

EFEKTIVNÍ PRÁCE S DATY V INFRASTRUKTUŘE METACENTRUM



SLIDY A DOPROVODNÉ MATERIÁLY
events.cesnet.cz/e/meta3



DATUM

2. 9. 2026, 13:00



PŘEDNÁŠEJÍCÍ
Jiří Vorel



DÉLKA

60 min + diskuze

OTÁZKY POKLÁDEJTE NA
sli.do/meta3



V rámci této série webinářů jsme již představili:

23. 6. [Úvod do možností využití výpočetní infrastruktury MetaCentrum](#)

20. 7. [AI nástroje \(nejen\) pro výzkum](#)

Registrací na tuto akci potvrzujete, že:

1. berete na vědomí, že na této akci budou pořizovány audiovizuální záznamy, které budou dále využívány pro účely propagace této akce, a to v hmotné či elektronické podobě, včetně webových a sociálních stránek sdružení CESNET,
2. Vám byly poskytnuty veškeré potřebné [informace o zpracování osobních údajů](#).



Začátek 2. 9. 2026 13:00

Konec 2. 9. 2026 14:30

Europe/Prague



Online

[https://cesnet.zoom.us/j/96035402029?](https://cesnet.zoom.us/j/96035402029?pwd=EqDQCnyakAFUhw0ZRWLbQakvvsBzPf.1)

[pwd=EqDQCnyakAFUhw0ZRWLbQakvvsBzPf.1](https://cesnet.zoom.us/j/96035402029?pwd=EqDQCnyakAFUhw0ZRWLbQakvvsBzPf.1)



[Doplňkové materiály \(GitHub\)](#)



Registrace

Registroval/a jste se do této události.

[Zobrazit podrobnosti >](#)

