



भारतीय प्रबन्ध संस्थान, लखनऊ

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NIT No. IIML/PUR/NETWORK/28/2021-22

Date: 01/02/2021

E-Tender (Notice Inviting Tender)

Indian Institute of Management, Lucknow, an autonomous body, setup by the Ministry of Human Resources Development, Government of India invites bids from reputed firms / agencies in three bid system (Pre-qualification, Technical and Financial) in prescribed format for Network Infrastructure Upgrade Project of IIM Lucknow. The details are as under:

Project Name: Network Infrastructure Upgrade Project	
Tender Type	Open Tender
Release of Tender	01 st February 2021
Tender Fees	Zero
Earnest Money Deposit	Rs. 30,00,000/- (Rupees Thirty Lakhs only) in the form of Bank Guarantee issued by a nationalized / scheduled bank in India
Bid Validity	180 days from last date of Bid Submission
Bid Submission	Online
Evaluation Method	LCS
IMPORTANT DATES	
Last date and time for submission of Bid	4 th March 2021 up to 05:00 PM
Pre-bid meeting (online)	4 th February 2021 at 10: 00 AM
Venue for opening of Pre-Qualification, Technical and Financial bids	Indian Institute of Management, Prabandh Nagar, IIM Road, Lucknow – 226 013 (U.P.)
Date of opening of Pre-Qualification, Technical & Financial bids will be updated on CPP portal. No separate communication will be sent. Financial bid of technically qualified bidders will be opened.	

Bids are invited for Network Infrastructure Upgrade Project for Indian Institute of Management, Lucknow. A free view NIT is available on Govt. E-Procurement portal i.e. <https://eprocure.gov.in> and on institute website www.iiml.ac.in. Interested Firms working as IT System Integrator are requested to sign-in (new user sign-in only with DSC) online to obtain user-ID and password using Digital Signature. The tender document comprises of Pre-Qualification, Technical and Financial bid. The Pre-Qualification, Technical bid in pdf and Financial bid in provided excel template duly filled in may be uploaded on E-procurement portal of Govt of India i.e. <http://eprocure.gov.in> using Digital Signature before the last date and time of submission as mentioned above.



Indian Institute of Management (IIM)

Lucknow

Request For Proposal

(Volume I)

for

Network Infrastructure Upgrade

Project

RFP Reference No: IIML/PUR/NETWORK/28/2021-22

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Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

Disclaimer

The information contained in this Request for Proposal document (“RFP”) or subsequently provided to Bidders, whether in documentary or any other form by or on behalf of Indian Institute of Management (IIM), or any of its employees or advisors, is provided to Bidders on the Terms and Conditions set out in this RFP and such other terms and conditions subject to which such information is provided.

This RFP is not an agreement and is neither an offer nor an invitation by IIM to the prospective Bidders or any other person. The purpose of this RFP is to provide interested parties with information that may be useful to them in the formulation of their Proposals pursuant to this RFP.

This RFP may not be appropriate for all companies, and it is not possible for IIM, its employees or advisers to consider the objectives, technical expertise and particular needs of each party who reads or uses this RFP. The assumptions, assessments, statements and information contained in this RFP, may not be complete, accurate, adequate or correct. Each bidder should therefore conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments and information contained in this RFP and obtain independent advice from appropriate sources.

Information provided in this RFP to the Bidders is on a wide range of matters, some of which depend upon interpretation of facts. The information given is not an exhaustive account of requirements and should not be regarded as a complete or authoritative statement of facts. The specifications laid out in this RFP are indicated as the minimum requirements whereas the bidders are expected to focus on the objectives of the project and formulate their solution offerings in a manner that enables achieving those objectives in letter as well as spirit.

IIM accepts no responsibility for the accuracy or otherwise for any interpretation or opinion expressed herein. IIM, its employees and advisers make no representation or warranty and shall have no liability to any person including any Bidder under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFP or otherwise, including the accuracy, adequacy, correctness, reliability or completeness of the RFP and any assessment, assumption, statement or information contained therein or deemed to form part of this RFP or arising in any way in this Selection Process.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

IIM also accepts no liability of any nature whether resulting from negligence or otherwise however caused arising from reliance of any Bidder upon the statements contained in this RFP.

IIM may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumption contained in this RFP.

The issue of this RFP does not imply that IIM is bound to select a Bidder or to appoint the Selected Bidder, as the case may be. IIM reserves the right to reject all or any of the Proposals without assigning any reasons whatsoever.

The Bidder shall bear all its costs associated with or relating to the preparation and submission of its Proposal including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by IIM or any other costs incurred in connection with or relating to its Proposal. All such costs and expenses will remain with the Bidder and IIM shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by an Bidder in preparation or submission of the Proposal, regardless of the conduct or outcome of the Selection Process.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

Table of Contents

1. Purpose of the RFP.....	7
2. Structure of the RFP.....	7
3. Project Overview.....	8
3.1. About IIML.....	8
3.2. Objective	9
3.3. Design Considerations.....	10
4. Critical Success Factors	11
5. Stakeholders and Project Governance.....	12
5.1. Stakeholders	12
5.2. Organization Structure for Monitoring and Evaluation	12
5.3. Project Governance and Reporting Charter.....	14
6. Responsibility Matrix	16
7. Scope of Work.....	19
8. Implementation Methodology.....	21
8.1. Pre-implementation Site Survey	21
8.2. Implementation Plan and Design.....	22
8.3. Part-procurement of BoQ items	22
8.4. Procurement of complete BoQ items	23
8.5. Implementation of Passive components	23
8.6. Implementation of Active components	23
8.7. Installation of UPS & Electrical items.....	24
8.8. Installation of Earthing at Data Centres.....	24
8.9. Installation of Rodent Control.....	26
8.10. Implementation of Security Components.....	26
8.11. Implementation of Single Sign-On (SSO)	26



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

8.12.	Implementation of Centralized Help desk Ticketing Solution.....	27
8.13.	Post-implementation Site Survey	29
8.14.	Acceptance of Post-implementation Site Survey report by IIML.....	29
8.15.	Acceptance Testing	29
8.16.	Third-party Audit.....	31
8.17.	Project Documentation.....	32
8.18.	Training and Capacity Building.....	32
8.19.	Project Go-Live	32
8.20.	Operation & Maintenance	33
8.21.	Delays and Deviations.....	36
9.	Network Architecture	36
9.1.	Network Architecture at Lucknow Campus	37
9.2.	Network Architecture at Noida Campus.....	38
10.	Bill of Material.....	39
10.1.	Active Network Components.....	39
10.1.1.	Lucknow Campus	39
10.1.2.	Noida Campus	40
10.2.	Passive Network Components	41
10.2.1.	Lucknow Campus	41
10.2.2.	Noida Campus	43
10.3.	Security Components.....	43
10.4.	Centralized Help desk Ticketing Solution.....	44
10.5.	UPS & Electrical Components	45
10.5.1.	Lucknow Campus	45
10.5.2.	Noida Campus	46
10.6.	Non-IT Components.....	48



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

10.6.1.	Lucknow Campus	48
10.6.2.	Noida Campus	48
11.	Implementation Timelines	49
12.	Project Implementation Team	49
13.	Support and Maintenance Team	50
14.	Exit Management & Handover Mechanism.....	52
15.	Training and Capacity Building.....	53
16.	Annexure.....	57
16.1.	Annexure 1: As-IS State of Network infrastructure	57
16.1.1.	Lucknow Campus	57
16.1.2.	Noida Campus	70
16.2.	Annexure 2: Envisaged Project Solution Architecture	76
16.2.1.	Network Architecture at Lucknow Campus:	76
16.2.2.	WAN Links	77
16.2.3.	Link load Balancer	77
16.2.4.	Firewall.....	77
16.2.5.	Application Hosting Zones	78
16.2.6.	Active Components.....	79
16.2.7.	Passive Components	83
16.2.8.	Network Architecture at Noida Campus:.....	84
16.3.	Annexure 3: Technical Specifications & Compliance Sheet.....	87
16.3.1.	General Specifications.....	88
16.3.2.	Active Components.....	89
16.3.3.	Passive Components	135
16.3.4.	Ducting & Laying of Optical Fibre Cable.....	142
16.3.5.	Security Components.....	144



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

16.3.6.	Single Sign-On Solution	157
16.3.7.	Centralized Helpdesk Ticketing Solution.....	162
16.3.8.	UPS and Electricals Items	164
16.3.9.	Earthing.....	170
16.3.10.	Rodent Control.....	170
16.4.	Annexure 4: List of IIML Applications & Software	172



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

1. Purpose of the RFP

The purpose of this RFP is to solicit proposals from the bidders for selection of System Integrator (SI) for **Network Infrastructure Upgrade Project for Indian Institute of Management, Lucknow (IIML)** through a competitive bidding process. The System Integrator will be responsible for the procurement, supply, design, successful implementation and operations and maintenance of the project. The RFP intends to bring out the details with respect to scope of services that are deemed necessary to share with the interested bidders

2. Structure of the RFP

Volume I: Functional and Technical Requirements

Volume I of RFP intends to bring out all the details with respect to scope of work, project implementation, timelines, solution and other requirements that IIML deems necessary to share with the potential bidders. The information set out in this volume has been broadly categorized as Functional, Technical and Operational requirements covering multiple aspects of the requirements.

Volume II: Commercial and Bidding Terms

Volume II of RFP purports to detail out all that may be needed by the potential bidders to understand the commercial terms and bidding process details.

Volume III: Contractual and Legal specifications

Volume III of RFP is essentially devoted to explaining the contractual terms that IIML wishes to specify at this stage. It basically consists of a draft of Master Services Agreement (MSA) that needs to be signed between the IIML and the successful bidder (SI). This MSA includes a separate schedule on Service Level Agreement (SLA).

The bidders are expected to examine all instructions, forms, terms, Project requirements and other information in the RFP documents. Failure to furnish all information required as mentioned in the RFP documents or submission of a proposal not substantially responsive to the RFP documents in every respect will be at the Bidder's risk and may result in rejection of the proposal.

This document is Volume I.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

3. Project Overview

Over the last decade, IIM Lucknow has upgraded its network infrastructure from time to time on an as-is-necessary approach. However, this has led to a highly complex and heterogenous network system in which several components have become obsolete and incapacitated.

Keeping up with the pace of advent in technology and data consumption, the stakeholders at the Institute cognized the pressing need for completely renovating their network infrastructure as per best industry standards. IIM Lucknow intends to continue providing world-class, future-ready, reliable and highly secure Network facilities to its students & faculty.

With this objective, IIM Lucknow wishes to engage the services of a consulting firm to draft a high-level network design and handhold the Institute through the process of open market tender due-diligence leading to successful on-boarding of a capable System Integrator that will implement and operationalize the next-generation networking capabilities within IIM Lucknow and Noida campuses.

3.1. About IIML

Indian Institute of Management Lucknow (IIML) is one of the most prestigious institution in India offering multiple post-graduate degree and diploma programs in Business Management for students and executive professionals. Established in 1984 as the fourth Indian Institute of Management (IIM) by the Government of India, IIM Lucknow offers post-graduate diploma, fellowship and executive programs in management. It is recognized as an "Institution of Excellence" by India's Ministry of Human Resource Development. The faculty members are industry leaders in their respective areas and are drawn from various fields of management. Besides conducting regular classes and the MDP (Management Development Program for continuing executive education), the faculty conducts independent research and offer consulting services to business organizations.

The institute boasts of a world-class infrastructure spread across a 200-acres campus at Lucknow and another 20-acre campus at Noida and comprises of all state-of-the-art facilities such as fully air-conditioned Academic blocks, large Conference halls and auditoriums, vast Libraries, multi-faceted avenues for sports and cultural activities, advanced Computer labs, Well facilitated Residences/Hostels, Dining Halls, etc. that are used by students for their comprehensive development.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

3.2. Objective

With relentless advancements in technology new realms are emerging in the field of academics, with institutions embarking on their journey towards incorporating i-learning and aim to provide their students with new and innovative methods of imbibing knowledge. IIM Lucknow, in its pursuit to being an institution par excellence, envisions its students to adopt contemporary techniques of learning, such as:

- Learning through High-Definition videos
- Collaboration among students & with faculty through Video Conferencing tools
- Collaboration channels: document sharing, reports download
- Live collaboration at document level for group assignments
- Conducting larger number and variety of courses per Faculty by having online classes that run concurrently at both campuses
- Regular webinars and industry interactions for regular students and executive programs

The aforesaid modes of education entail an imminent need for provisioning of a highly efficient Network and Internet bandwidth availability at IIML's campuses in Lucknow and Noida. With the existing network system not being able to cater to the increasing demand of data throughput, IIML is keen to take up the proposed project with the following key objectives:

- Provision a highly efficient network infrastructure comprising of Wi-fi as well as wired connectivity access to the end-users.
 - Assured Wi-Fi reception & minimum bandwidth availability of 25 Mbps for students in areas such as Classroom, Hostel, Mess, Shopping complex, Auditorium
 - Fiber based (up to 300 Mbps) & Wi-fi connectivity (25/100 Mbps) in faculty block, offices
 - Additional fiber based dedicated connectivity (up to 300 Mbps) for faculty & staff at residences
- Ensure that the network infrastructure delivers the necessary Quality of Service in terms of bandwidth, up-time/availability, signal strength and security to the users of IIML (Staff, Faculty, Students).



