define tech

LMX CLOUD

A HPC CLOUD PLATFORM

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 LMX CLOUD?

LMX Cloud is a comprehensive Cloud HPC cluster management stack that supports a broad range of workloads and software environments, enabling 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.

KEY FEATURES

- Complete HPC user environment (modules environment, scheduling software, monitoring, scientific libraries, compilers, profilers, debuggers)
- Control infrastructure via cloud APIs
- Comprehensive monitoring and alerting
- OpenLDAP authentication
- Support for virtual machines (for training and POC) as well as bare metal provisioning (HPC nodes)
- 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.

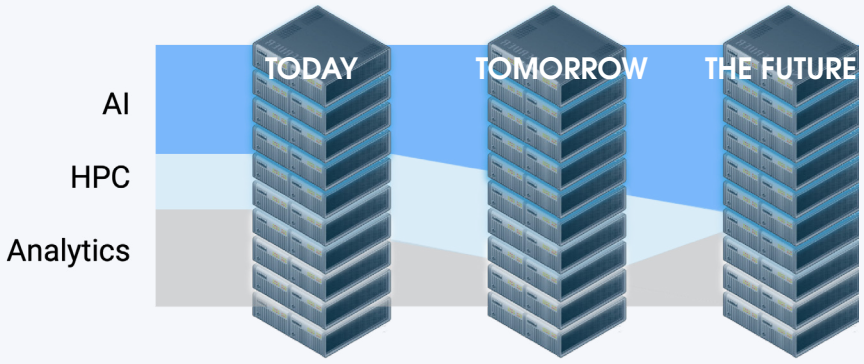

Fig 1. LMX Cloud delivers a dynamic Infrastructure that can adapt to your changing workloads

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. LMX Cloud provides the agility to respond and scale to any workload demands ranging from compute intensive simulation to processing of large data sets. See Fig.2.

SECURE MULTI-CLUSTER

For sensitive projects or external collaboration on sensitive data sets, LMX Cloud provides users with a secure environment where HPC systems can be segregated into multi-tenant 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, LMX Cloud 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.

ONDEMAND PARALLEL STORAGE/BURST BUFFER 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.

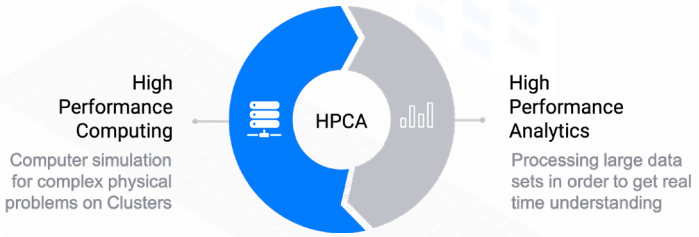

Fig 2. High Performance Computing and Analytics Explained

For pricing or to discuss your requirements:

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