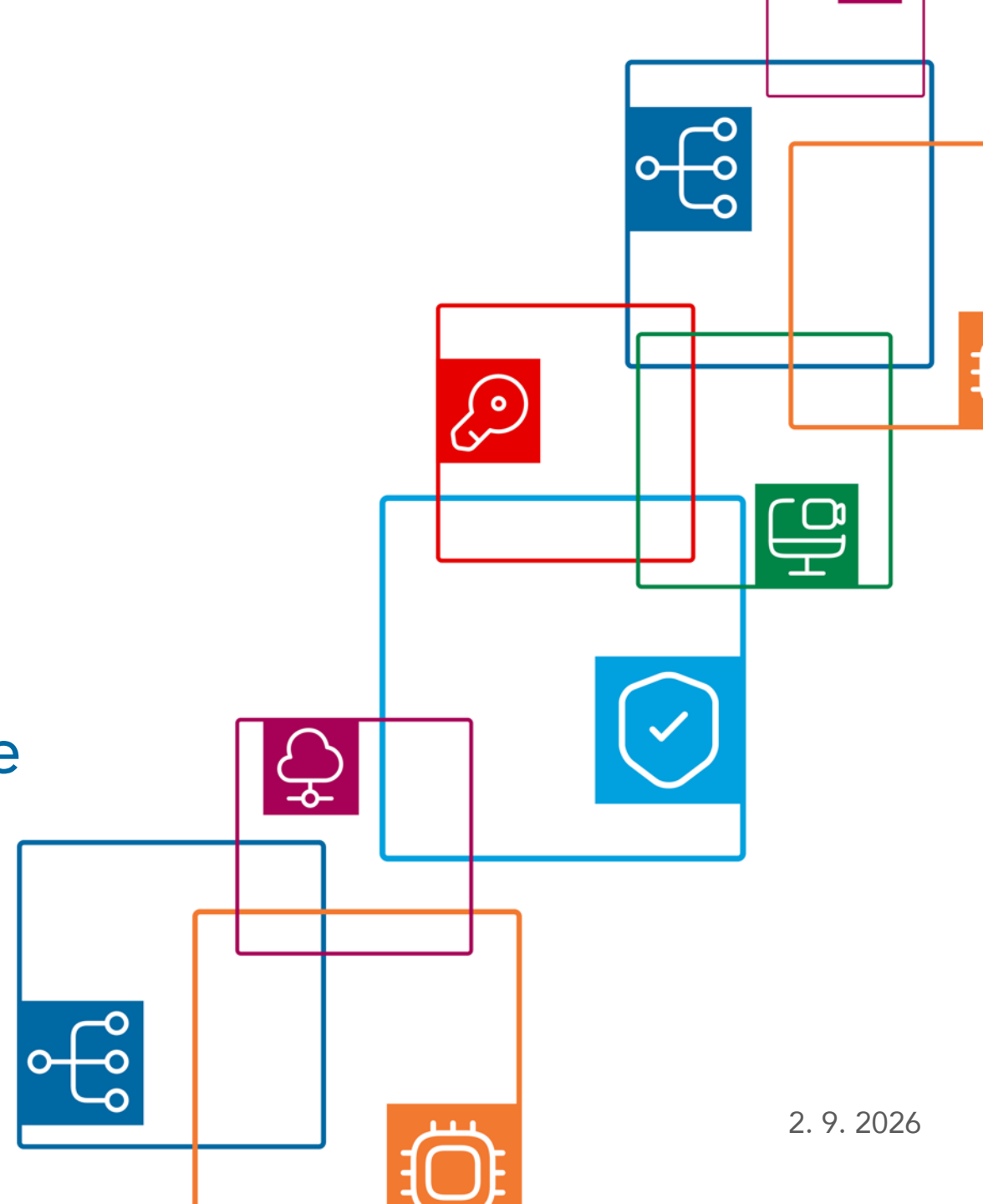
MetaCentrum NGI

The MetaCentrum webinar series

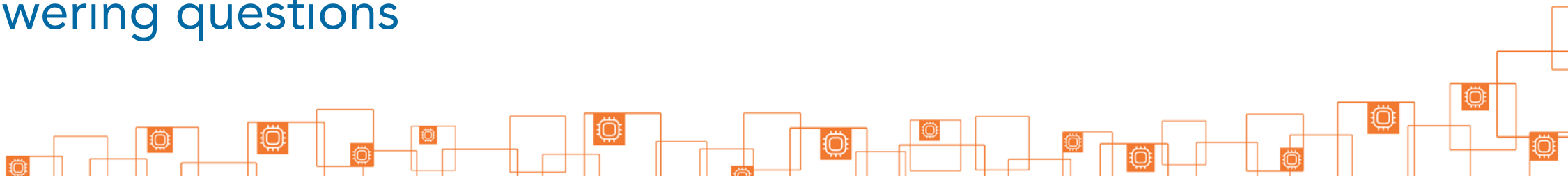
3. Working effectively with data in the MetaCentrum infrastructure

Jiří Vorel

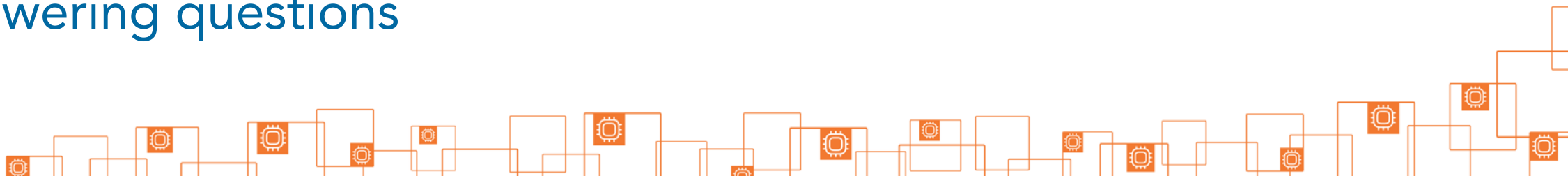
vorel@cesnet.cz meta@cesnet.cz



- Events and news
- Data transfer to/from the local computer
- Data transfer between disk storage
- Sending data to the \$SCRATCHDIR
- Accessing S3 storage
- Manipulating data using Open OnDemand
- Sharing data
- Answering questions



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■ CESNET Conference 2026

- 30. 9. – 1. 10. 2026, Diplomat Hotel, Prague
- The second day is dedicated to MetaCentrum and Data storage
- Registration required
- There are only a few seats remaining



KONFERENCE CESNET 2026

metacentrum

SEMINÁŘ VÝKONNÉHO POČÍTÁNÍ

DATA A ÚLOŽIŠTĚ | CLOUD & KUBERNETES | HPC V PRAXI | AI, LLM A AGENTNÍ SYSTÉMY

Celodenní sekce o zpracování dat, výkonném počítání a HPC a vědeckých aplikaci v národní e-infrastruktuře.

30. 9. 2026
Konference CESNET 2026
společný program

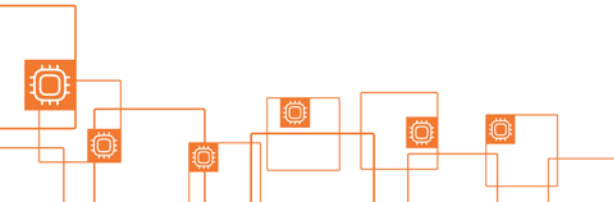
1. 10. 2026
Seminář výkonného počítání
MetaCentrum 2026

DIPLOMAT HOTEL PRAGUE
Evropská 15, 160 41 Praha 6

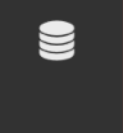
ÚČAST ZDARMA
REGISTRACE NUTNÁ

■ OneData platform

- **A platform for large data storage, sharing and collaboration**
- It connects storage from multiple locations and lets you access it all from one place
- Share data across different institutions or countries
- Accessible from MetaCentrum, Galaxy and Jupyter Notebooks
- CLI, web portal, REST API, FUSE mount



ONE≡DATA



3 GiB  2



Files

 Transfers

Providers

Harvesters, Discovery

Configuration

View provided by **cloud2.onedata.e-infra.cz**. [Choose other Oneprovider...](#)

cloud2.onedata.e-infra.cz. [Choose other Oneprovider...](#) ?