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- Devise a future-ready Network infrastructure that is scalable with growing needs of data requirements as the institution imbibes contemporary methodologies for e-learning and expands its campuses in terms of Buildings, Users and Courses.
 - Network Infrastructure sizing that caters for next 10 years
 - New Fiber backbone that caters to next 20+ years requirement in Campus with no single fiber route failure
 - Spare reserve capacity planned to cater to future premises such as hostels, faculty blocks, etc.
- To ensure continuous monitoring of SLAs related to network availability and make provisions for appropriate rectifications within shortest turn-around time.

3.3. Design Considerations

- Designing a Network IT infrastructure leveraging the advanced IT components available in the industry for provisioning of Internet and Intranet based network connectivity.
- Establishing adequate access points for wireless as well as wired connectivity within the campus buildings and open areas.
- Employing a Modular network design scalable with upcoming requirements (new building, events)
- Creating the Network architecture based on Open standards that is independent of any proprietary Hardware, Software, Service provider, etc.
- Having necessary Security infrastructure that provides seamless access to IIML's internal applications with all due authorizations.
- Setting up of a state-of-the-art Network monitoring solution in the Data centre for monitoring and managing the availability, performance and bottlenecks of the network and its various components.
- Setting up perimeter security - Next generation firewall including IPS & malware protection and Web application firewall.
- Provide a SSO (Single sign on) based solution for enabling easy User management across multiple applications/ usage.
- Employing best in class Data & Information Management practices for continuous tracking of Network related SLAs.



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

- Provisioning / Refresh UPS and power backup to cater for adequate redundancy and for powering the network components to be deployed as per this project's new design.
- Creating an elaborate Training and Knowledge Management System that enables IIML IT Administrators to monitor and manage the Network Infrastructure Operations effectively.

4. Critical Success Factors

Described below are some of the critical factors which are essential for the success of this project that involves a significant degree of complexity as well as implementation across two different locations.

Critical Success Factors	
Efficient and Effective Project Management	Some of the other project management best practices and principles include: <ul style="list-style-type: none"> • Project activities must be well-planned and should be executed on time. • Dedicated resources should be aligned on the project who are well-motivated towards achieving collective successful outcomes. • A good project governance structure where all stakeholders are involved and appropriate communication channels are established for sharing of relevant information, project status updates and timely feedback.
Approvals from IIML	IIML must ensure that: <ul style="list-style-type: none"> • Minimal changes are made in scope, budget and timelines once the contract is signed with the SI. • Timely approvals are fetched from relevant stakeholders on all the deliveries submitted by the SI such as Project Plan, Design, Reports, Operation SoPs, etc. • Timely resolution of any queries that are raised by SI during project execution. • Timely feedback is provided to the SI at intermediate stages to ensure appropriate course correction during project execution.
Collaborative approach by all stakeholders	IIML to ensure that: <ul style="list-style-type: none"> • Suggestions / Feedback / Recommendations are sought from all the relevant groups at IIML as well as Industry experts on critical aspects of this project, prior to releasing the RFP. This will help in achieving a comprehensive and robust solution. • Common understanding is achieved among all stakeholders on the project outcomes. • Minimal changes to the project expectations post roll-out of the RFP.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

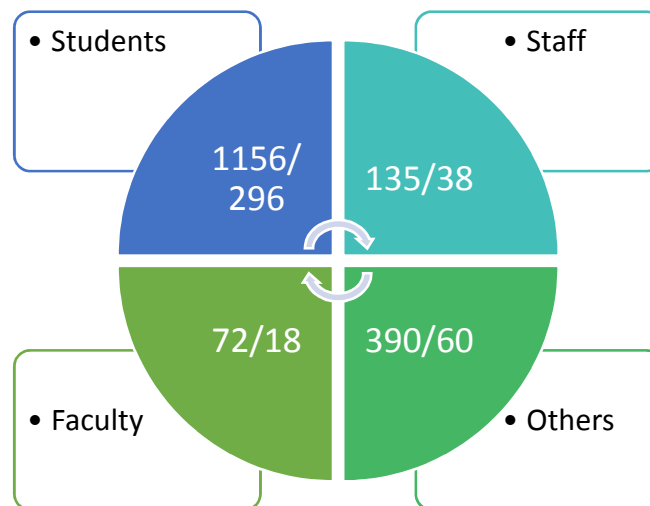
Critical Success Factors

Quality of Deliverables

- SI to ensure High Quality of deliverables since this project impacts the end user experience of its Users community, and also impacts the learning methodology of the students.
- The deliverables would undergo internal review by the PMU/IIML Management and SI would be required to resolve the issues timely and as per the provisions of the contract.

5. Stakeholders and Project Governance

5.1. Stakeholders



Note: Lucknow/ Noida

5.2. Organization Structure for Monitoring and Evaluation

The Network upgrade project would require an institutional mechanism for effective supervision and appropriate project control. The high-level Project Governance Structure proposed to be employed for this project is depicted below.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

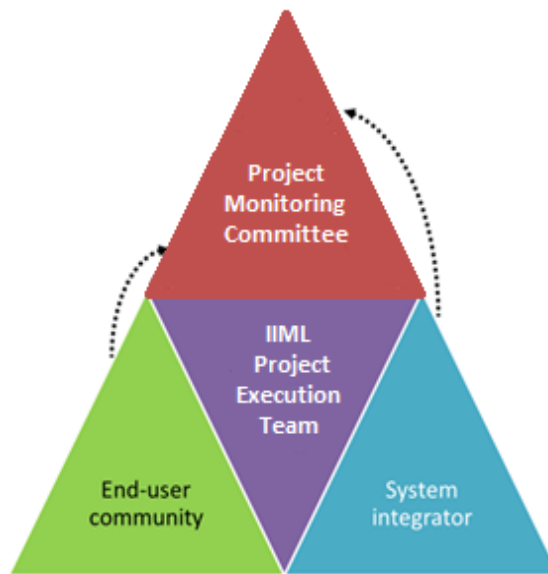


Figure 4: Project Governance Structure

A summary of the key functions and roles for different components of the Project Governance Structure is given below.

End-user community: The end-user community includes include internal users such as, Faculty, Staff, Students and people from other relevant offices within IIML.

IIML Project Execution Team: The team shall comprise of IIML Computer Centre officials and other relevant specialists (internal and external consultants, NISG team), and will be headed by Manager, Computer Centre. This team shall be responsible for communicating the vision, objectives and the requirements for the project to the System Integrator (SI). This team shall be responsible for defining the deliverables of SI, determining the criteria for acceptance of deliverables made by the SI. They shall be the sole-authority for signing-off of deliverables of SI after evaluating whether the deliverable meets the acceptance criteria. The team shall co-ordinate efforts of the end-user community and other agencies involved in the project design, development, testing and implementation. This team shall also be responsible for reporting project status to the Project Monitoring committee.

Project Monitoring Committee (PMC): This committee shall be headed by a Convenor, who shall be an Officer on Special Duty (OSD) deputed by IIML Management, and comprise of Members of Computer Advisory Committee (CAC), IIML Project Execution Team, NISG Team, and other officials representing stakeholders across IIML who may be invited by the Convenor as per specific requirements. This committee would provide strategic direction to the development and



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

implementation of this project and would aid in building organizational synergy in IIML, which is essential for the change management process during implementation and roll-out of the IT and Network solution. The Committee shall also approve the various Change Requests that may come during the entire life of the project. The IIML Project Team would need to work in tandem with the PMC for smooth execution of this project.

System integrator: The SI is responsible for design, development, implementation, operations and maintenance of the Networking solution. The SI is responsible for timely delivery of identified deliverables with adequate quality, satisfying the criteria of the product owner. The SI may also be required to participate in the meetings with Project Monitoring Committee, as and when required and address key issues raised by the IIML Project Team and Project Monitoring Committee. The term 'System Integrator' includes, besides the SI, all the Third-party OEM / service providers and any other sub-contractor and outsourced resource(s) employed by SI.

5.3. Project Governance and Reporting Charter

The SI shall have formal interactions with the IIML stakeholders on the following forums, and present the project progress updates, risks and escalations that need attention of the IIML stakeholders:

S No	Committee/Team from IIML	Frequency of Meetings
1.	Project Monitoring Committee	Twice a month & as and when required.
2.	IIML Project Execution Team	Weekly & as and when required.

SI shall conform and bind to the IIML "Fair Use Policy" while using any of the IIML IT resources.

Under the supervision of the Project Monitoring Committee, the IIML Project Execution Team will supervise and monitor project implementation, and coordinate to facilitate smooth implementation of the project, and meet the administrative requirements pertaining to the project. The IIML Project Execution Team shall perform the following activities pertaining to the day-to-day monitoring of the project:

- Coordinate with the SI in conducting the site survey for successful implementation of the various Project Components.
- Review the Deliverables in a time bound manner and provide recommendations to the Project Monitoring Committee.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- Identify single point of contacts from each departments/ units to support the project in all the stages.
- Coordinate and liaise with different department/ units of IIM to obtain clearances and approvals for project implementation.
- Oversee and monitor the work performed by SI
- Provide inputs to Project Monitoring Committee members on Project status
- Escalate Change Request and bring it before the SC for decision making
- Direct and supervise the activities needed for stabilizing the system and tuning the system for meeting the performance expectations during the early phase of O&M post successful commissioning of the Project Components
- Monitor SLAs reporting on a continuous basis, the SI shall prepare and deliver SLA reports to Project Monitoring Committee for review
- Coordinate and overseeing procedures for undertaking quality audits of the system on a periodic basis
- Apprise the Project Monitoring Committee about the acceptance/utilization of the system and report any risk arising
- Review and approve patches/upgrades identified by the SI in software applications
- Review and provide recommendations on the change requests identified by the SI and assist

System Integrator

- Perform site survey and prepare and submit the Integrated Project Management Plan (IPMP) for implementation of the project to IIML Project Execution Team . The IPMP shall comprise of the all the project components of deliverables prepared for Implementation
- Prepare project reporting formats to report the progress of the project to IIML Project Execution Team and PMU for approval
- Participate in Weekly / Fortnightly / Monthly project review in regard to the progress of the project
- Identify and escalate issues/risks to the IIML Project Execution Team and provide the mitigation plan
- Adhere to the directions of IIML Project Execution Team and PMU as and when provided



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- Prepare and deliver for approval all the deliverables for the various project components within a defined timeline, as agreed in the IPMP and to the satisfaction of Project Implementation Committee and PMU, throughout the implementation phase
- Collaborate with the HW/SW, MeitY empanelled Cloud Service Providers vendors in installation of products or provisioning of services, as applicable
- Install/configure/deploy all the project components of system and get approval from IIML Project Execution Team
- Provide detailed training plan to IIML Project Execution Team and train the personnel identified by the Project Implementation Committee and PMU and report the results
- Ensure completeness of the solution with respect to requirements and performance, acceptance expectations from the solution and get signoff from the department through the IIML Project Execution Team
- Assist IIML and third party for system audit on various parameters, of the system, if required. IIM shall bear the cost of the System Audit
- Adhere to the directions of IIML Project Execution Team as and when provided
- Prepare SLA report based on the SLA parameters given in RFP Vol III on a continuous basis and deliver it to IIML Project Execution Team for review and necessary action.
- Manage and track all the tickets registered through Helpdesk Ticketing System and/or calls. Resolve all the tickets pertaining to Network issues, and assign the tickets pertaining to Computer/Software to IIML Computer Centre team for resolution.
- Prepare and deliver for approval all the deliverables such as, O&M SLA Metrics, Issue Log and Resolutions etc. within a defined timeline, as agreed, and to the satisfaction of IIML Project Execution Team, throughout the O&M phase
- Assisting in quality audits of the system as and when required by the IIML Project Execution Team
- Identify change requests and report to IIML Project Execution Team for necessary decisions.

6. Responsibility Matrix

The table below indicates the broad set of track-wise activities related to implementation of this project and responsibilities of these activities.



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Track#	Project Activities	Responsibility
1.	Contract Preparation and Sign-off	
	SI must prepare the Contract within 3 days of receiving the intimation of final selection and submit to IIML for approval.	SI
	Contract Approval and Sign-off within 3 days of receiving the Draft Contract from SI	IIML assisted by NISG
2.	Resource Onboarding	
	Identification of appropriate resources (skills and headcounts), and their deployment for project implementation	SI
3.	Implementation & Rollout	
	Pre-implementation Site Survey & Report Submission	SI
	Preparation & Submission of Implementation Plan, Design documents and BoQ	SI
	Review and approval of Plan, Design and BoQ	IIML
	Procurement of BoQ items, as approved by IIML.	SI
	To provide accessibility of the sites to continue the work as per approve plan.	IIML
	Implementation of Passive and Active components, customization and integration of procured BoQ items	SI
	Walkthrough of each phase of implementation and resolution of issues raised implementation	SI
	Post-implementation Site Survey & Report Submission	SI
	Review and Approval of Post-implementation Survey Report and updated Design document	IIML
	User Acceptance Testing	IIML
	Resolution of issues raised during UATs	SI
	Third party BoM and Security Audit	SI (STQC or CERT-In empaneled agency)



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Track#	Project Activities	Responsibility
	Testing for sign-off of project implementation	IIML
4.	Centralized Helpdesk Set Up and Operations	
	Set Up and operate a Centralized IIML User Helpdesk System	SI
	Train resources deployed for Centralized Helpdesk	SI
	Required infrastructure for helpdesk operations like table, chairs, laptop/desktop machines, helpdesk contact number, landline/mobile	IIML
5.	Training and Capacity Building	
	Identification of resources to be trained for operations and maintenance of Network infrastructure	IIML
	Training on all aspects of the Network infrastructure implemented as part of this project's scope, such that the resources can manage the various operational issues effectively.	SI
	Training for System Administration to the identified personnel of IIML.	SI
	Preparation of required training documentation, including batch-wise Training Schedule, Curriculum, and Training Material.	SI (with review and sign-off by IIML)
	Training Infrastructure to be used for training	IIML
6.	Operation and Maintenance of the complete solution for a period of 7 years post Go-live.	SI
7.	Documentation	SI (with review and sign-off by IIML)
8.	Exit management plan	SI (with review and sign-off by IIML)
9.	Adherence to any other project requirements	SI



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

7. Scope of Work

The selected SI shall be responsible for supply of equipment's, Installation, Configuration, testing & commissioning for IIML Network Upgrade Project within the timelines specified in this RFP; provide required support to the Project Components including operations and maintenance of the entire project for a **period of 7 years** after successful "Go-Live" of the project.

