JedAI for HPC

define tech

jedai

By consolidating our HPC infrastructure into one solution, we realized quickly that the sum of the parts were indeed a lot greater than the whole.

We now have a single cluster that not only takes the load off the legacy platforms but builds upon it

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AS HPC WORKLOADS BROADEN, EVOLVE AND BECOME MORE DIVERSE, YOU NEED A CLUSTER MANAGEMENT SYSTEM THAT CAN ADAPT AND BE FLEXIBLE TO ACCOMMODATE THE DEMANDS OF MODERN DAY WORKLOADS AT ANY SCALE.

WHAT IS JEDAI FOR HPC?

JedAI for HPC is a comprehensive Cloud HPC cluster management stack that supports a broad range of workloads and software environments, providing organisations with an agile and scalable IT infrastructure. Run batch or MPI workloads on SLURM today, and over time, transition to Kubernetes for AI, or Spark for data analytics, easily evolving your infrastructure as user demands change. Our solution includes a self service portal where users can spin up their own virtual environments for POC or investigative work.

WHY JEDAI FOR HPC?

Enterprise HPC and AI Platform: High Performance Computing and Analytics (HPCA) is a rapidly growing sector that combines traditional High Performance Computing (HPC) with High Performance Data Analytics (HPDA). Modern workloads are adapting AI tools and techniques to shift through enormous data volumes to extract insight or enhance solutions. JedAI provides the agility to respond and scale to any workload demands ranging from compute intensive simulation to processing of large data sets.

Secure Multi-Cluster: For sensitive projects or external collaboration on sensitive data sets, JedAI provides users with a secure environment where HPC systems can be segregated into multi-tenant

FEATURES

Complete HPC user environment

Control infrastructure via cloud APIs

Comprehensive monitoring and alerting

OpenLDAP authentication

Support for virtual machines as well as bare metal provisioning

Containerised application stack support via Singularity

Web UI Portal with support for file transfers, workload management, and on demand VNC, RStudio and Jupyter support.

On demand Kubernetes provisioning and scaling.

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environments to provide isolated and secure access to HPC resources.

API Infrastructure: Built on open standards and APIs, our platform can be fully automated by development teams for DevSecOps workloads and CI/CD pipelines.

User Portal: For users who are unfamiliar with the Linux CLI,HPC resources should still be easy to use and consume. Our portal allows users to fully harness the power of HPC clusters through a simple to
use interface. The portal also allows users to create their own VNC sessions for remote visualisation, RStudio dashboards or Jupyter notebooks.

Public Cloud Extension: When resources on premise reach capacity, JedAI can extend or replicate clusters out to a public cloud environment. High priority projects or sudden changes to resource demands can be accommodated instantly with an elastic infrastructure.

Container Registry: Application portability and reproducibility are becoming major considerations in modern HPC environments today. Our platform includes not just container runtime environments but also registry to store containers and build servers to create and manage containerised applications.

On-Demand Parallel Storage Support: Populate compute nodes with SSD/NVMe and create on demand parallel filesystems (Lustre/BeeGFS) on the compute nodes via the scheduler to run IO intensive workloads. With workload manager integration you can automatically move required datasets on to the flash tier for the duration of the job and push them back to central / shared storage upon completion.

If you are interested in simplified IT management, scalable HPC resources, accelerated workloads and faster time to insight, talk to us about JedAI today.