Sandbox - TESTING ONLY

Files

Jump to prefix...

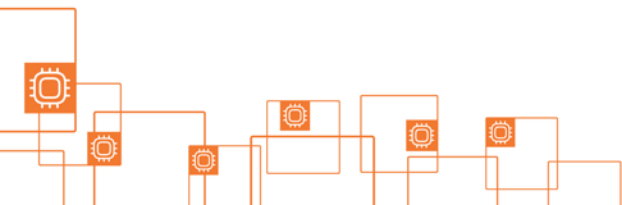


Test

 WARNING.txt

- Prevent access to other users' home directories
 - Implement stricter safety standards
 - This will take effect on 5. 10.
 - **Home directories will be accessible (for reading and writing) only to their owners**
 - `chmod go-rwx /storage/*/home/*`
 - Data sharing will be restricted even across user groups
 - Access will be controlled using access control lists (ACL)
 - A new helper utility `share-dir-nfsacl`

<https://docs.metacentrum.cz/en/docs/data/data-sharing#sharing-with-acl-usage>



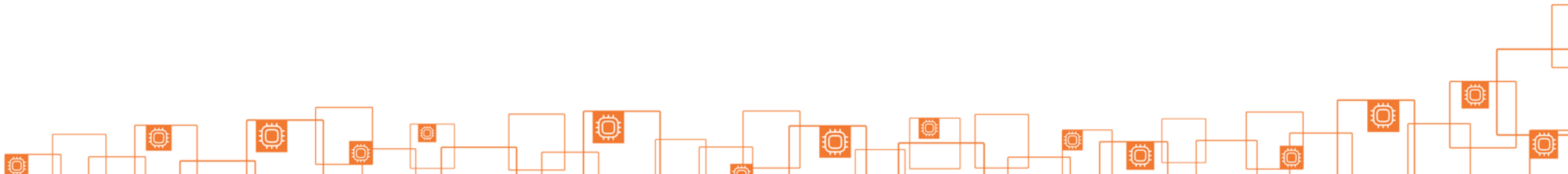
■ Planned upgrade of the storage praha1 (aka vestec1)

- Commissioning of a new, larger disk storage (from 0.5 PT to 1.7 PT)
- This is a multi-step process...
 - Preliminary data synchronisation from 1. 10. to 5. 10.
 - Please **avoid extensive data manipulation and creation of new data**
 - A several-hour outage on 5. 10.
 - Switch to the new storage
 - The compute nodes that have their home directories there will be shut down
 - Storage will not be accessible to other jobs
 - Normal operation with final synchronisation after 5. 10.



■ New types of shared scratch directories

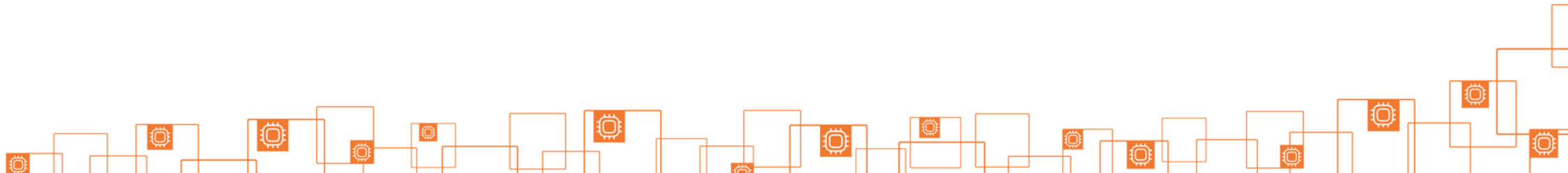
- We are finalising the technical details
- Current `scratch_shared` are shared across clusters
 - Typically for an individual multi-node job
- The scratch types `scratch_local`, `scratch_ssd`, `scratch_shm` and `scratch_shared` will not be affected



