



Appendix

कम्प्यूटेशनल और डाटा साइंसेज सेंटर
Centre for Computational and Data Sciences
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POLICY ON
HIGH-PRIORITY ACCESS ON PARAM SHAKTI HPC

1. High-Priority Queue

The High-Priority Queue is intended to facilitate time-critical and sponsored computational research that requires expedited access to PARAM Shakti resources. Access to the High-Priority Queue shall be provided on a recharge basis in accordance with the approved usage charges. The recharge mechanism and Service Unit (SU) accounting shall be governed by the provisions of this policy and by any notifications issued by the HPC Administration.

This policy applies exclusively to users of the High-Priority Queue on PARAM Shakti HPC availing services on a paid/recharge basis through a paid Slurm account. It does not govern access to or use of non-paid/general-queue resources, which shall continue to be governed by separate applicable guidelines.

2. High-Priority Usage Charges

The High-Priority Queue shall continue to operate on a pay-per-use basis, providing preferential scheduling for users requiring expedited access to computational resources. The applicable usage charges shall be calculated based on the Service Units (SU) consumed, where one SU represents one hour of wall-clock time on either one CPU core or one GPU. For the purposes of SU accounting, the SU credit to a user's account shall be calculated based on the net amount received under the PSU project, after deducting applicable taxes, if any.

The following usage charges have been recommended by the HPC Advisory Committee: -

For Internal Users (from IIT Kharagpur)

Resource Type	Usage charges (₹/SU)
CPU	₹ 0.04
GPU	₹ 2.00

For External Users (Other than IIT Kharagpur)

Resource Type	Usage charges (₹/SU)
CPU	₹5.00
GPU	₹25.00

Usage charges are accepted under the SRIC project "PARAM Shakti Usage Charge" (Code: PSU). Funds transferred to PARAM Shakti Usage (PSU) are non-refundable.

3. QoS-Based Scheduling and SU Accounting

The High-Priority Queue shall operate on a fixed usage-charge model integrated with a QoS-based scheduling framework, as described in the Transition section below. The QoS framework shall use Slurm accounting and priority mechanisms to determine scheduling priority based on resource usage and the applicable QoS profile. The QoS framework shall use Slurm accounting and priority mechanisms to determine scheduling priority based on resource usage and the applicable QoS profile.

Each paid Slurm account shall be associated with two QoS profiles: **standard** and **priority**. Users shall select the appropriate QoS profile based on their computational requirements and specify it in the job submission script. Job submission shall be subject to the resource limits and other conditions associated with the selected QoS profile.

The QoS profiles shall determine the scheduling priority and the applicable billing multiplier, as specified below. The Usage Factor shall be applied to actual resource consumption for both SU accounting and billing purposes. Accordingly, jobs submitted under the priority QoS profile shall be billed at five times the per-SU usage charges specified in Section 2, and shall receive higher scheduling priority and higher resource ceilings (as per the table below). Jobs submitted under the standard QoS profile shall be billed at the standard per-SU usage charges specified in Section 2, based on actual resource consumption.

QoS Profile	Max Nodes	Max Cores	Base Priority	Billing Multiplier
standard	10	400	1X	1X
priority	40	1600	10X	5X

For illustration: under the priority QoS profile, an Internal user's CPU usage charge would be ₹0.04 × 5 = ₹0.20 per SU; GPU usage charge would be ₹2.00 × 5 = ₹10.00 per SU.

The higher billing multiplier under the priority QoS profile is intended to offset the higher scheduling priority and larger resource ceilings afforded to such jobs, and to discourage indiscriminate use of the priority profile for non-time-critical workloads.

4. Transition from Existing Charging Mechanism:

The existing volume-based slab billing mechanism shall continue to apply to recharge transactions made up to 30 September 2026. From 1 October 2026, the slab-based mechanism shall be discontinued and replaced by the revised fixed-rate charging model described above.

For accounts with cumulative recharge transactions exceeding ₹2,00,000 made on or before 30 September 2025 (i.e., transactions more than one year old as of the transition date), any unused SU balance as of 30 September 2025 shall be reconciled based on the revised usage rates. The corresponding reconciled SU balance shall be credited to the respective accounts within two weeks of implementation of the revised charging mechanism. Accounts with cumulative recharge transactions of ₹2,00,000 or less as of that date shall remain unaffected.

Recharge transactions made during the period from 1 October 2025 to 30 September 2026 (i.e., within one year of the transition date) shall continue to be governed by the existing slab-based rates applicable at the time of transaction, and shall not be subject to reconciliation. Unused SU balances in such accounts shall be carried forward and consumed under the revised fixed-rate model without recalculation of their originally purchased value.

5. Policy Review

The policy shall be reviewed periodically by the HPC Advisory Committee, considering cluster utilisation, scheduler performance, resource allocation, computational demand, user feedback, and infrastructure changes. The HPC Advisory Committee may recommend appropriate revisions to the scheduler policies, resource allocation mechanisms, usage charges, and operational guidelines to ensure efficient, transparent, and equitable utilisation of PARAM Shakti HPC.

To ensure the smooth and efficient operation of PARAM Shakti, the HPC Administration may, in consultation with the Chairman, HPC Advisory Committee, modify existing operational settings and parameters – such as QoS resource limits and scheduling parameters – other than those pertaining to SU usage charges, billing multipliers, or SU accounting, as and when required. Any such modification shall be reported to the HPC Advisory Committee at its next scheduled meeting.

6. Effective Date

This policy shall come into effect upon approval by the competent authority and shall remain in force until amended or superseded.

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अध्यक्ष / Head

अभिकल्पनात्मक एवं डाटा विज्ञान केन्द्र

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