Containers and Kubernetes, or There and Back Again

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kubernetes

Who We Are and What We Have

- Never was so much owed by so many to so few
  - Viktória Spišaková, Tomáš Zvoník (leaves in June)
  - Students
    - Romana Duráčiová, Patrik Ješko

- Hardware
  - 43 Nodes — 2752 CPU cores
  - 30 GPU NVIDIA A40/A10
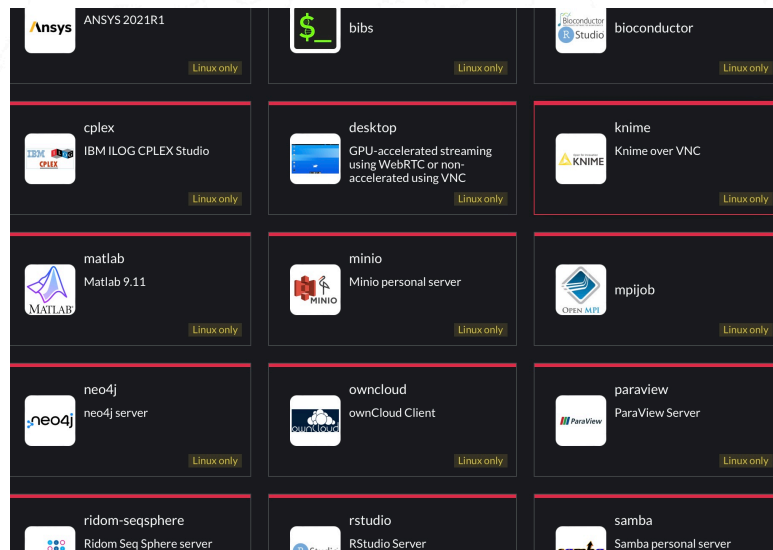 - 1.5PB SSD storage — NVME+SATA

There

- Workflow
  - Application ⇒ K8s Infrastructure
    - Docker image → K8s Infrastructure
    - No VM
- Cases
  - Ask us very nicely, we implement it (k8s@ics.muni.cz)
  - Find and run docker image
  - Find, modify, and run docker image
  - Create own docker image and run it

And

- Things to consider
  - Networking
    - Is it needed to expose the application to Internet? Protocols?
  - Storage
    - How to access data? How to copy?
  - Security
    - No root available

Back

- How to connect everything together?
  - docker image ⇐ dockerfile
  - persistent volume (sshfs, cifs)
  - deployment
    - service
    - ingress

Again

- Everything goes wrong?
  - kubectl logs
  - kubectl exec
  - kubectl describe pod
- Check
  - container does not request run as root
  - defines resources (cpu, memory)
  - correct access rights inside container
- Read. The. Docs
  - https://docs.cerit.io

Practical part
https://docs.cerit.io/docs/webinar2.html