■ New types of shared scratch directories

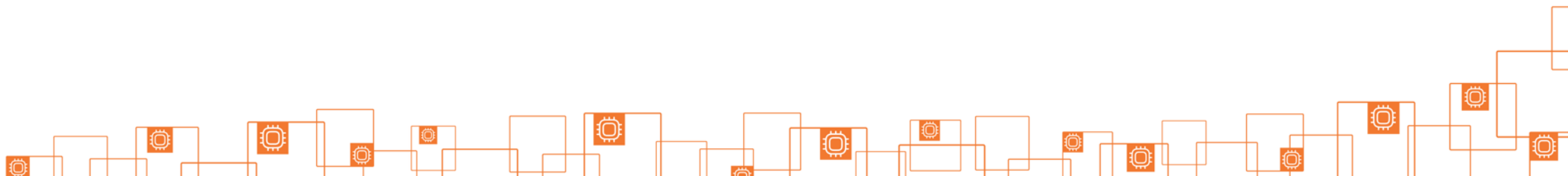
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... so, what is new?

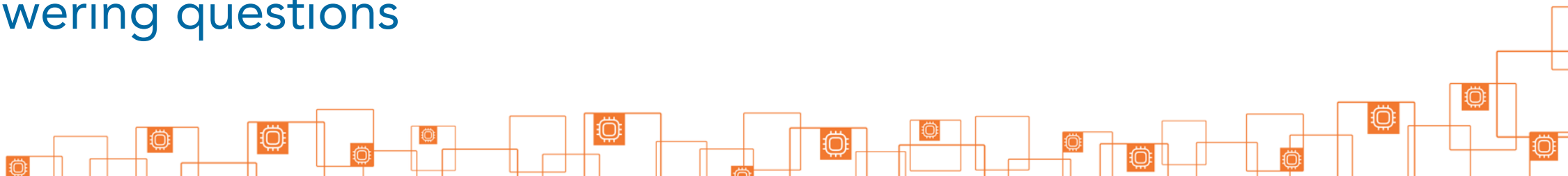


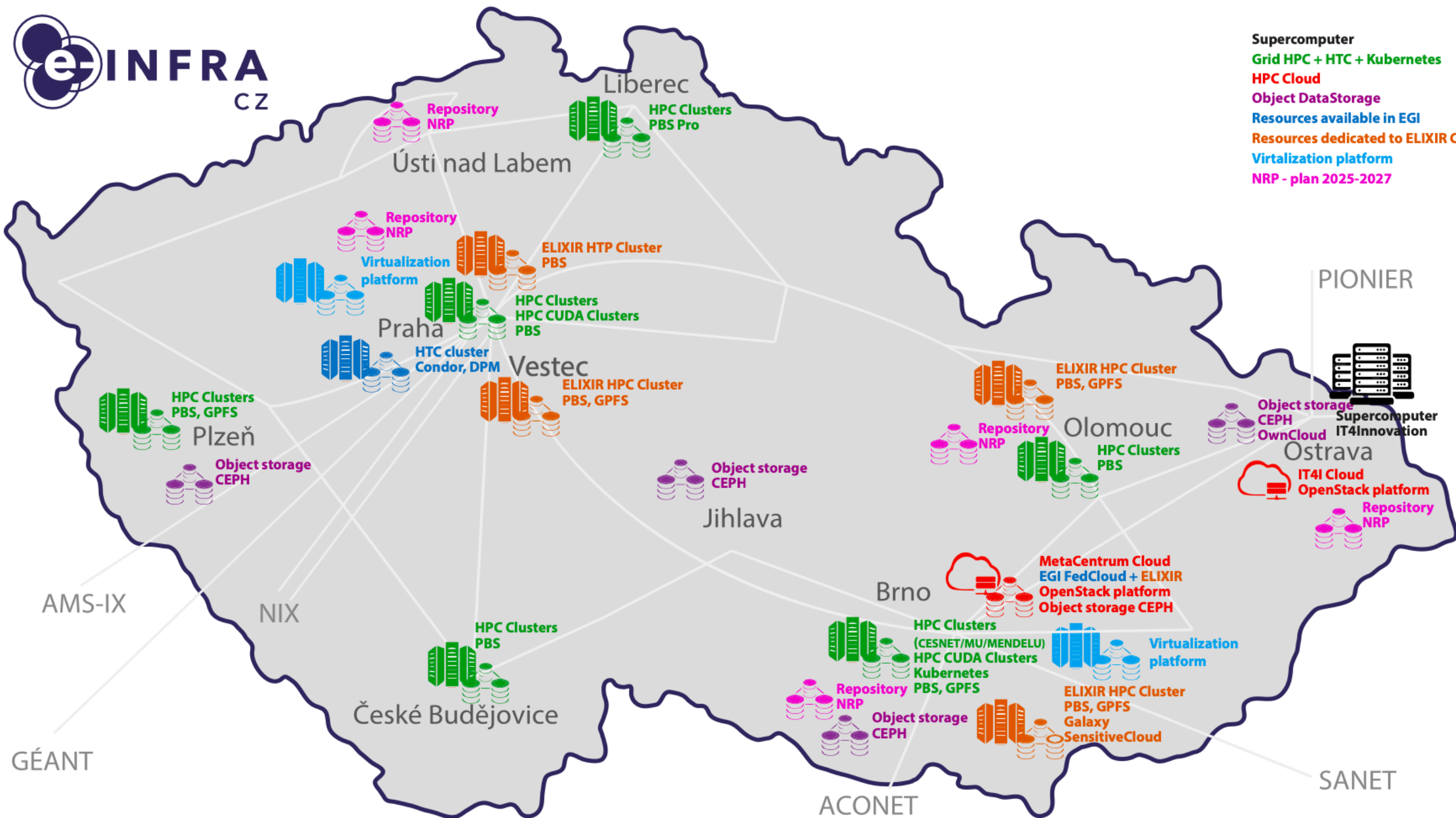
■ New types of shared scratch directories