A. Pre-Implementation Phase:

1. To perform site survey at IIM Lucknow and Noida campuses, prepare and submit site survey report, Implementation Plan, and design document as detailed out in section 8 of this RFP.

B. Implementation Phase:

a) Networking Components at Lucknow and Noida Campuses

- **Active Network Components:** Procure, Supply, Install, Commission, Test and maintain the Active Network Components as per bill of material mentioned at section 10.1.
- **Passive Network Components:**
 - Procure, Supply, Install, Commission and Test the Passive Network Components as per bill of material mentioned at section 10.2.
 - **Fibre Cable:** Laying out of Optic Fibre Cable as per proposed architecture detailed out in section 9 and bill of material at section 10.2.
 - **Removal of Old Cables/LAN/Fibre:** The existing Old LAN cables (CAT-5) are required to be removed.

b) Security Components at Lucknow Campus:

- Procure, Supply, Install, Commission, Configure and Testing of security components as detailed out in bill of material and section 10.3 of this RFP.

c) UPS & Electrical Components at Lucknow & Noida Campuses:



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- Procure, Supply, Installation, Test and Commission of UPS for network and other components. Details of UPS Requirements is mentioned in Section 10.5 of this RFP.
- Electrical wiring to distribution points, Electrical switches, changeover.

d) Non-IT Components at Lucknow & Noida Campuses:

- Provisioning and setup of Chemical Earthing and Rodent Control at Data Centre as per the requirements detailed out in section 8.8, 8.9 and 10.6.

e) **Implementation and integration** of all components as per architecture provided at section 9.

f) **Training and Capacity Building** the nominated personnel of Institutes IIM on the various project components as provided in Section 15 of this RFP.

g) **Complete documentation** of all the Project Components as mentioned in section 8.17 of this RFP.

C. Acceptance Phase and Go-Live:

a) Conduct User Acceptance Tests for all the Project components as per methodology mentioned in section 8.15 along with requirements mentioned in section 8.19 of this RFP.

D. Operational Support & Maintenance Phase:

a) **IT-Items:** Support and Maintenance of all the IT components procured through this RFP for a period of 7 years from effective “Go-Live” of the project as mentioned in section 8.20 of this RFP.

b) **Non-IT items:** Support and Maintenance of all the Non-IT Components procured through this RFP for a period of 7 years from effective “Go-Live” of the project as mentioned in section 8.20 of this RFP.

c) **Team Deployment:** Resources to support IIML in operation & maintenance of the project components as mentioned in section 13 of this RFP.

Note:

1. The SI shall take necessary clearances from IIML for Non-IT: civil, electrical, and mechanical works including installation of electrical component, cable laying etc. at Data Centre and other



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

locations in Institution. Also, SI shall implement the active and passive components of the project at Lucknow and Noida campuses only as per the approved project plan and design.

2. SI to ensure complete safety of all its resources working on the project as well as the people habiting the IIML campuses during project implementation as well as during O&M phase. SI must ensure that all safety and security parameters are taken care of, viz. appropriate Safety gadgets, equipment and gear such as Boots, hand gloves, helmets are provided to ground staff. IIML shall not be liable or held responsible for any untoward incident happening on account of the Project's implementation. SI to ensure that children and other unauthorized staff should not be present at the implementation sites.

8. Implementation Methodology

To achieve the aforesaid objectives, a modular implementation approach will be adopted as described in the following sub-sections. The project implementation and operations & maintenance should follow a life-cycle approach.

It is imperative that a structured methodology be followed in performing the activities.

8.1. Pre-implementation Site Survey

The SI shall conduct a detailed survey of the two IIML campuses at Lucknow and Noida and capture necessary observations and data pertaining to currently available bandwidth, signal strength, presence of appropriate UTP points, fiber capacity and quality, etc. Further, SI shall prepare a list of the components that are currently available at IIML campuses and which are usable as a part of this project's implementation.

SI will plan and execute its installation at the designated location(s) looking to synchronization and integrate seamlessly with existing networking infrastructure comprising of CISCO/Juniper or other make router, switches (core/ distribution/ access) Firewall, wireless controller, various type of WPN Links, devices, operating system/ Software etc.

- SI shall submit a report to the IIML with the findings of their site survey along with the proposed list of reusable components for validation and approval.
- Subject to IIML approval on the reusable components part procurement shall be planned accordingly as described in section 8.3.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- SI shall submit a detailed site survey plan to IIML in one-week advance and seek the approval and required facilitation.
- SI shall ensure the planned implementation team is involved in the site survey activities.

Deliverable:

D1: Pre-implementation Site Survey Report including list of usable/unusable components.

8.2. Implementation Plan and Design

The SI shall be required to prepare a detailed project plan for the end-to-end project implementation. The plan must clearly describe the activities involved in project execution, their planned start and end dates, as well as the deliverables expected at each milestone, in adherence to timelines mentioned in section 11. The activities involving dependencies on IIML must be stated explicitly.

SI shall prepare the Design documents for implementation covering all aspects of the project requirements, including the detailed specifications of the components that they intend to procure, network architecture, deployment strategy, provisioning for redundancy, Network and SLA monitoring, etc. Further, the SI shall prepare the BoQ of the items that it intends to procure for the project, basis its design and RFP requirements. The design shall also propose the best possible locations of installing the Active components (such as Access switches, Access points, Wi-fi devices, etc.) as well as the best possible routes of laying the various kinds of cables.

- SI shall submit the implementation plan and design document and BoQ to IIML for their validation and approval.
- SI will also be required to submit the details of the team members that will be deployed on this project along with the escalation matrix.

Deliverable:

D2: Project Implementation Plan (including project team & escalation matrix)

D3: Design Document

8.3. Part-procurement of BoQ items

The SI shall be allowed to procure Wireless access points, Access Switches, and splitters up to 80% of the BoQ mentioned in the RFP after the signing of the Contract. This will help the SI in saving the time involved in procurements. However, decisions related to procurements at this stage shall be purely



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

on the onus of the SI, as the quantity of these items may be liable to change after the approval of Design document and pre-implementation site survey report.

In case an OEM goes out of business or stops supporting a component(s) during the project duration, SI will have to provide a suitable replacement of the component(s) provided by that OEM, meeting the same or higher specifications and performance parameters.

8.4. Procurement of complete BoQ items

On approval of the Design and pre implementation site survey report by IIML, the SI shall be allowed to procure the required quantity of Wireless access points, Access Switches, and splitters. The SI will need to plan the procurement activities such that there is no delay to the project delivery milestones.

Up to 10% of the Wireless Access Points, Splitters and Access switches as part of reserve are planned to be procured after Go-live. Actual numbers to be procured will be ascertained after post site-survey results are accepted by IIML. The post Go-live procurements shall be made as per the repeat purchase contract that was formalized with the OEM vendor at the start of this project.

8.5. Implementation of Passive components

Since installation of Passive components involve a larger effort and time, it is important that SI embarks on implementing these components at the earliest. The SI shall implement the project at Lucknow and Noida campuses as per approved project plan and design. SI must ensure that all aspects of quality and timelines are closely monitored during the entire project execution. SI shall submit their internal testing artifacts (test data and results) to IIML as a part of their completion of this phase.

Deliverable:

D4: Testing Reports (Passive Components)

8.6. Implementation of Active components

The SI shall implement the active components of the project at Lucknow and Noida campuses as per approved project plan and design. SI must ensure that all aspects of quality and timelines are closely monitored during the entire project execution. Once integrated with the Passive components, SI shall submit their internal testing artifacts (test data and results) to IIML as a part of their completion of this phase.

Deliverable:



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

D5: Testing Reports (Active Components)

8.7. Installation of UPS & Electrical items

Online UPS shall be provisioned to provide automatic, seamless electric power supply to the connected Data center & networking components. These comprise of re-chargeable batteries which get charged while the main electric power supply is on.

To provide greater reliability, redundant power protection with other UPS system at IIML in N+1 Configuration with 30 Minutes battery backup should be provisioned by SI. Additionally, laying Cable to Server Room, automatic change over, power point with MCB to cater to load of server etc. should also be provisioned by SI.

- The SI shall procure, supply and install required no. of UPS (refer BOQ provided at section 10.5) at the given locations.
- Installation of UPS would require electricity supply downtime. SI shall submit a formal request to IIML in a week advance for such downtime.
- SI need to ensure that all the safety measures and best practices are adopted while installation.
- UPS at each location shall be deployed in Active-Active mode to provide balanced usage and redundancy.

IIML shall provide suitable space to the SI to install the UPS at the locations. IIML need to ensure that the place provided for UPS installation is safe and fulfil the installation requirements.

8.8. Installation of Earthing at Data Centres

The primary purpose of Earthing is to avoid or minimize the danger of electrocution, fire due to earth leakage of current through undesired path and to ensure that the potential of a current carrying conductor does not rise with respect to the earth than its designed insulation.

When the metallic part of electrical appliances (parts that can conduct or allow passage of electric current) comes in contact with a live wire, maybe due to failure of installations or failure in cable insulation, the metal become charged and static charge accumulates on it. If a person touches such a charged metal, the result is a severe shock.

To avoid such instances, the power supply systems and parts of appliances need to be earthed to transfer the charge directly to the earth. Basic functionalities of Earthing Solution are as follows:



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Functionalities
1.	Ability to provide protection for personnel and equipment against lightning strike by directing damaging currents away from equipment
2.	Provides grounding of all electrical equipment, steel structures, etc. by copper conductors / strips of appropriate sizes suitable protected against theft.
3.	The server room earthing to be carried out to form an earthing mesh of insulated copper wire below the false flooring and connected to false flooring supports
4.	Main earth grid inside the building will be routed along cable trays and provide earthing to all the electrical equipment (e.g., equipment, racks, cabinets, ladder racks, enclosures, cable trays, etc.).
5.	Safety earthing system will be provided to effectively bond the non-current carrying metallic parts.
6.	All ground conductor connections shall be made by electric arc welding/brazing
7.	Grounding solution should be engineered properly, adequately sized and visually verifiable.

The scope of this tender includes supply, survey, design, assembly, erection, structural, complete pre-commissioning checks, testing and commissioning at site, obtaining clearance from IIML and handing over to IIML after successfully completing Chemical Earthing system as per BOQ, with required accessories.

- SI is required to provide chemical earthing at Lucknow and Noida Data Centres.
- SI shall identify and propose a suitable place for earthing pit in Site Survey report, which need to be approved by IIML before starting the work. IIML decision on the place for earthing pit shall be final.
- The Right size of earthing system is necessary and will work satisfactorily. The undersized earthing should be avoided for long term safety of installation.
- All the labour, cranes, tool and tackles, and technical supervision etc. is included in the SI scope of work. Adequate number of engineers, supervisors and labours shall be posted at site for checking the adequacy immediately (with-in seven days) after award of contract.
- After completion of the work, the SI shall conduct trial run/operation in the presence of IIML Engineer In charge.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- During such trial run the system shall be operated under the supervision of the IIML. If any rectification/modification required during this period the SI shall do all necessary measures. The IIML Engineer In Charge will issue an acceptance certificate.

8.9. Installation of Rodent Control

Presence of rodents pose a serious danger to the datacenter. These rodents can cut or chew data/power cables and bring down the whole datacenter. Pest/Rodent control measures provides protection to mission critical IT equipment from rodents. The rodent control system works on the principle of high frequency sound waves (well above the 20 KHz frequency which is the upper limit of hearing for the human ear). The control system emits an intensive sound with high decibel levels (sound pressure). This sound is audible and painful to rodent/pests, which causes them to leave the datacenter without being killed.

Rodent Repellent System should compose of one Master console and accessories that include appropriate Transducers, especially coated CT wires & a pair of stand bracket. The Master console should be installed in the main control room / server room and the Transducers in the problematic area i.e. above and below false ceiling and below false flooring.

The powerful sound waves generated by the Transducers of Rodent Repellent Panel should be within the hearing range of many Rodents and cause them pain and discomfort. There should be a significant reduction in infestation.

SI need to setup rodent control solution at Lucknow and Noida data centers as per specification mentioned at section 16.3.10.

8.10. Implementation of Security Components

The network shall be secured using Next-Gen Firewalls which shall be comprising of additional features/components such as Anti-malware, Anti-spyware, URL filtering, etc. Further, the application security shall be provided through components such as Web application firewalls, Content inspection, etc. SI need to deploy the security components in high-availability mode to ensure a high-performance and reliable system setup as per specification provided at section 16.3.5.

8.11. Implementation of Single Sign-On (SSO)

Single sign-on (SSO) is an authentication mechanism that establishes the identity of the user and enables user to Login to multiple Applications using a single authentication credential. SSO uses Lightweight Directory Access Protocol (LDAP) and stores users' credentials for multiple applications



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

on LDAP databases (directory servers) and passes an authentication token seamlessly to the applications configured for it.

