

Exxact Scientific Computing Enterprise



Computing Infrastructure Management Made Easy

Scientific Computing workflows, such as Life Sciences and Materials Science, demand advanced computing solutions. Peak performance requires a purposeful design that balances the powerful infrastructure with user-friendly management.

Exxact Scientific Computing Enterprise, built with TrinityX, combines custom configurable hardware, pre-installed software, alongside cluster management tools optimized for your unique workflow. Accelerate project pipelines, streamline development cycles, and enhance scientific discovery capabilities with Exxact today.

Key Benefits

- Simple turnkey deployment
- For Life Sciences and Materials Science workflows
- Pre-installed software, applications, and management
- Computing infrastructure cohesion
- Manage processor and accelerator utilization
- Monitor and optimize computing resources
- Configure and deploy workflow managers and job schedulers

About Exxact Scientific Computing Enterprise

Exxact Scientific Computing Enterprise, built with TrinityX, is Exxact's layered cluster architecture for hardware monitoring, resource management, and workload scheduling, providing your team with transparent and performant computing infrastructure.



Core Management Layer

- Handles system-wide configurations with environment modules for software dependencies.
- Central management point and maintains system security and logging activity.
- Includes Cluster Management Utilities.

Each layer of the Exxact SCE architecture stack is carefully curated to tackle your workload effectively and optimally. Every Exxact Rack Scale Cluster is rigorously tested, validated,



Resource Management Layer

- Node management distributes and allocates computing resources to balance jobs across the cluster.
- High-performance consolidated storage supports shared workflows across the cluster.
- Monitor real-time cluster activity.

and optimized specifically for your scientific research workflows, ensuring peak performance from day one.



Workload Management Layer

- SLURM scheduler orchestrates workloads based on priority and resource requirements.
- Development tools for performance optimization and troubleshooting.
- Pre-installed scientific computing software and libraries.

Scheduler

File System

Cluster Manager (TrinityX)

Configuration Management

Provisioning

Node Management

Environment Modules

Security & Node Logs

IPMI Management

Linux OS

Powering Unique Workflows

Exxact Scientific Computing Enterprise delivers pre-validated nodes pre-installed with your biomolecular software, including AMBER, GROMACS, NAMD, and LAMMPS, as well as tools for developing AI. Every application is optimized and validated for accelerated performance with CUDA.

To accelerate simulations and analyses, MPI libraries are installed for multi-node parallel computing. Through expert optimization and a cluster management interface, researchers gain instant access to optimized frameworks, accelerated libraries, and validated research environments for a complete day-one operational solution.

Materials Science

LAMMPS CHARMM



MedeA SCHRÖDINGER



VASP

Gaussian, Inc.



PetaChem



Life Sciences

AlphaFold AMBER MD



GROMACS



LAMMPS

PARTICLE FIELDS

LAMMPS

NAMD

SCHRÖDINGER

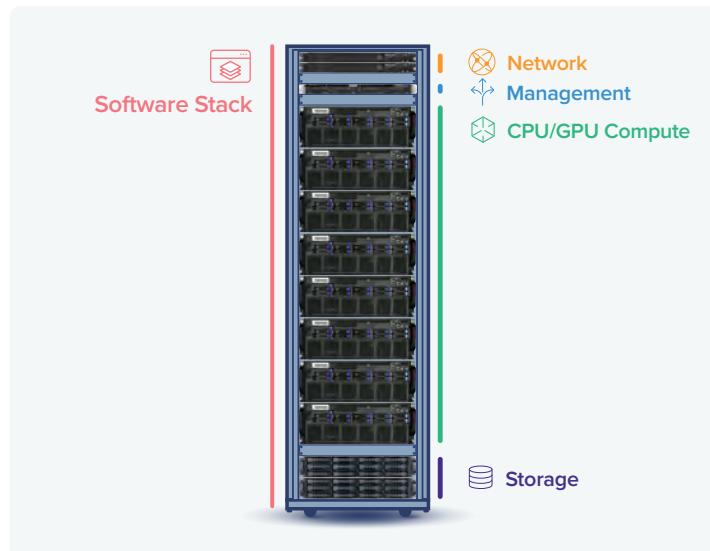
UCSF Chimera

cryoSPARC

RELION

VMD

Boltz



TrinityX Cluster Management Infrastructure

Exxact Scientific Computing Enterprise pairs TrinityX's cluster management with Exxact RackEXXpress rack integration to deliver a complete cluster solution.

- Centralized cluster management control
- Seamless with existing and future hardware
- Optimized workload scheduling
- Scalable management architecture
- Available for any RackEXXpress option

Serving the Industry's Top Innovators



Connect with our sales engineers to configure a computing infrastructure powered by Exxact Scientific Computing Enterprise tailored to your research needs. Our Exxact experts will assess your requirements and help deliver an ideal solution for accelerating your workflow and tackling the world's greatest problems.



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