- Persistent scratch directory for independent consecutive jobs working on same data
- `scratch.multijob-brno|plzen` Fast scratch for all nodes located in Brno or in Plzeň; PBS resource `multijob=[ brno | plzen ]`; manual setup
- `scratch.multijob-global` Slower scratch accessible from all nodes; manual setup



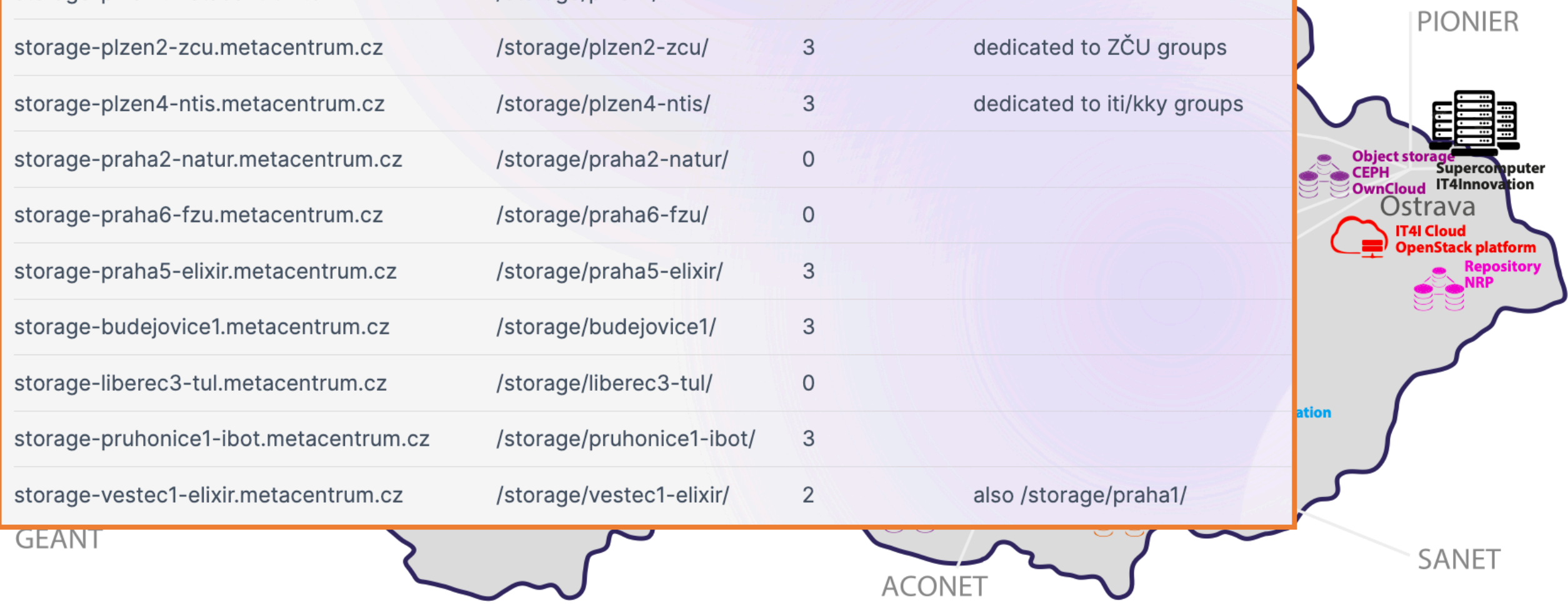
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Server	Directory	Backup Class	Note
storage-brno2.metacentrum.cz	/storage/brno2/	2	
storage-brno11-elixir.metacentrum.cz	/storage/brno11-elixir/	2	dedicated to ELIXIR-CZ
storage-brno12-cerit.metacentrum.cz	/storage/brno12-cerit/	2	
storage-plzen1.metacentrum.cz	/storage/plzen1/	2	
storage-plzen2-zcu.metacentrum.cz	/storage/plzen2-zcu/	3	dedicated to ZČU groups
storage-plzen4-ntis.metacentrum.cz	/storage/plzen4-ntis/	3	dedicated to iti/kky groups
storage-praha2-natur.metacentrum.cz	/storage/praha2-natur/	0	
storage-praha6-fzu.metacentrum.cz	/storage/praha6-fzu/	0	
storage-praha5-elixir.metacentrum.cz	/storage/praha5-elixir/	3	
storage-budejovice1.metacentrum.cz	/storage/budejovice1/	3	
storage-liberec3-tul.metacentrum.cz	/storage/liberec3-tul/	0	
storage-pruhonice1-ibot.metacentrum.cz	/storage/pruhonice1-ibot/	3	
storage-vestec1-elixir.metacentrum.cz	/storage/vestec1-elixir/	2	also /storage/praha1/

