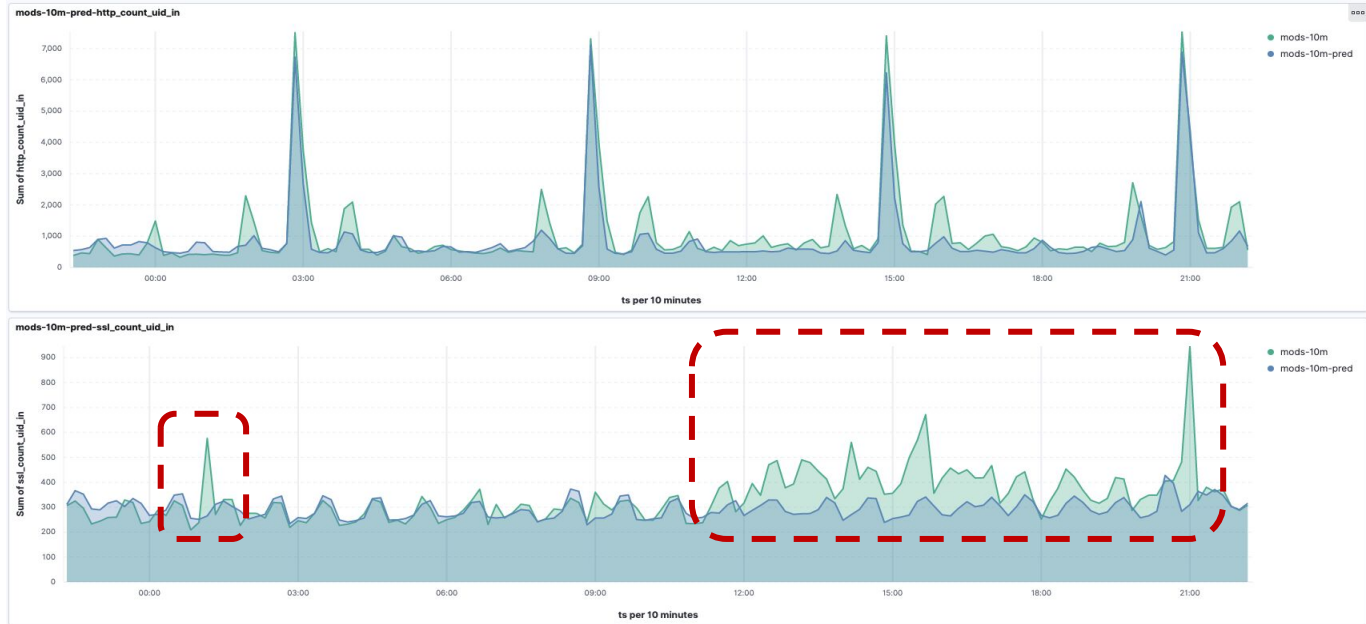
- NGI services
- IaaS Cloud provider
- FedCloud services

Some interesting services

Network monitoring with AI-based abnormal detection



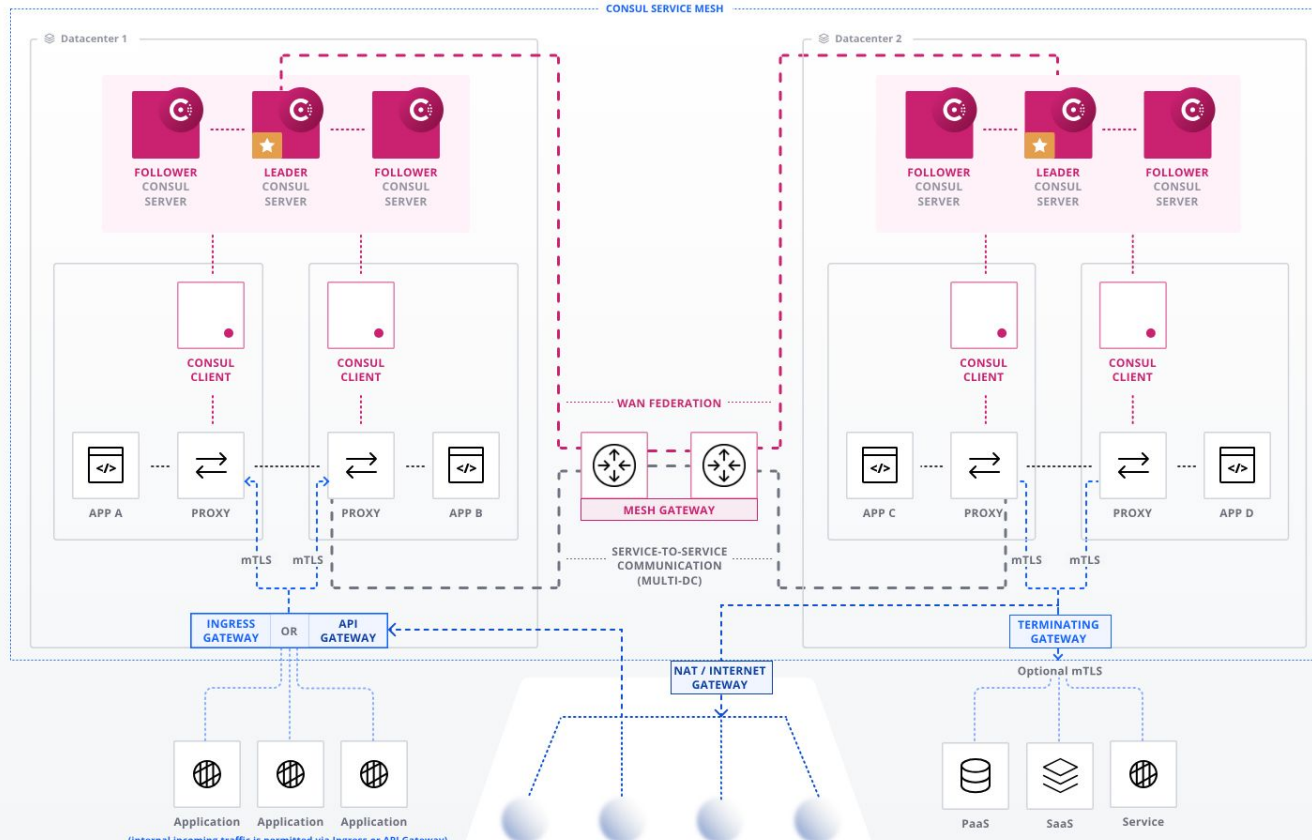
Network monitoring with AI-based abnormal detection



Service mesh and multi-site computing infrastructure

- In cooperation with IFCA within AI4EOSC project
- Single entry point for multiple sites

Service mesh and multi-site computing infrastructure



Thank you for your attention
