# GARAOTUS

## HPC Service Module –
## A HPC Management Platform

# ➤ HPC Supports the Real-Time Results in the New Era

HPC has been widely utilized for the applications for modeling and simulation on or physical servers in the datacenter of an organization. Since a series of applications from machine learning and data analytics, the importance of HPC is present clearly in terms of its highly computing power.

Because of the increasing demand of HPC from research institutes, academies, medical centers, government agencies and high-tech manufacturers ... etc., to enhance the user experience and manageability, GARAOTUS designed a HPC Service Module to resolve the challenges from HPC users and administrators.
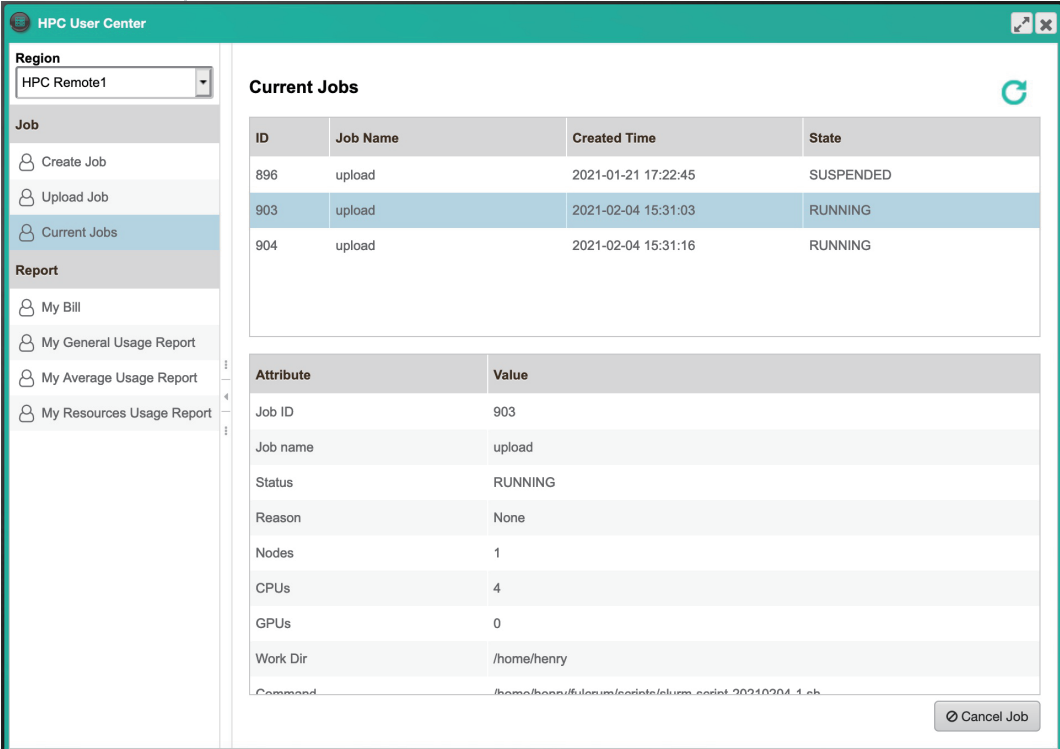
The HPC challenges at a glance are:
- Simpler computing workload manager for new users in academy or enterprises
- Higher priority or important works throttled by limited permission
- Urgent access to the HPC for time-intense jobs

GARAOTUS HPC Service Module features by multi-tenant with self-service portal. This user portal integrates with the Job Scheduler from Slurm to manage the computing workloads. To setup the workload computing resource either by GUI (Graphic User Interface) for new users in HPC or CLI (Command Line Interface) for the experienced HPC users.

# The Intuitive Design of GARAOTUS HPC Service Module

Due to GARAOTUS HPC Service Module divides the users with multi-tenant architecture, also with the feature of Metering & Billing, the administrators manage the different types of resource by roles for the occasions of urgent access for time-intense jobs or higher priority access.