Supercomputer
Grid HPC + HTC + Kubernetes
HPC Cloud
Object DataStorage
Resources available in EGI
Resources dedicated to ELIXIR CZ
Virtualization platform
NRP - plan 2025-2027



Server

storage-brno2.metacentrum.cz

storage-brno11-elixir.metacentrum.cz

storage-brno12-cerit.metacentrum.cz

storage-plzen1.metacentrum.cz

storage-plzen2-zcu.metacentrum.cz

storage-plzen4-ntis.metacentrum.cz

storage-praha2-natur.metacentrum.cz

storage-praha6-fzu.metacentrum.cz

storage-praha5-elixir.metacentrum.cz

storage-budejovice1.metacentrum.cz

storage-liberec3-tul.metacentrum.cz

storage-pruhonice1-ibot.metacentrum.cz

storage-vestec1-elixir.metacentrum.cz

Director

/storage

/storage

/storage

/storage

/storage

/storage

/storage

/storage

/storage

/storage

/storage

/storage

/storage

Frontend address

charon.nti.tul.cz

elmo.elixir-czech.cz

nympha.meta.zcu.cz

metafzu.fzu.cz

oven.metacentrum.cz

perian.grid.cesnet.cz

skirit.grid.cesnet.cz

skirit-lite.ics.muni.cz

tarkil.grid.cesnet.cz

tilia.ibot.cas.cz

zenith.cerit-sc.cz

Aliased as

charon.metacentrum.cz

elmo.metacentrum.cz

nympha.metacentrum.cz,
nympha.zcu.cz, minos.zcu.cz,
minos.meta.zcu.cz, alfrid.meta.zcu.cz

metafzu.metacentrum.cz

perian.metacentrum.cz,
onyx.metacentrum.cz

skirit.metacentrum.cz

skirit-lite.metacentrum.cz

tarkil.metacentrum.cz

tilia.metacentrum.cz

zenith.metacentrum.cz

Native home

/storage/
liberec3-tul

/storage/
praha5-elixir

/storage/
plzen1

/storage/
praha1

/storage/
brno2

/storage/
brno2

/storage/
brno2

/storage/
brno2

/storage/
praha1

/storage/
pruhonice1-
ibot

/storage/
brno12-cerit

OS

Debian
12

Debian
12

Debian
12

Debian
12

Debian
12

Debian
12

Debian
12

Debian
12

Debian
12

Debian
12

Debian
12

Physically located in

Liberec

Praha

Plzen

Praha

Brno

Brno

Brno

Brno

Praha

Pruhonice

Brno

Note

[Elixir users](#)

dedicated for FZU
users

[oven node](#) only

for quick job
management, script
editing, or checking job
status

Server

storage-brno2.metacentrum.cz

storage-brno11-elixir

storage-brno12-cerit

storage-plzen1.metacentrum.cz

storage-plzen2-zcu.cz

storage-plzen4-ntis.cz

storage-praha2-natur

storage-praha6-fzu.cz

storage-praha5-elixir

storage-budejovice1

storage-liberec3-tul

storage-pruhonice1

storage-vestec1-elixir

GEANT

Director

/storage

Frontend address

charon.nti.tul.cz

Aliased as

charon.metacentrum.cz

Setup Class

Note

Native home

/storage/

OS

Debian

Physically located in

Liberec

Note

Support computer
Grid HPC + HTC + Kubernetes
HPC Cloud
Object DataStorage
Resources available in EGI
Resources dedicated to ELIXIR CT
Virtualization platform
NRP - plan 2025-2027