The current implementation has 3 levels of User authentication (i.e. for VPN, Active Directory, and Gmail) which is quite cumbersome for end users. It is envisaged that an Active Directory based Single-Sign On solution is deployed which will manage the all-user login credentials and facilitate the users to use the various services using a single password.

SI need to implement SSO Solution at IIM Lucknow Data center as per specification provided at section 16.3.6. Users at Noida will also be authenticated using the SSO solution deployed at Lucknow.

A SSO administrator shall be assigned by IIML who shall use the SSO Solution for performing User management activities.

Additionally, the Active Directory based SSO solution may also be used by other IIML Applications. for authenticating and authorizing their respective users. Hence, the SSO Solution must be able to support integration with such applications. However, the integration of SSO with such applications will be taken care by the IIML Development teams separately and is outside the scope of the SI for this project.

8.12. Implementation of Centralized Help desk Ticketing Solution

SI shall deploy, configure and implement a centralized, web-based IT helpdesk system which may be used by the end-users to log any issues encountered by them regarding the IIML Network & SSO. This system shall be deployed at Lucknow Datacenter and shall be accessible by users of Lucknow as well as Noida campuses. The tool should be configurable & customizable to cater to IIML's requirements, support standard life-cycle stages of a ticket, provide categorization of tickets based on severity and priority, and allow creation of user profiles with following roles:

- System administrator – For managing the configurations and setup of the Helpdesk tool masters, User Management, configuration of MIS reports, etc.
- Helpdesk support Manager – For viewing the logged tickets and assigning them to various helpdesk support personnel for resolving those tickets, View MIS reports.
- Helpdesk Support personnel – For viewing the logged tickets assigned to them by their Manager, provide resolution to those tickets and update the resolution statuses of those assigned tickets.
- Helpdesk User – For logging of tickets and viewing the statuses of their previously logged tickets.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

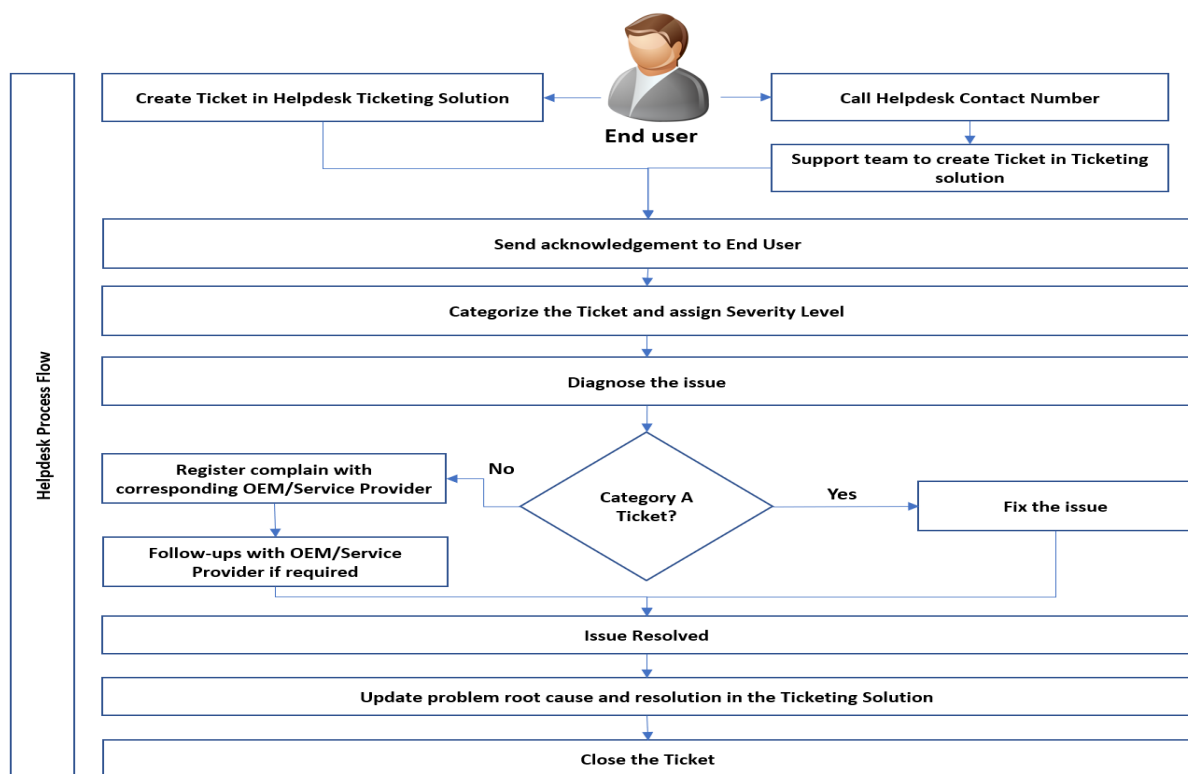
The system should also provide SLA reports w.r.t. Turn-around-time for the ticket resolutions as well as MIS reports pertaining to the statuses of the logged tickets.

The office where the IT Helpdesk support staff of the SI shall be stationed shall also have a Land-line phone/extension (to be provided by IIML) which can be used by end-users for reporting issues or making general enquiries. The SI support staff is expected to resolve those telephonic queries to the satisfaction of the end-users.

SI shall provision users of the Helpdesk ticketing solution through integration with SSO solution.

The IT Helpdesk may also be used by IIML staff for logging of tickets pertaining to operations other than Network management viz. general Computer hardware and software issues etc. The Ticketing solution must provide easy configurability to distinctly manage and categorize the users and tickets for these operations. However, these operations will be handled by IIML staff and will not be a part of the scope of this project.

The SI shall be responsible to operate Helpdesk 24 X 7 X 365 days. The onsite resources deployed by the SI shall be responsible to respond and resolve the tickets. Below is an indicative helpdesk process flow which shall be further elaborated in consultation with IIML at the time of implementation.





Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

Category A: Issues related to Network connectivity that are a part of scope of work of this RFP. SI shall be liable to maintain the Helpdesk SLAs as defined in RFP Volume III for the Category A tickets only.

Category B: Issues pertaining to other infrastructure components such as Computers, Hardware, Software, etc. which is not part of scope of work of this RFP.

SI shall prepare and submit Helpdesk Standard Operating Procedure document as a part of Project Documentation. Refer section 16.3.7 for technical & functional specifications of the Ticketing solution.

8.13. Post-implementation Site Survey

The SI shall conduct performance and load testing of complete solution post implementation to check the adequacy, coverage, and quality of the implemented solution. SI shall record all the observations regarding various aspects of Project's requirements and identify the shortcomings that may persist after implementation. SI shall be required to submit a report to IIML for evaluation and approval. SI shall also submit the updated Design documents as part of this milestone.

SI shall further undertake all necessary corrective actions based on evaluation feedback by IIML and ensure that the adverse findings of this report are addressed as per contractual obligations. A final report shall be submitted to IIML after all rectifications are made which shall be a precursor to UAT phase.

Deliverable:

D6: Final Solution Testing Report

D3: Updated Design Document

8.14. Acceptance of Post-implementation Site Survey report by IIML

IIML shall conduct a detail review of the Post-implementation Site survey report submitted by SI. This may include discussions and knowledge exchange sessions between SI and IIML teams as well. IIML shall also review the updated Design document and verify if the design correlates with the actual implementation done at the ground. Feedback on the Survey report and the Design document shall be shared with the SI for rectifications at the earliest.

8.15. Acceptance Testing



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

IIML shall conduct testing to evaluate the performance of the implemented network systems vis-à-vis the critical parameters laid down as Network bandwidth availability at various areas in the campus, Signal strength, activation of all UTPs and WAPs, setup and configuration of Network monitoring systems during project implementation.

SI shall be primary responsible to provide test cases based on the point-to-point testing of all the project components and provide the certification post testing. Acceptance testing plan covering the aspect of the procedures and parameters as per industry standards shall be submitted by the SI in advance to IIML. SI shall provide the equipment's testing device along with testing material if anything required while testing. Key team members of SI will be involved to get done acceptance testing by IIML.

The primary goal of Acceptance to achieve the desired outcomes. The basic approach for this will be ensuring that the following are associated with clear and quantifiable metrics for accountability:

1. Infrastructure Compliance Review

Third party shall perform the Infrastructure Compliance Review to verify the conformity of the Project components supplied by the SI against the requirements and specifications provided in the RFP and/or as proposed in the proposal submitted by SI. Compliance review shall not absolve SI from ensuring that proposed infrastructure meets the SLA requirements.

2. Availability of the Services in the defined locations

The system should be designed to remove all single point failures. Appropriate redundancy shall be built into all the critical components to provide the ability to recover from failures. The SI shall perform various tests including networks to verify the availability of the services in case of component/location failures. The SI shall also verify the availability of services to all the users in the defined locations.

3. Performance

Performance is another key requirement for the system and SI shall review the performance of the deployed solution against certain key parameters defined in SLA described in this RFP and/or in the agreement between the IIM and the SI. Such parameters include Time for recovery from failure etc.

4. Manageability



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

The SI shall verify the manageability of the system and its supporting infrastructure deployed. The manageability requirements such as remote monitoring, administration, configuration, inventory management, fault identification etc. shall have to be tested out.

IIM will establish appropriate processes for notifying the SI of any deviations from defined requirements at the earliest instance after noticing the same to enable the SI to take corrective action. Such an involvement of the Acceptance Testing by the IIML of TPA, will not, however, absolve the SI of the fundamental responsibility of procuring, supplying, installing, testing, and commissioning the various components of the project in conformity with the SLAs. SI shall be liable to resolve all the issues and shortcomings identified during the Acceptance testing in a timely and satisfactory manner. These resolutions shall be verified for closure by the respective stakeholder.

Technical Parameters: The various parameters shall be proposed in the detailed acceptance plan for all the project components, based on the achievement of the parameters the acceptance will be measured.

Deliverable:

D7: UAT Completion Report

8.16. Third-party Audit

SI shall also employ a Third-party external auditor (STQC/CERT-IN empaneled) for conducting BOM audit and network security audit. The third-party auditor shall be onboarded after getting necessary approvals from the IIML. The SI shall submit the audit reports to IIML.

SI shall be liable to resolve all the issues and shortcomings identified during the Third-party audit in a timely and satisfactory manner. These resolutions shall be verified for closure by auditor again and finally SI need to submit nil deviations/ vulnerability report to IIML.

Deliverable:

D8: Final Audit Report



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

8.17. Project Documentation

SI shall submit all document artefacts as per the contract. The list shall have the following documents, and additional ones as may be deemed necessary for smooth operations of the project post implementation:

Deliverable D9:

- (Updated) Design documents
- Installation and Configuration Guides for various components
- Operations Manual, User Manuals and Configuration specifications
- Testing artefacts (Test plans, Test cases, Test results)
- Training material
- Standard Operating Processes for Operations
- Periodic MIS Reports for monitoring of SLA compliance, etc.
- Process document for Version Control

The SI shall submit at least 2 color printed copies of the aforesaid documentation that shall be placed 1 each with IT Department of Lucknow and Noida campuses.

8.18. Training and Capacity Building

SI shall prepare all necessary training material such as User Manuals, Training Guides, Configuration Guides, Videos, etc. and submit these artefacts for review by IIML stakeholders. SI shall conduct training sessions for network administrators and other relevant staff of IIML / Operations team with the objective of enabling them to handle the Operations and Maintenance of entire Network system that was deployed by the SI as part of this project. SI shall engage OEMs for conducting the product specific trainings.

8.19. Project Go-Live

The Project will be considered “Go-Live” when the following are accomplished or delivered:

- The deliverables D1 to D9 are delivered and are accepted by IIML.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- All the hardware and software of the project as per the RFP and the proposal of the SI, are installed, Configured, commissioned, tested, and are accepted by IIML.
- The team of manpower as per the RFP is deployed & accepted at IIML locations by IIML.
- The standard operating procedures are formulated and put into practice.
- The third-party audit is completed and accepted by IIML.
- All the outstanding issues are identified and critical to Go-Live issues are resolved, however, IIML in consultation with SI identify the issues which are not critical for Go-Live and these issues will be resolved during operation and maintenance phase.
- The “Go-Live” notice is submitted to the IIML for action.
- The “Go-Live” shall come into effect only on approval by the IIML. Within thirty days of receiving the notice, IIML will decide on the actions to be taken on “Go-Live”. The Go-Live date comes into effect only when the IIML approves the notice for “Go-Live”. In the event, that IIML does not approve or suggest further action, the notices are reinitiated only after the recommended actions have been satisfactorily completed.

8.20. Operation & Maintenance

This section describes the operational requirements of the Project including manpower deployment, requirements for adherence to Standards, solution maintenance of project components support. SI shall provide operational support and maintenance services for the contract period at the IIML both location(s). Operational support shall ensure that the system is functioning as intended and meeting the service levels.

The SI shall provide Operation and Maintenance (O&M) support to IIML as per the Project Duration and Timelines specified in this RFP document. The O&M should continue after successful “Go-Live” till the end of the contract i.e., The SI will provide on-site support for the Project Duration.

