Human Brain Project

JÜLICH Forschungszentrum

UNICORE

Forschungszentrum Jülich GmbH

Secure integration of compute and data resources

TECHNOLOGY DESCRIPTION

UNICORE provides a set of software components for building secure distributed and federated computing infrastructures, integrating diverse and heterogeneous HPC and data storage systems. UNICORE is used to access high-performance computing systems and high-capacity storage systems from web applications and end-user client applications. It offers easy to use and flexible APIs for batch job management, data access and computational workflows.

UNICORE integrates seamlessly into existing infrastructures, and provides many options for user management.

Accessing high-performance computing resources via easy-to-use and flexible interfaces

Integrating diverse and heterogenous compute and data resources in a seamless and secure manner

AREAS

HPC | Simulations | Integration

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COMPETITIVE ADVANTAGES

- Simplify end-user access to HPC resources
- Improve time to solution by integrating HPC into your applications and workflows
- Enable automated and reproducible scientific workflows
- Leverage high-performance data transfer and a flexible security and permissions architecture

UNICORE helps bring HPC resources to non-HPC savvy users

TECHNOLOGY READINESS LEVEL

1 2 3 4 5 6 7 **8** 9

APPLICATION & MARKET POTENTIAL

- **Simulation sciences:** make running complex HPC simulations easy for your users
- **Data integration:** use UNICORE's storage adapters to integrate diverse data sources into your HPC solutions
- **Science gateways:** build web portals for accessing your compute resources

REFERENCES

- The German company NanoMatch uses UNICORE as a foundation of their SimStack software for virtual materials design for organic electronics and device optimization
- The software is Open Source (BSD licensed). The software and documentation are available at: https://www.unicore.eu

CONTACT

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