dedicated for FZU
users

even node only

Object storage
CEPH
OwnCloud
Supercomputer
IT4Innovation
Ostrava
IT4I Cloud
OpenStack platform
Repository
NRP

for quick job
management, script
editing, or checking job
status

frontend A

user home
mounts to

STORAGE A

/storage/city_A/home/user_123

cd

frontend B

STORAGE B

frontend C

/storage/city_B/home/user_123

ibot

zenith.cerit-sc.cz

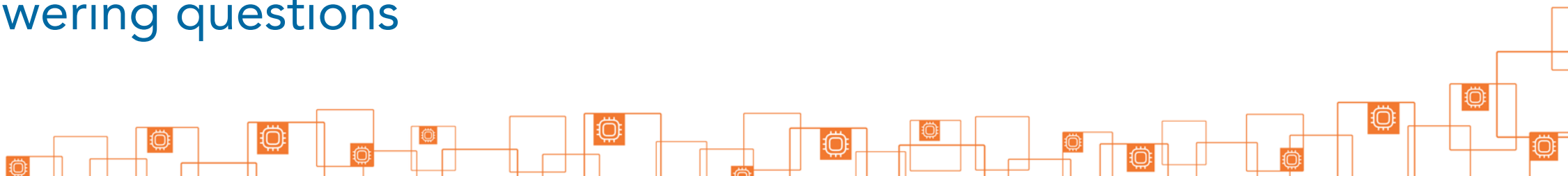