- Project Components Operations and Maintenance as per Standards for the entire project duration.
- If there are Annual Technical Support (ATS)/AMC for all components, the ATS/AMC should be valid for the entire Project Duration. The ATS/AMC should be transferable to IIML at the end of the contract period to enable IIML to avail the ATS directly from the OEM if required.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- During the warranty/AMC period SI shall maintain the systems and repair / replace at the installed site, at no charge to IIML, all defective components that are brought to the IIML notice.
- SI shall have to stock and provide adequate onsite / offsite spare parts and spare components to ensure that the up-time commitment as per SLA is met.
- SI shall ensure that there will not be any leakage of data/ information from any of the devices/storage whenever repair or maintenance of tools/equipment's takes place either in at IIML or outside.
- Software Change & Version Control as per industry standards.
- The SI shall be required to provide manufacturer's base warranty of the Original Equipment Manufacturer (OEM) and SI's obligations during the Operations and Maintenance covered under Annual Technical Support. Warranty/AMC shall not overlap with the manufacturer's base warranty.
- Proper configuration of network parameters, systems software administration and tuning. SI shall be a single point of accountability for all hardware maintenance and support central networking infrastructure.
- System Software administration, including but not limited to management of users, processes, resource contention, preventive maintenance, and management of patches to ensure that the system is properly updated.
- SI is also responsible for re-installation in the event of system crash/ failures
- SI shall also ensure that the bottlenecks in the networking infrastructure are identified and fine tuning is done for optimal performance.
- Regular analysis of events and logs generated in all the sub systems including but not limited to networking, security components, etc. SI shall undertake actions in accordance with the results of the log analysis. The SI shall also ensure that the logs are backed up and truncated at regular intervals.
- Managing the IT Helpdesk tickets, diagnosis of the problems, reporting, managing escalation, and ensuring rectification of networking problems.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- SI shall provide administration services related to user access including administrative support for user registration, creating, and maintaining user profiles, granting user access and authorization, providing ongoing user password support for users.
- For periodic upkeep of proposed equipment's, the SI will be responsible for maintaining the dates, actions, examiners identity, and results of performance verifications, and the due date of next performance verification.
- Hardware maintenance carried out and dates, as well as upgrades; Damage, malfunction, modification, or repair to the equipment; and Date taken out.
- Provide resolution to incidents as per the resolution time limit agreed upon with IIML.
- Perform root cause analysis for networking infrastructure problems/recurring incidents and initiate request for change.
- Schedule and complete preventive maintenance activities.
- Maintain asset register for all project components and ancillary (like storage, WAN, AP, NAC etc.) equipment. Record information such as serial number, asset code, warranty, and AMC details. Exact details to be recorded will be finalized in consultation with IIML.
- SI must ensure that all the project/design documents are updated through the O & M phase as per the changes in the implementation/design.
- Ensure that any component change due to any fault is replaced with a component of the same make and configuration.
- Reporting and resolution of security incidents.
- Maintaining secure domain policies.
- Vendor management
- Escalation and co-ordination with other vendors for problem resolution

The project components of IIML will have support/warranty for the entire Project Duration.

The deployed resources shall be finalized in consultation with IIML. IIML may request SI to replace the resources in case of any performance or any other issue.

SI shall conform and bind to the IIML "Fair Use Policy" while using any of the IIML IT resources during the entire O&M Support period.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

8.21. Delays and Deviations

Both the parties (IIML & SI) are equally responsible for steering the project in a time bound manner. It is the prime responsibility of the SI to carry on the activities according to the approved project plan, however if there are any delay/deviations in the implementation plan, it should be informed to IIML in writing along with the reasons (attributable to SI/IIML). Such delays/ deviations shall be presented to Project Execution Committee and Monitoring committee for approval.

9. Network Architecture

The indicative Network architecture comprising of the various components required for upgrading the Network bandwidth and providing high Network availability at IIML campuses is being proposed below. Certain common components such as SSO, Network Management System, Ticketing solution etc. shall be deployed centrally at Lucknow campus only and will provide the necessary services for Noida campus as well.

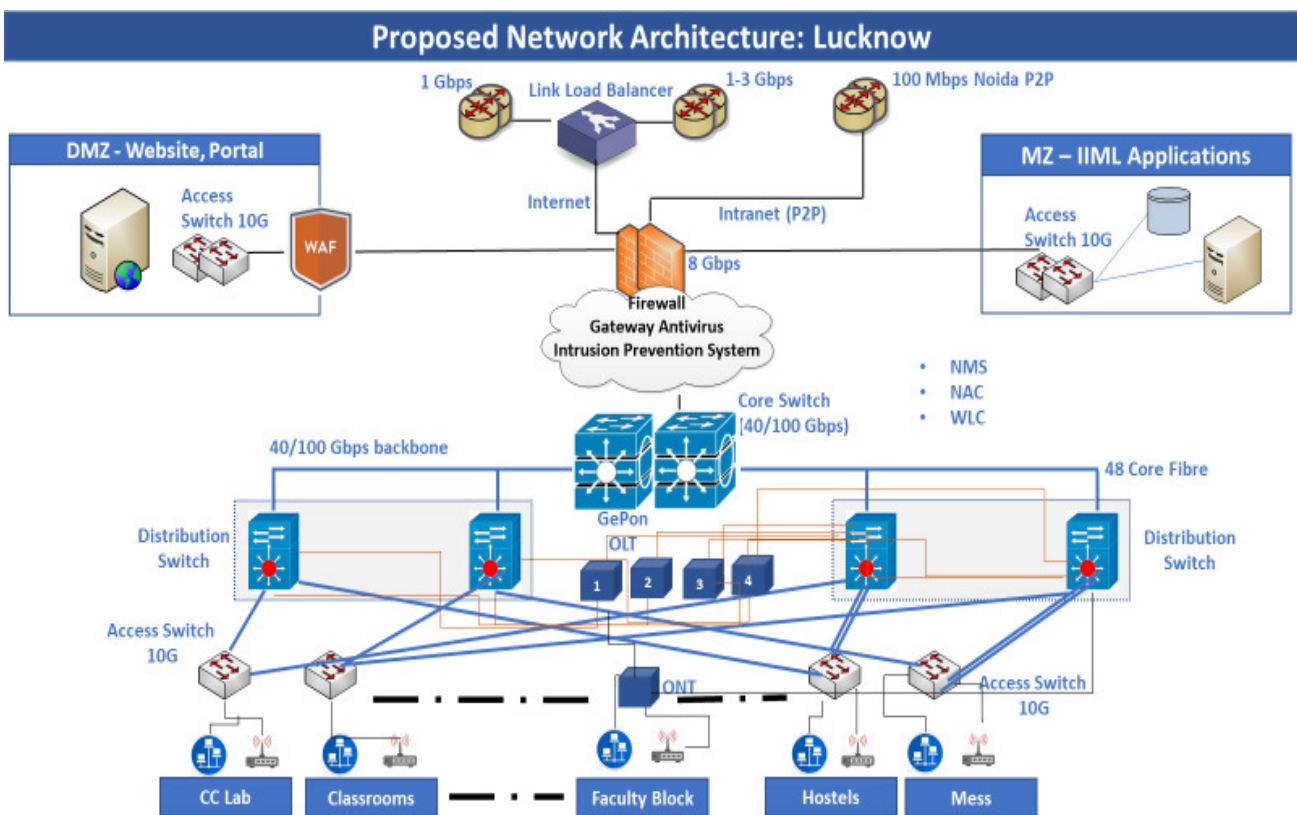


Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

9.1. Network Architecture at Lucknow Campus

The proposed Network Architecture for Lucknow campus is based on a three-tier architecture consisting of Core layer, Distribution layer, and Access layer. A simplified representation of the three-tiers is depicted in the figure below. This architecture helps in providing the required scalability and segregation of network connectivity between the various connected devices in a given network setup.

The Network architecture and its associated components proposed at IIM Lucknow campus are being described as follows:



The Network architecture and its associated components are described in section 16.2.

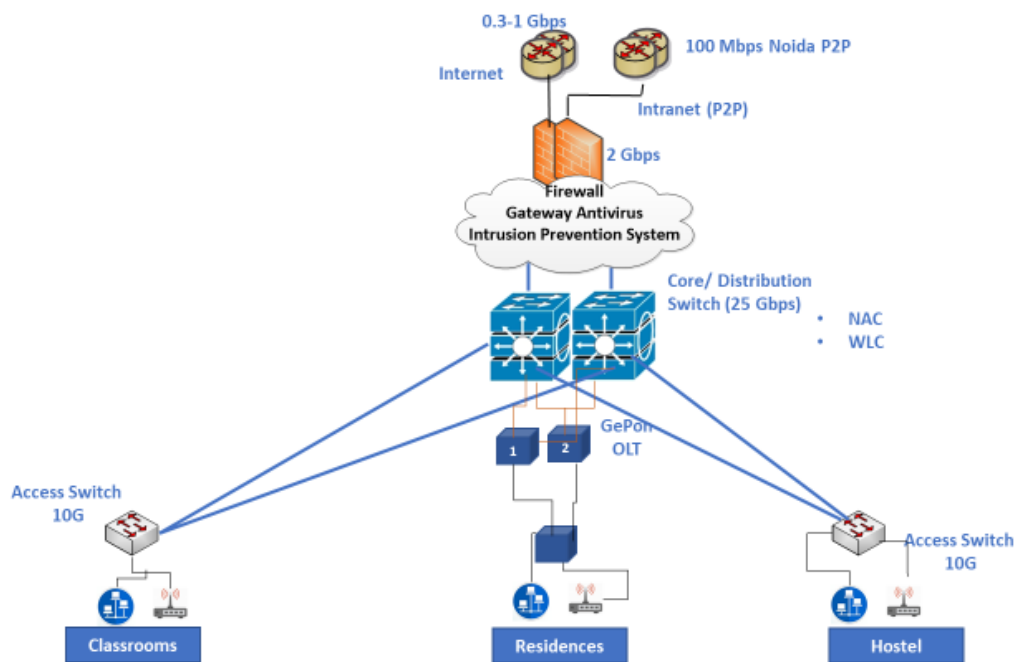


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9.2. Network Architecture at Noida Campus

The proposed Network Architecture for Noida campus is an extension of the Network architecture proposed at Lucknow campus. The Network architecture and its associated components are described in section 16.2.

Proposed Network Architecture: Noida





Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

10. Bill of Material

Note: Quantity mentioned in below bill of materials is the minimum quantity, which bidder must provide. **Bidder is not allowed to propose quantity less than the quantity mentioned in the BOM.** However, the bidder is free to increase the quantity to meet the solution functionality as per its Technical Proposal. Bidder shall be paid as per actual number of items installed.

While quoting annual maintenance cost of 7 years, bidders must ensure that the period for which OEM warranty/support already exists will not be charged to IIML.

10.1. Active Network Components

10.1.1. Lucknow Campus

S. No.	Work Item	Unit	Qty
1.	Core Switch 12X40 G Port	No	2
2.	Breakout cable 1:4 (40 to 10G) 10 mtr for NGFW & Core sw connection	No	2
3.	Distribution Switch 24 port (12X10 G ports populated with SM) with 2X40G uplink slots	No	4
4.	Direct attach copper (DAC) cable 40 G	No	2
5.	Access Switch 48X1G Ethernet ports with 2X10 G uplink slot	No	2
6.	Access Switch PoE 48X1G port with 2X10 G uplink slot	No	6
7.	Access Switch PoE 48 (12X1/2.5/5 multigig, 36 1G) ethernet ports with 2X10 G uplink slot	No	1
8.	Access Switch 24X1 G ports with 2X10 G uplink slot	No	2
9.	Access Switch POE 24 ports with 2X10G uplink slots	No	7
10.	Access switch PoE (8X1/2.5/5 G multigig, 16X1 G) ethernet port with 2X10 G uplink slot	No	24
11.	Transceiver 40G SM	No	16



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Work Item	Unit	Qty
12.	Transreceiver 10G SM	No	84
13.	NAC (Appliance/ Software) for 3500 devices (Lucknow + Noida)	No	1
14.	Wireless LAN Controller with AP licenses	No	1
15.	Indoor AP - Aggregate Throughput 2Gbps 4X4	No	79
16.	Outdoor AP - Aggregate Throughput - 1.3 Gbps 2x2/ Higher	No	41
17.	Indoor AP Aggregate Throughput 5Gbps 4X4	No	28
18.	Indoor Access Points 450 Mbps 4X4	No	143
19.	Wi-fi device 300 Mbps 2X2	No	394
20.	Wi-fi 300 Mbps Extender	No	51
21.	GePON OLT 16 Port	No	4
22.	Internet Link aggregator/ Load balancer	No	1
23.	Racks - at Computer Center for Networking equipment	No	4
24.	Network Management Solution	No	1
25.	GePON Network Management Solution	No	1
26.	Access switch rack, installation	No	36
27.	Implementation and integration of reusable components	Job	1

10.1.2. Noida Campus

S. No.	Work Item	Unit	Qty
1.	Core Switch 12X25 G Port populated with SM	No	2



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Work Item	Unit	Qty
2.	Access Switch 48X1G Ethernet ports with 2X10 G uplink slot	No	1
3.	Access Switch PoE 48X1G port with 2X10 G uplink slot	No	1
4.	Access Switch 24X1 G ports with 2X10 G uplink slot	No	1
5.	Access Switch POE 24 ports with 2X10G uplink slots	No	8
6.	Access switch PoE (8X1/2.5/5 G multigig, 16X1 G) ethernet port with 2X10 G uplink slot	No	8
7.	Transreceiver 25G SM	No	2
8.	Transreceiver 10G SM	No	38
9.	NAC hardware	No	1
10.	Wireless LAN Controller with AP licenses	No	1
11.	Indoor AP Aggregate Throughput 5Gbps 2004X4	No	12
12.	Indoor AP - Aggregate Throughput 2Gbps 4X4	No	29
13.	Outdoor AP - Aggregate Throughput - 1.3 Gbps 2x2/ Higher	No	2
14.	Indoor Access Points 450 Mbps 4X4	No	46
15.	Wi-fi device 300 Mbps 2X2	No	151
16.	Wi-fi 300 Mbps Extender	No	19
17.	GePON OLT 8 Port	No	2
18.	Racks - at Computer Center for Networking equipment	No	2
19.	Access switch rack, installation	No.	15