**HPC Service Module Integrated HPC Slurm Scheduler** to Provide Universal GUI Interface to Manage Job for HPC Users.

# HPC-as-a-Service Triggers the Revolution of Infrastructure Service

The growing complexity driven by new technologies, the strategic decision of increasing the size of the HPC cluster by adding more servers or having a professional service to design an architecture to migrate existing servers to a new HPC cluster for building up a HPC as a Service is a dilemma for the IT administrators.

GARAOTUS also provides the solution of HPC as a Service design for the challenges of growing demand of complexity of infrastructure. This design partitions the infrastructure to A.I. Computing as a Service, HPC Computing as a Service, IaaS Computing as a Service and Image Repository Service.
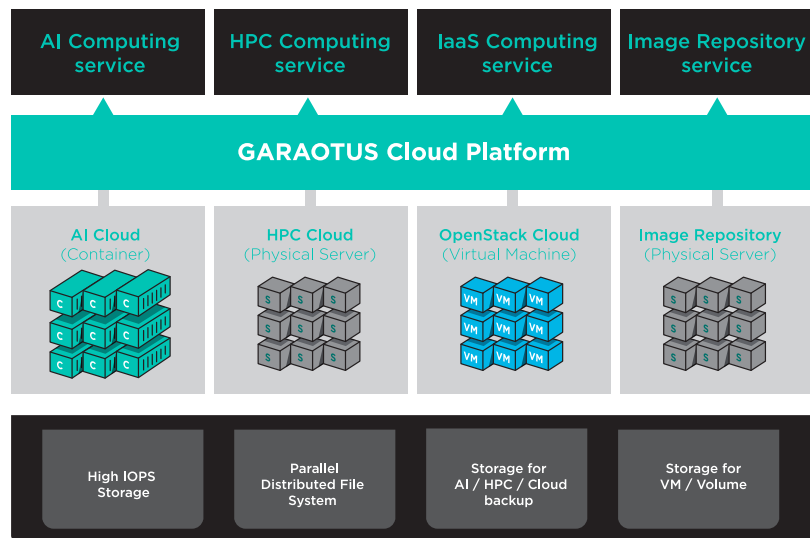


GARAOTUS helps the innovation tasks of organization by the cutting-edge design of datacenter infrastructure. The emerging 5G will bring the explosive data growth, also more and more edge devices are connected to the datacenter. A visionary entrepreneur in the organizations have to plan ahead with HPC computing resource for further innovation challenges. GARAOTUS HPC Service Module or GARAOTUS Cloud Platform would be the one of the great partners in this class.

The HPC Service Module is a great product for the datacenters with HPC computing service. However, GARAOTUS also designed HPC turnkey solution for different requirement. The detail of the HPC turnkey solutions is below.

# Moving forward HPC as a Service by Turnkey Solutions

| | Basic<br>Up to 15 Nodes | Advanced<br>Up to 25 Nodes | Premium<br>Up to 50 Nodes | Enterpise<br>Over 50 Nodes |
|---|---|---|---|---|
| **Softwares** | | | | |
| Cent Os | ✓ | ✓ | ✓ | ✓ |
| GCC | ✓ | ✓ | ✓ | ✓ |
| Open MPI | ✓ | ✓ | ✓ | ✓ |
| Quay | ✓ | ✓ | ✓ | ✓ |
| Slurm | | ✓ | ✓ | ✓ |
| Singularity | | ✓ | ✓ | ✓ |
| Anisble | | | | ✓ |
| OpenStack | | | | ✓ |
| Ceph | | | | ✓ |
| **HPC Service Module** | | | | |
| Slurm integration | | ✓ | ✓ | ✓ |
| GUI for Billing & Metering | | ✓ | ✓ | ✓ |
| GUI for Monitoring | | | ✓ | ✓ |
| GUI for Singularty Management | | | ✓ | ✓ |
| Professional Service | | | ✓ | ✓ |
| | **14**<br>Man-Day | **20**<br>Man-Day | **30**<br>Man-Day | **60**<br>Man-Day |

**HPC as a Service (Only for Enterprise Package)**

- Multi-Tenant Management
- Online ordering for HPC resource
- Job Scheduler/Workload Manager
- GUI for Metering, Billing and Report
- GUI for Monitoring
- GUI for Singularity Management

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