

REQUEST FOR PROPOSAL (RFP)

Provision of GPU-Based Private Cloud Infrastructure

For Academic & Professional Workloads

1. Introduction

The University of Lahore (UOL) invites sealed proposals from qualified, experienced, and reputable vendors for the **design, supply, deployment, and commissioning of a GPU-based private cloud infrastructure** to be hosted within the University's Tier-III Data Centre.

The proposed solution shall support high-performance academic and professional workloads through centralized GPU resources accessible via standard user terminals.

2. Purpose of the RFP

The purpose of this RFP is to:

- Establish a centralized GPU cloud platform for academic labs and professional users
- Enable high-performance graphical applications without endpoint GPUs
- Ensure secure, scalable, and well-governed user access
- Conduct a Proof of Concept (POC) to validate performance and architecture

3. Scope of Work

The selected vendor shall be responsible for, but not limited to, the following:

- Solution design and architecture
- Supply of GPU-enabled servers and related components
- Deployment and configuration within UOL Data Centre
- Integration with existing network and infrastructure
- User access management setup
- Documentation and knowledge transfer

4. User & Usage Requirements

- **Total Concurrent Users:** 100
 - **Academic Lab Users (Students):** 70
 - **Professional Users (Faculty / Staff):** 30
- Users will access GPU resources remotely via terminals **without onboard GPUs**
- The solution must support simultaneous concurrent usage

5. Application Workloads

5.1 Academic Applications

- High-end 3D visualization and rendering workloads
- Benchmark application: **Latest/highest supported version of Lumion**

5.2 Professional Applications

- Creative and design workloads
- Primary applications: **Adobe Creative Suite**

5.3 AI / LLM Workloads

- Large Language Models (LLMs) are **out of scope** for this Proof of Concept

6. Data Center & Infrastructure Readiness

- Hosting Location: **University of Lahore Tier-III Data Centre**
- **Network:**
 - End-user terminals: Minimum **1 Gbps**, upgradeable to **10 Gbps**
 - Data center core: Up to **100 Gbps** supported
- **Power & Cooling:**
 - Current capacity: **5 kW per rack**
 - Additional power and cooling can be provisioned if required

7. GPU & Compute Architecture

Vendors must propose:

- Suitable GPU models for virtualization and graphics workloads
- GPU sharing, pass-through, or virtualization mechanisms
- Recommended CPU, RAM, and storage configuration
- Scalability and expansion roadmap

8. Virtualization, Containers & Operating Systems

- Support for GPU virtualization and/or container-based workloads
- **Mandatory support for Windows-based virtual machines**
- Optional support for Linux-based workloads
- Clear disclosure of all licensing requirements

9. User Access, Security & Management

The solution must include:

- Centralized user authentication and authorization
- Role-Based Access Control (RBAC)
- User session isolation
- Resource allocation and quota management
- Activity logging and audit trails
- Integration capability with directory services (if applicable)

10. Network Access & Protocols

- Secure remote access to GPU resources
- Industry-standard display and remoting protocols

- Optimized performance over LAN
- Low-latency user experience for graphics-intensive workloads

11. Proof of Concept (POC)

The proposal must clearly define:

- POC architecture and scope
- Testing methodology and success criteria
- Performance benchmarks for Lumion and Adobe workloads
- POC timeline and responsibilities

12. Deliverables

The vendor shall provide:

- Detailed solution architecture diagrams
- Bill of Materials (BoM)
- Deployment and configuration documentation
- Licensing details (hardware/software/subscription)
- Operational and administrative manuals
- Knowledge transfer and handover sessions

13. Vendor Eligibility & Qualifications

Vendors must demonstrate:

- Proven experience in GPU-based cloud or virtualization deployments
- Relevant academic or enterprise references
- OEM partnerships (where applicable)
- Availability of local technical support and escalation mechanisms

14. Commercial Proposal

The commercial proposal must include:

- Capital and/or subscription-based pricing
- POC cost (if applicable)
- Support and maintenance charges
- Scalability and future expansion costs
- Validity period of the proposal

15. Proposal Submission Guidelines

- Proposals must be submitted in **technical** and **commercial** sections
- All pages must be duly signed and stamped
- Late submissions will not be entertained
- UOL reserves the right to accept or reject any or all proposals

16. Evaluation Criteria

Proposals will be evaluated based on:

- Compliance with technical requirements
- Performance and scalability
- Security and user management capabilities
- Total cost of ownership (TCO)
- Vendor experience and support strength

17. Confidentiality

All information contained in this RFP shall be treated as confidential and shall not be disclosed to any third party without prior written consent from the University of Lahore.