10.2. Passive Network Components

10.2.1. Lucknow Campus

S. No.	Work Item	Unit	Qty
1.	GePON Splitter 2:32	No	13



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Work Item	Unit	Qty
2.	GePON Splitter 2:16	No	5
3.	GePON Splitter 2:4	No	1
4.	GePON Splitter 2:8	No	5
5.	GePON Splitter 2:2	No	5
6.	GePON Splitter 1:2	No	2
7.	GePON Bridge/ PoE ONT 4 port	No	11
8.	OFC 48 Cores	Mtrs	15,000
9.	OFC Laying within building	Mtrs	2,000
10.	OFC Laying outside the building	Mtrs	13,000
11.	Cat 6A UTP (500 mtr roll)	Roll	202
12.	Cat 6A UTP Laying	Mtrs	1,01,102
13.	LIU	No	92
14.	I/O Box, Face Plate & Gang Box with Installation	No	1,053
15.	Drop cable (fiber)	Mtrs	39,400
16.	Patch chord 1 mtr	No	553
17.	Patch chord 2 mtr	No	553
18.	Patch panel	No	55
19.	PVC Conduit/ Channels for Laying of Cables	Mtrs	1,04,522
20.	HDPE Pipe for OFC Laying	Mtrs	1,600
21.	Removal of old UTP cables	Mtrs	5000



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

10.2.2. Noida Campus

S. No.	Work Item	Unit	Qty
1.	GePON Splitter 2:32	No	6
2.	GePON Splitter 2:16	No	1
3.	GePON Splitter 2:4	No	1
4.	GePON Bridge/ PoE ONT 4 port	No	5
5.	OFC 48 Cores	Mtrs	2,000
6.	OFC Laying cost within building	Mtrs	500
7.	OFC Laying Cost outside the building	Mtrs	1,500
8.	Cat 6A UTP (500 mtr roll)	Roll	48
9.	Cat 6A UTP Laying	Mtrs	24,080
10.	LIU	No	42
11.	I/O Box, Face Plate & Gang Box with Installation	No	301
12.	Drop cable (fiber)	Mtrs	15,100
13.	Patch chord 1 mtr	No	158
14.	Patch chord 2 mtr	No	158
15.	Patch panel	No	22
16.	PVC Conduit/ Channels for Laying of Cables	Mtrs	19,264
17.	HDPE Pipe for OFC Laying	Mtrs	400
18.	Removal of old UTP cables	Mtrs	2,000

10.3. Security Components

Lucknow Campus:



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Work Item	Unit	Qty
1.	Appliance - Next Generation Firewall 8 Gbps combined throughput with Application Security, Content inspection, Anti malware & URL filtering	No	2
2.	Annual subscription component of NGFW 8 Gbps	Subscription/ Year	2
3.	Web application firewall	No	1

Noida Campus:

S. No.	Work Item	Unit	Qty
1.	Appliance - Next Generation Firewall 2 Gbps combined throughput with Application Security, Content inspection, Anti malware & URL filtering	No	2
2.	Annual subscription component of NGFW 2 Gbps	Subscription/ Year	2

Single Sign On

S. No.	Work Item	Unit	Qty
1.	Supply, installation, configuration, and implementation of Active Directory based SSO Solution at Lucknow Campus	Subscription/ Year	2000

10.4. Centralized Help desk Ticketing Solution

The operational support to be provided through a suitable Helpdesk system, to ensure that the solution is functioning as intended and that all problems associated with operations are resolved satisfactorily. The selected bidder shall set up an appropriately staffed centralized helpdesk for providing helpdesk support through an associated IT system. The helpdesk solution and its associated software and hardware components shall be deployed and integrated by SI.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

The helpdesk & ticketing solution shall:

- Serve as a single point of contact which shall be providing support on both technical and domain (business process) related assistance to users.
- Serve as a single point of contact for reporting / resolution of all tickets queries, errors, incidents, issues either business or application or infrastructure or operations.
- Provide troubleshooting Services including maintenance for overall system stabilization, defect resolution, system maintenance, system administration, availability & performance issues, security administration and database administration etc.
- Allow all Users of Lucknow and Noida campuses to log ticket in the Helpdesk Solution
- Helpdesk Solution should provision the users via SSO.
- A web-based application for service desk tool for registering the calls and a call logging system in line with the severity levels as per the SLAs implemented within the system.

S. No.	Work Item	Unit	Qty
1.	Supply, installation, configuration, and implementation of Centralized Help desk Ticketing solution	No.	1

10.5. UPS & Electrical Components

10.5.1. Lucknow Campus

S. No.	Work Item	Unit	Qty
1.	UPS 3: 1 IN/OUT N+1 with 30 min. Backup	40 KVA	2
2.	UPS 3: 1 IN/OUT N+1 with 30 min. Backup	10 KVA	2
3.	UPS IN/OUT N+1 hot standby with 30 min. Backup	5 KVA	2
4.	UPS IN/OUT N+1 hot standby with 30 min. Backup	3 KVA	10



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Work Item	Unit	Qty
5.	UPS IN/OUT N+1 hot standby with 30 min. Backup	2 KVA	2
6.	UPS IN/OUT N+1 hot standby with 30 min. Backup	1 KVA	2
7.	UPS	0.5 K	1
8.	Electrical wiring to UPS of access switches	Job	1
9.	Electrical wiring to distribution points, Electrical switches, changeover <ul style="list-style-type: none"> • UPS wiring of 40 KVA and 10 KVA shall be to Electrical distribution board. • For Smaller sized UPS, power supply to be provided till access switches i.e. laying electrical cable till Access switch and putting it in conduit 	Job	1

10.5.2. Noida Campus

S. No.	Work Item	Unit	Qty
1.	UPS IN/OUT N+1 hot standby with 30 min. Backup	1 KVA	2
2.	UPS	600 VA	1
3.	Electrical wiring to distribution points, Electrical switches, changeover <ul style="list-style-type: none"> • UPS wiring of 40 KVA and 10 KVA shall be to Electrical distribution board. 	Job	1



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

	<ul style="list-style-type: none">• For Smaller sized UPS, power supply to be provided till access switches i.e. laying electrical cable till Access switch and putting it in conduit		
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**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

10.6. Non-IT Components

10.6.1. Lucknow Campus

S. No.	Work Item	Unit	Qty
1.	Chemical earthing	Job	1
2.	Rodent control in server room	Job	1
3.	Civil work for housing of Splitters	Job	8
4.	Civil work for installing external WAPs	Job	6

10.6.2. Noida Campus

S. No.	Work Item	Unit	Qty
1.	Chemical earthing	No	1
2.	Rodent control in server room	No	1
3.	Civil work for housing of Splitters	Job	2
4.	Civil work for installing external WAPs	Job	2



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

11. Implementation Timelines

The SI is required to complete the project implementation and make the project “Go-Live” within a period of 14 weeks from the date of award of the contract. The SI shall make an effort to complete the project as per defined timelines, however, additional two weeks shall be provided if required. Following are the timelines for the key activities involved in implementation of the project.

Project Phase	Timelines (in weeks)															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Contract Sign off	█															
Resource Onboarding		█	█													
Pre-implementation Site Survey & Report Submission		█	█													
Implementation Plan and Design			█	█												
Part procurement of BoQ items		█	█	█	█	█										
Procurement of complete & approved BoQ					█	█	█	█	█							
Implementation of Passive Components					█	█	█	█	█							
Implementation of Active Components								█	█	█	█					
Post-implementation Site Survey & Report Submission											█	█				
Acceptance of Post-implementation Survey Report by IIML													█			
Acceptance Testing by IIML														█	█	
Third-party Audit															█	█
Documentation											█	█	█	█	█	
Training and Capacity Building														█	█	
Go-Live																█

Note: Inter-se changes in Project Timelines for the activities may be proposed by the SI. However, the overall Timelines shall not be changed.

***Training schedule shall be finalized in consultation with IIML.**

12. Project Implementation Team

SI shall deploy project delivery team of suitably qualified and experienced managerial and technical resources for the successful development and rollout of Network Infrastructure Refresh project.

The project must have at least 1 Project Manager on a full-time basis, who shall act as a Single-Point-of-Contact (SPOC) between the SI team and IIML Staff and shall be responsible for entire delivery and implementation of the project. (S)He shall be a B.E./B.Tech with 12+ years of experience in IT and Network infrastructure domain and should have prior experience of managing at least 2 similar implementation projects during his career.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

SI shall be responsible for appropriately deploying their teams for implementations at Lucknow and Noida campuses such that the timelines of intermediate milestones as well as overall project delivery, along with all the QoS parameters are achieved satisfactorily. This would require the SI to deploy best in class resources having specialized skills, technical education, and relevant experience for successfully implementing the project. The continuity of deployed resources in all the phases shall play a key role in meeting the project objectives. SI will not change the personnel deployed as implementation team without due justification and prior approval of IIML. Change of personnel in the implementation team, shall be done only in case, if the personnel resign from his/her organization or due to medical incapacity; any such change in resource deployment shall be done only after the approval of IIML.

The entire team shall be mandatorily deployed onsite at IIML premises at Delhi-NCR and Lucknow for project delivery for the entire project duration. The need for continued requirement for onsite deployment would be reviewed at least 15 days before **Project Go-live** depending on the complexity of the implementation and completion of training of IIML resources.

SI shall share the team resource plan with IIML. IIML shall provide adequate seating facility and basic infrastructure such as furniture, printer, cupboards etc. to the SI within 10 days of getting the resource plan from the SI. The Onsite team should bring their end user computing device (Laptop/ Desktop), Internet access mechanisms (dongles/mobile WAP etc.) with all the necessary development and end point security software required for implementation.

Important: The format for the profiles of the proposed team is present in RFP Volume 2, Section 18.2 –Technical Bid Formats, Format -12. The lead members proposed by the SI shall be retained members till the project component go-live.

13. Support and Maintenance Team

SI shall provide Support and Maintenance to all the project components for a period 7 years from the effective date of “Go-Live”.

SI shall be responsible for the activities as detailed out in section 8.20 during operation and maintenance phase for which SI need to deploy the following resources at IIML Locations:



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Profile	Unit	No of Resources
1	Network & Security Manger	No	1
2	Network engineer - 3 shifts at both campus (One Resource Per Shift)	No	6
3	Network engineer – For shift Rotations	No	3
	Total		10

IIML may review the requirement of number and location of resources to be deployed from time to time which may result in increase or decrease in overall cost of resources on discovered price in this RFP. SI shall be paid quarterly for the actual number of resources deployed in that quarter.

Further, while the Project Manager shall be primarily stationed at Lucknow, (s)he shall travel to Noida as per project’s demand and/or requests by IIML. Travel costs be borne by SI and shall be reimbursed by IIML on actuals/SI company policies.

The deployed resources shall be finalized in consultation with IIML. IIML may interview the Support team staff before on-boarding on the project. IIM may request SI to replace the resources in case of any performance or any other issue.

S. No.	Profile	Education Qualifications	Experience
1.	Network & Security Manger	B. Tech / BE/ MCA	At least Twelve years of relevant experience in setting up of IT Network Infrastructure domain.
2.	Network engineer	Minimum 3-year Graduation/Diploma in Science/Technical Stream.	At least 3 years of relevant experience in IT Network Infrastructure domain.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

14. Exit Management & Handover Mechanism

The SI shall prepare and provide the IIM an Exit Management Plan. Details of the Exit Management are furnished in volume-III of this RFP.

The Exit Management Plan shall contain the details thereof including the following:

- I. A detailed program of the transfer process that could be used in conjunction with IIM or the Replacement Vendor, including details of the means to be used to ensure continuing provision of the services throughout the transfer process or until the cessation of the services and of the management structure during the transfer;
- II. Modalities for communication with SI's sub-contractors, staff, suppliers, service providers and any related third party as are necessary to avoid any detrimental impact on the Systems operations as a result of the transfer;
- III. Plans for provision of contingent support to the project and IIM or the Replacement Vendor for a reasonable period after the transfer.

Handover Mechanism:

- I. At the end of the specified O&M services period, the IIM may exercise its option to renew the O&M services with the existing SI or decide to undertake these activities on its own or to a third-party
- II. If Handover is required to IIM / any other vendor at the end of the existing O&M or otherwise, SI would be responsible for handing over the complete know-how, documentation records, software logs and all such relevant items that may be necessary for the transition process

Important: Important: In this regard, the bidder shall provide an Exit Management Plan for all the Project Component. Refer Format 10, RFP Vol 2, Section 18.2.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

15. Training and Capacity Building

Training and Capacity Building is a critical component of the project. The purpose of this initiative is to equip the staff of IIML / team members of SI to eventually gain knowledge and expertise to manage the Network services on their own. Further, IIML staff should be trained enough to carry out the maintenance activities without the help of any external party/SI once the Contract with the implementing SI expires. This component is critical to the sustainability of the Network solution by the end-user community.

The SI will be responsible for creation of a detailed and effective training strategy, user groups and classifications, training plan and guidelines, detailed training material, training program designed their delivery to the target users. The SI will also be responsible for drawing out an effective methodology for evaluation for each training and to measure the effectiveness of the training. The training and capacity building requirements are detailed in the sections below. Any additional training requirement/requirement of additional batches would be taken up on a time & material basis based on the rates provided by the SI.