zenith.metacentrum.cz

/storage/
brno12-cerit

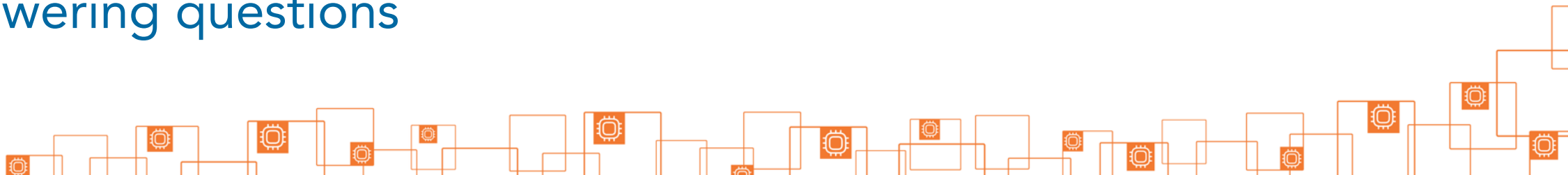
Debian
Brno
12

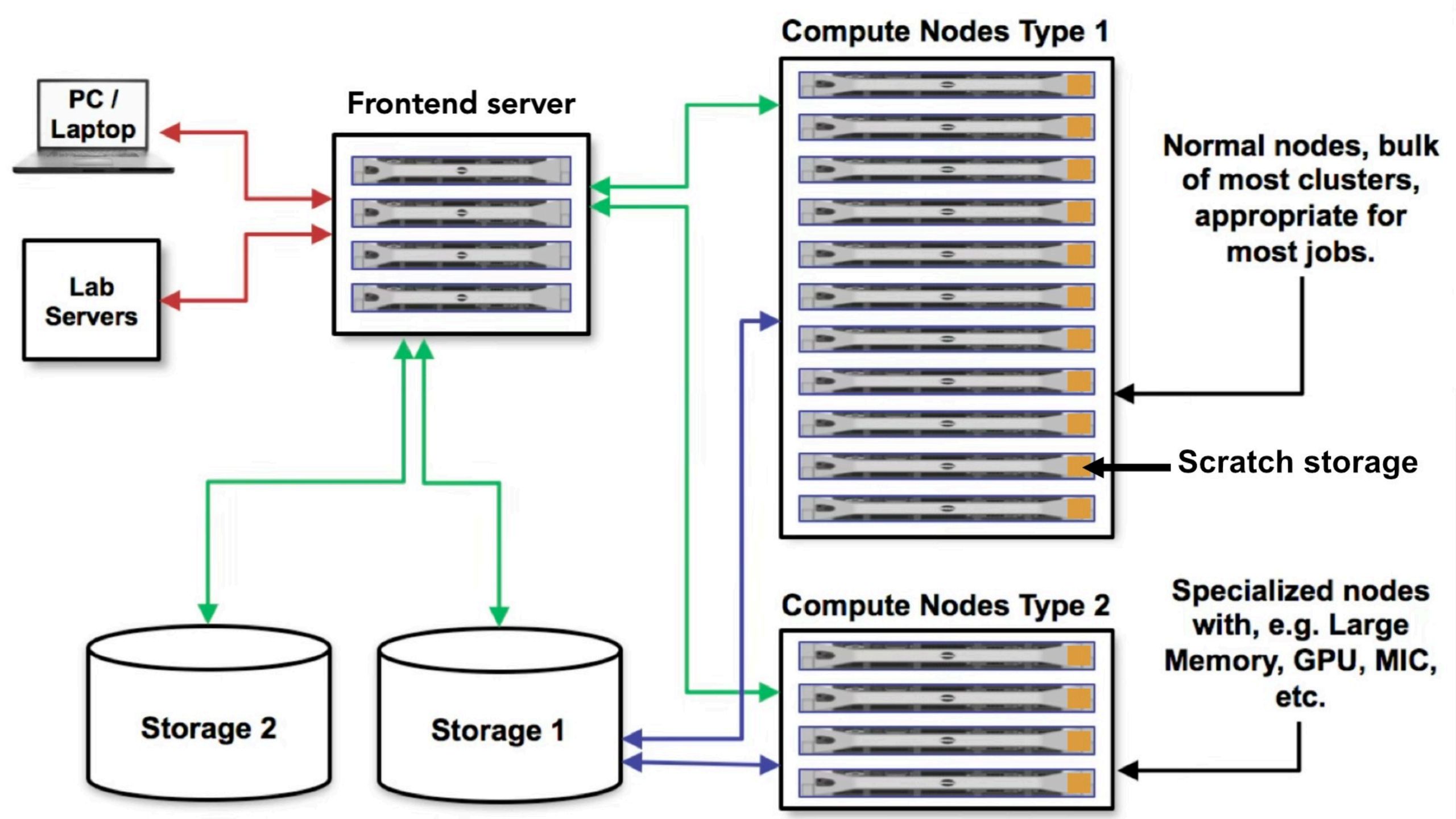
SANET

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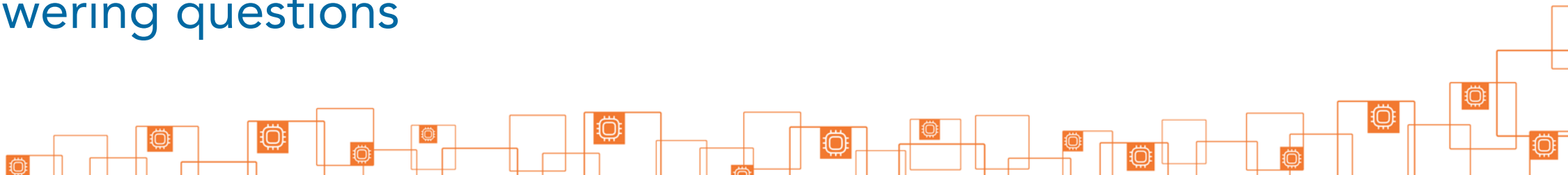


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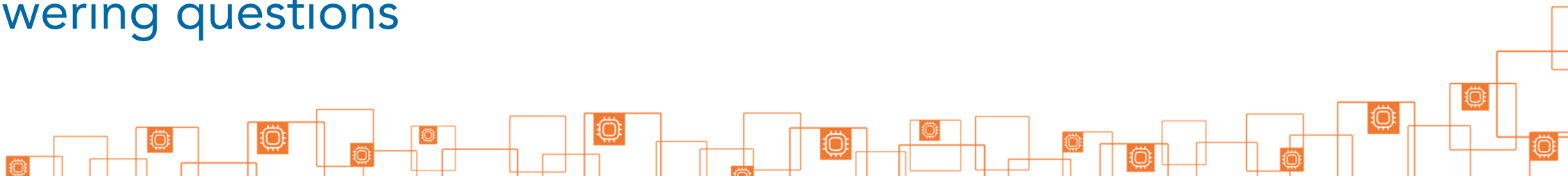




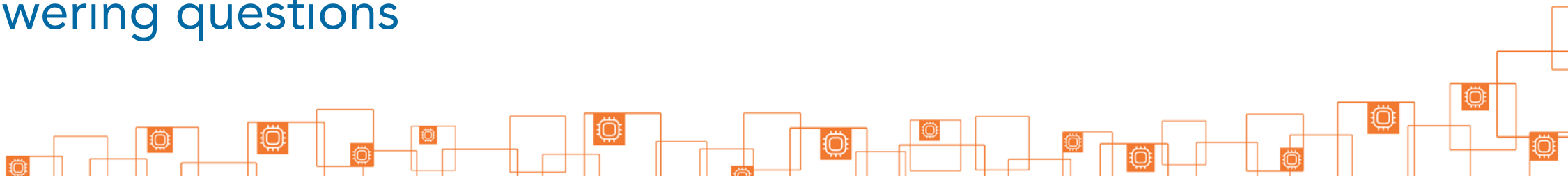
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