The core components of training are proposed to be delivered using the SI's own resources.

Indicative Training Coverage

The table below broadly illustrates the training type and the respective coverage from each training type.

S. No.	Type of Training	Broad Coverage in Training
1.	Training on Active components and monitoring software	Usage, Configuration, troubleshooting for the products, monitoring software/ appliance (NMS, WLAN controller, NAC, GePON management solution) deployed as part of this project
2.	Network SLA monitoring & management	Review and configuration of SLA reports, Troubleshoot issues
3.	End user provisioning	User Creation and Maintenance of access for end users on the SSO platform.
4.	Help Desk Operations	Usage and configuration of Centralized Help desk



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Type of Training	Broad Coverage in Training
<u>Master Training Coverage</u>		
5.	Network System administration training	a) The training will also cover administrative activities such as User Creation and maintenance, and creation of other master data for specific locations and users. b) For Training on monitoring Network performance management, Security Components, NMS/ equivalent console, SLA monitoring and any other technical aspect for monitoring of the Network. c) The trainees will be selected by IIML based on relevant educational background, technical skill sets and also inclination towards technical roles.

Training of Master Trainers

The master trainers are a set of two to three officials of IIML from each of the two locations. The trainers will have to be imparted training in Network & security component administration and functions and activities to be carried out for troubleshooting any issues that may come up on day-to-day operations of the Network Infrastructure. It is very important that the master trainers become Subject Matter Experts with respect to all the components involved in the Network Infrastructure, so that they can hand hold and assist the other officials in their respective offices throughout the journey of implementation and handling the operations. The training material for these trainings must be carefully designed so that it provides for self-learning and continued learning even after the training. The training plan must include appropriate methodology to evaluate the trainees and measure the effectiveness of the training.

Responsibilities of the SI for training

The SI shall be responsible for the following activities as part of the training:

- a) Develop an overall training plan in consultation with IIML.
- b) Develop a Batch-Wise training schedule, curriculum, training material and methodology for evaluating the trainee and effectiveness of training.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- c) Deliver training to nominated trainees while carrying out the training effectiveness evaluation.
- d) All training material, documentation and end user manual would be provided by the SI.

Training Infrastructure and Location

Location: It is proposed that the location for Trainings would be at IIM Lucknow Premise(s). Upon mutual agreement, a part of the training may be conducted via video conference.

Training Infrastructure: The training facility would include the infrastructure required for conducting the training. It would include location/space for training, projector and laptop/ desktop for each participant which would be used during the training. This would be provided by IIML.

S. No.	Training Type	No of Batches	No of Users Per Batch	No of Days	Training Mode
1.	Training of Master Trainers	1	5	5	Both (Instructor led Class Room/ Online)

Important: In this regard, the bidder shall provide a Training Plan as part of bid response. Refer Format 11, RFP Vol 2, Section 18.2.



Annexure



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

16. Annexure

16.1. Annexure 1: As-IS State of Network infrastructure

This section describes the various components of the Network Infrastructure that are currently deployed at the IIML campuses at Lucknow and Noida. The details include campus layouts and distribution of user across the various facilities, issues currently being experienced by users at these campuses, Network architectures and Security practices implemented, Business continuity strategies, as well as inventory of the various Network infrastructure components that are available currently.

16.1.1. Lucknow Campus

16.1.1.1. *Campus Layout*

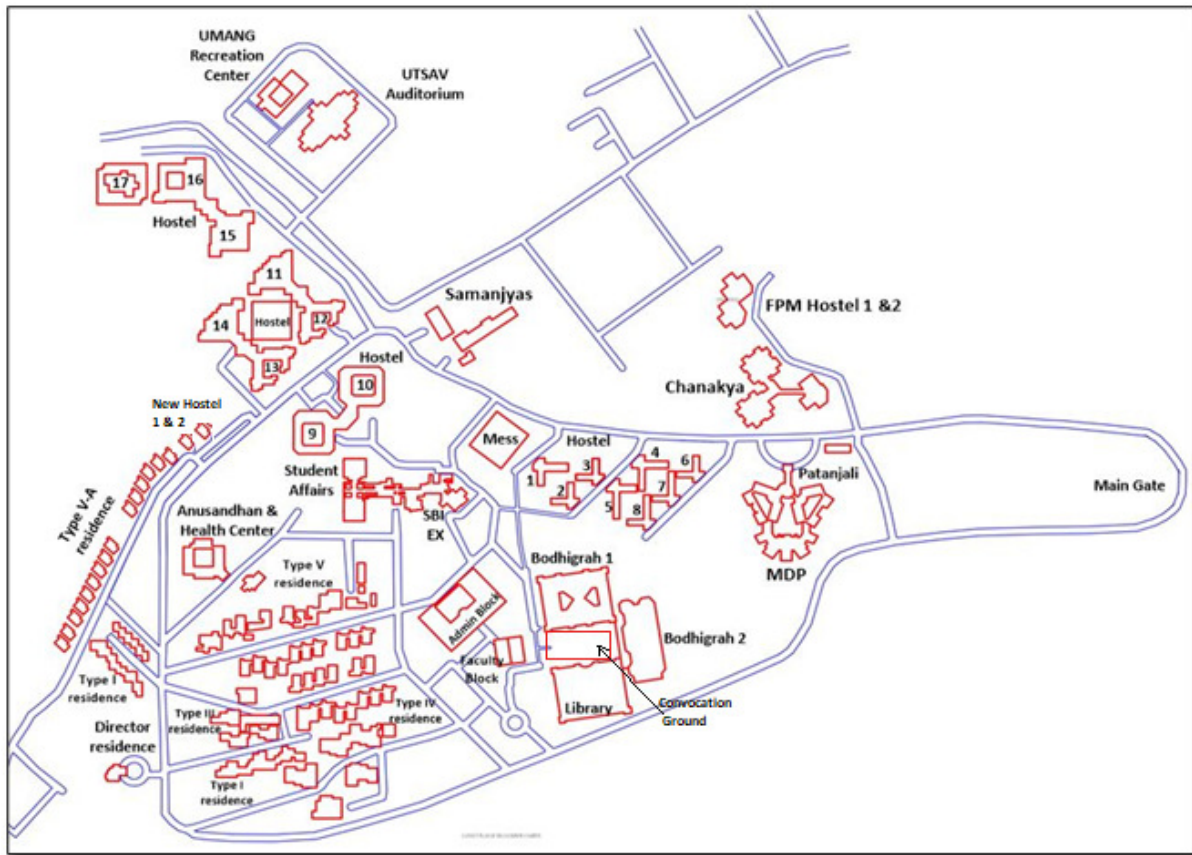
The campus of IIM Lucknow is spread over an area of over 180 acres and is replete with well-facilitated academic blocks, sprawling lush-green open spaces, multi-faceted fitness complex and recreation centers, convenient hostels, aesthetic and imposing auditoriums, well-equipped labs, exhaustive libraries, etc.

The Computer Centre is housed in a spacious 7500 sq. ft., centrally air-conditioned building and is equipped with the state-of-the-art computing resources to cater the needs of the academics as well as administrative activities of the Institute.

The broad layout of the various structures built at the Lucknow campus is shown below:



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project



The various buildings can be categorized as follows:

S. No.	Building Name	Purpose	No floors	No of Users
1.	Library	Offline/Online resources	2	442
2.	Computer Centre (GF)	Network Management	2	210
3.	Faculty Block	Faculty Cabins	2	81
4.	Admin Block	Administrative Departments	3	92
5.	Bodhigrah - 1 & Bodhigrah – 2	Academic Block / Classrooms	2	2981
6.	MDP	Academic Block / Classrooms	2	290
7.	Chanakya	Guest House	2	84
8.	Patanjali	Guest House	2	84
9.	Bank/Cafeteria		1	50
10.	Student Mess	Dinning	2	1000



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Building Name	Purpose	No floors	No of Users
11.	Anusandhan/Health Center	Academic & Medical Block	1	74
12.	Hostel 1 to 8	Student Residence	2	240
13.	Hostel 9	Student Residence	2	90
14.	Hostel 10	Student Residence	2	90
15.	Hostel 11 to 14	Student Residence	2	360
16.	Hostel 15 to 17	Student Residence	2	326
17.	FPM 1 Hostel 1 & 2	Student Residence	2	100
18.	New Hostel 1 & 2	Student Residence	3	250
19.	Type 1	Faculty Residence	2	80
20.	Type 3	Faculty Residence	2	105
21.	Type 4	Faculty Residence	2	100
22.	Type 5	Faculty Residence	1	140
23.	Type 5A	Faculty Residence	1	60
24.	Directors Residence	Directors Residence	1	4
25.	UMANG & UTSAV Auditorium	Auditorium & Recreation Centre	2	300
26.	Main Gate	Security Cabin	1	50
27.	Samanjasya	Gatherings	1	500
28.	Football Field, Cricket Field, Basketball Court	Playgrounds & Open Spaces	1	250
29.	New Hostel 1	Upcoming Students Residence	3	125
30.	New Hostel 2	Upcoming Students Residence	3	125

16.1.1.2. Network related Issues prevalent currently

Following challenges and issues pertaining to network bandwidth are currently being faced by users specifically at Lucknow campus:

- 1) In Type V/V-A (duplex) houses, the strength of the network signals fall drastically as the distance from the WAP increases (i.e., in rooms farthest from or on different floor from the



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

location of the WAP). This is further worsened by the presence of thick internal walls of the Duplex residences.

- 2) Very limited bandwidth is available to the users in areas where user density is higher.
- 3) UTSAV auditorium does not have even a single UTP connection for High-speed connectivity.
- 4) Poor Network Connectivity issue inside hostel rooms due to inadequate capacities of existing wireless Access Points.
- 5) During power fluctuations, existing UPS is unable to cater to emergency power backup which results in downtime of network.
- 6) In intermittent times when UPS are under service/repair the switches which are powered through generator take time to come up when main power supply goes off and generators are powering on.
- 7) For Type V-A buildings, position of switches is inside Garages, during unavailability of faculty or family member, maintenance & replacement of switches is impossible which also cause downtime in network.
- 8) For few hostels, switches are placed inside common rooms, during unavailability of students during leave, maintenance & replacement of switches is impossible which also cause downtime in network.

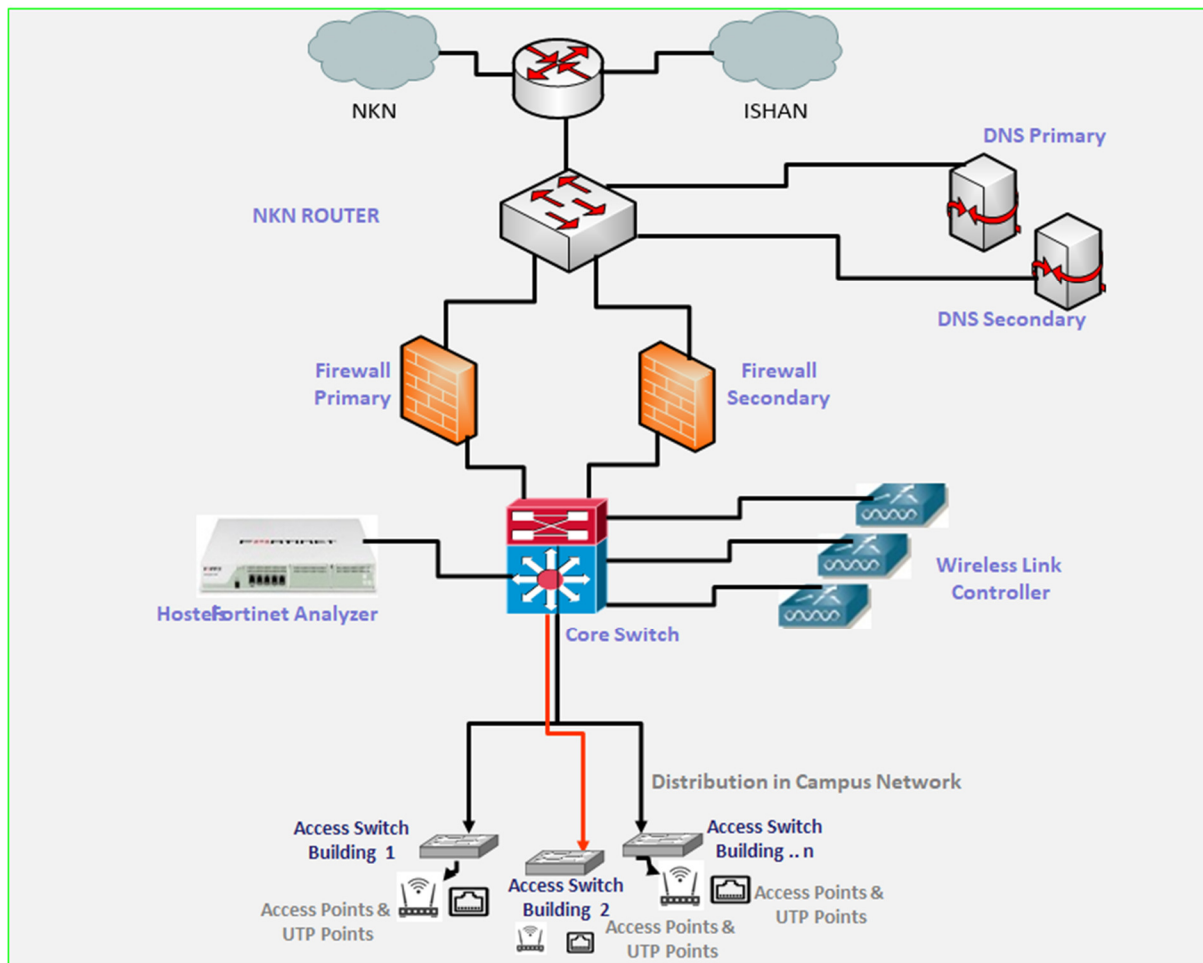
16.1.1.3. *Network Architecture*

IIML network is also based on three-tier architecture, as described below:



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

IIM-L Network Layout Diagram



- The Core Layer consists of a Core switch which receives input from two service providers NKN and ISHAN. These connections from ISPs are forwarded to the firewall (primary & secondary) and DNS (primary & secondary). Core switch is connected to the Fortinet Analyzer for user authentication and to the wireless link controller for managing the wireless access points.
- At Access layer, Access switches are installed in the various areas of the campuses to enable the end users to access network services using their computing devices. The wired connectivity is provided by the optic fibre cable that connects the Access switch to the UTPs. The wireless connectivity is provided by Wireless Access Points (WAPs) that are connected to the Access switches.

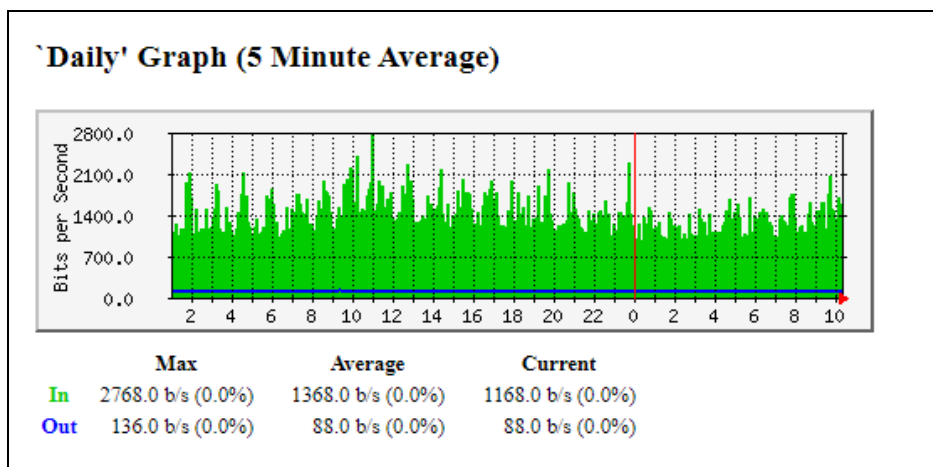


Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

16.1.1.4. Security Implementation

The following components are being used at IIM Lucknow campus to enable & manage Network Security.

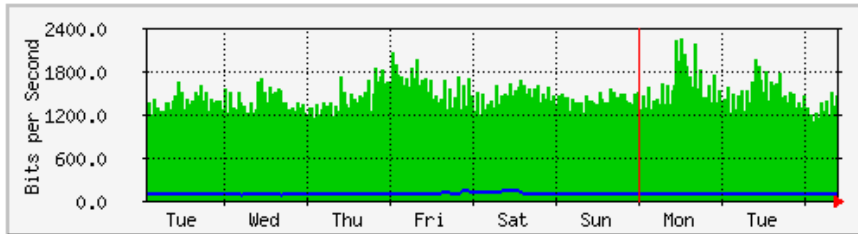
- 1) **Fortinet 800 C firewall** - This firewall provides an extensive security for institution network.
- 2) **Forti Analyzer 200D Authenticator:** Fortinet Analyzer 200D has been installed as a platform that integrates network logging, analysis, and reporting into a single system, delivering increased knowledge of security events throughout the network. The key objective of authenticator is to provide secure but controlled network access enabling the right person the right access, without compromising on security by authenticating the user credentials before allowing accesses to the network and applications. It also collects and reports data pertaining to forensic research, content archiving, data mining and malicious file quarantining, etc. The Fortinet Analyzer minimizes the effort required to monitor and maintain acceptable use policies, as well as identify attack patterns to helps in fine tune network access policies.
- 3) **Network Bandwidth & Usage Monitoring:** To monitor the network traffic and Band-width utilization, *Multi Router Traffic Grapher (MRTG)* tool is used. MRTG produces graphical reports of bandwidth usage and network traffic load on network links on daily, weekly, monthly, and yearly scales. This is used for diagnosing network problems because it not only indicates the status of the network but also visually compare this with the history of network utilization. A Sample report is shown below:





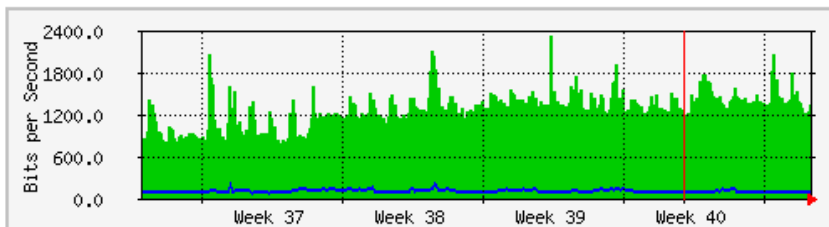
Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

'Weekly' Graph (30 Minute Average)



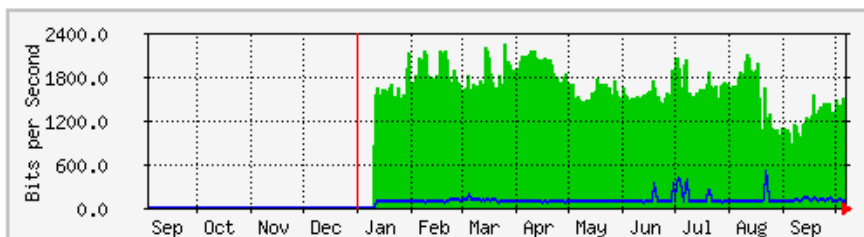
	Max	Average	Current
In	2240.0 b/s (0.0%)	1384.0 b/s (0.0%)	1448.0 b/s (0.0%)
Out	128.0 b/s (0.0%)	88.0 b/s (0.0%)	88.0 b/s (0.0%)

'Monthly' Graph (2 Hour Average)



	Max	Average	Current
In	2312.0 b/s (0.0%)	1248.0 b/s (0.0%)	1344.0 b/s (0.0%)
Out	208.0 b/s (0.0%)	104.0 b/s (0.0%)	88.0 b/s (0.0%)

'Yearly' Graph (1 Day Average)



	Max	Average	Current
In	2248.0 b/s (0.0%)	1632.0 b/s (0.0%)	1384.0 b/s (0.0%)
Out	488.0 b/s (0.0%)	104.0 b/s (0.0%)	88.0 b/s (0.0%)

4) Physical Security of Data Centre

The existing Data Centre facility at IIM Lucknow campus is situated inside the premises of the Computer Centre. The Data center is not provided with any automated access mechanism such as finger scanner, access card or passcodes. A Security person is seated at



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

the entry gate of Data center who maintains the Log of Individuals and allow only permitted users to enter inside the Data Centre.

CCTV cameras are installed inside the premises of the Computer center to monitor the entry and exit of people in the Data Centre.

5) User Authentication

Currently, IIML has 3 different authentications that the users need to perform before they can access the various Network services:

- VPN – Users need to enter their username and passwords for VPN to enter the IIML network.
- Active Directory – Computer Centre users have been provisioned in Active Directory from where they can access IIML applications.
- Gmail access – Users need to enter the Username and password of their Gmail accounts to access their mailboxes.

Further, there are several other in-house developed applications being used at IIML which independently authenticate and authorize the users before allowing access to these applications.

16.1.1.5. *Network Infrastructure*

The various components currently installed in IIM Lucknow campus as part of network infrastructure are described as follows:

WAN Links

The Institute is currently equipped with the following three links that enables its wide area network (WAN) requirement.

a) **National Knowledge Network (NKN)**

This is the Primary connection having a bandwidth of 1 Gbps for providing Internet connectivity to the IIML campus. National Knowledge Network (NKN) project is a Govt. of India initiative aimed at establishing a strong and robust pan-India network that can provide secure and reliable connectivity. In India, NKN with its multi-gigabit capability aims to connect all universities, research institutions, libraries, laboratories, healthcare and agricultural institutions across the country to address the needs of highly collaborative and computational research projects. The



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

leading mission-oriented agencies in the fields of nuclear, space and defence research are also part of NKN.

b) ISHAN

This is a secondary Internet connection that has a bandwidth of 200 Mbps, and provides redundancy for the Internet connectivity in the campus.

c) P2P leased line

A P2P leased line has been provisioned between Lucknow & Noida campus with capacity of 100 Mbps that enables the network connectivity at Noida campus.

Most of the users in the campus have been provided with UTP based wired as well as Wi-Fi network connectivity. The Lucknow campus has a fibre optic cable backbone that connects the network across all buildings. The Wi-Fi network supports 802.11n standards.

Active Components

a) Switches:

The switching network is based on Three-tier architecture comprising of Core, Distribution and Access tier. All the switches on existing network are of Cisco series. A Core switch of 1 Gbps capacity has been deployed in high-availability mode to cater to the data transfer on the existing network backbone. The distribution switch of capacity 1024 Mbps is installed which distributes the specific sub-network data to access layer components. Switches at the access tier provide end user connectivity through UTP cables (mostly CAT 5). All the access switches are 24 port - 10/100 Mbps Cisco switches.

b) Firewall:

A Next-generation Fortinet firewall 800C have been used to filter the incoming network traffic and protects the network from various external threats, unauthorized intrusions, and virus attacks. These firewalls are deployed in Primary-Secondary mode to enable redundancy in case one of the firewalls becomes unavailable.

c) DNS:

The DNS system comprises of a relational database that stores the mapping of the system names with their respective IP Addresses. The DNS facilitates that every server / computer on a TCP/IP-based network can be accessed easily by just typing the name of the server.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

d) WLC wireless controller:

Wireless LAN controller (WLC) is installed in any network to configure and manage the various wireless access points (WAP) connected to it on that network. There are three WLC controller WLC 5508 - FCW1834L053 / WLC 4404 - FOC1104F080, FOC1330F097 of 1024 Mbps capacity installed to cater the WAP points.

e) Fortinet Analyzer:

A Fortinet Analyzer 200D has been installed as a platform for authenticating the users before allowing access to the network and applications.

Passive Components

a) Cabling:

The network cabling from access switches to end points is primarily through CAT 5 UTP (Unshielded Twisted Pair) Copper cables. At few places such as hostel -17 where repair was required for old cabling or an upgrade was required to support end points, CAT 6 UTP cables have been laid.

Optical Fibre Cables are laid for connecting Core tier to distribution and access tiers.

b) LIU :

Fibre Patch Panel Light interface units (LIU) are extensively used for wired communication networks. The LIUs are used for routing, managing, and terminating optical cable connections. These are installed at places where termination is required.

c) Racks :

There are Racks of Floor Standing type present in the server room adjacent to Computer Centre in Lucknow campus. Apart from these, the access switches are placed in wall mounted positions in various buildings of the Institute. The I/O Boxes and Face plates are used to connect devices such as desktop computers, printers, and other peripherals to the network.

Wireless Network

The wireless network is implemented in the campus for providing Wi-Fi based network access to the end users.

a) Wireless Access Points:



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

Wireless Access points (WAPs) are installed in the campus buildings for providing wireless connectivity to end users. For faculty residences, outdoor access points are installed on poles while indoor AP's are provided in Academic blocks, Administrative and Hostel buildings.

Data Centre and Business Continuity Planning

The existing Data center at Lucknow is located inside the Computer center and hosts the following Hardware, Software and Application Services:

a) Hardware:

Centralized hardware resources of the Institute such as Computers (from Pentium to Xeon processors, 4 to 48 GB RAM, 80 to 2 TB Storage), Servers, Blade Servers, Firewall, Network Infrastructures, High Speed Network Printers and Scanners.

b) Software:

The software resources include a wide variety of management-oriented software along with Microsoft Campus agreement. Therefore, all users can use genuine Microsoft Products (Windows OS, MS-Office, Visual Studio, Anti-Virus etc.).

c) Application Services:

- 24x7 Computer Labs. equipped with approximately 75 High End Computers
- Active Directory based User Administration
- Facility Management Services
- Gmail hosted webmail services with 30 GB Storage space
- IIM Lucknow Website
- ERP - Oracle Peoplesoft Campus Solution and Back Office
- Video Conferencing Services

Currently, the network availability is quite high and very rare downtime have been experienced. This is due to the presence of a redundant ISP leased line which takes over in case of non-availability of primary NKN line. Also, the redundancy at firewalls and DNS servers ensures reliable uptime of network connectivity.

In rare cases of a network failure at access layer, the computer center staff initiates immediate action for repair or change of wireless access devices, thereby limiting the downtime. However, during failure



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Equipment	Quantity	Used for	Model number	Location (Building)	Throughput (In Mbps)
3	Fortinet Firewall 800C	2	For Network security	800C / FG800C3913801767 / FG800C3913801663	Computer Centre	1024
4	Fortinet Analyzer 200D	1	For Data log of Firewall	200D / FL200D3A13000603	Computer Centre	1024
5	Access Switches	100	Distribution to Wireless AP/ PCs, Printers	3560 / entrasys/ Intel	Campus	1024 / 100 / 100
6	Access Points	250	Wireless Distribution		Campus	450/54

Further snapshot of Inventory of Access switches and Wireless Access points

Access Switches

S.No	Switch speed	Quantity
1	1 Gbps	57
2	100 Mbps	43
	Grand Total	100

Wireless Access Points

S.No	AP's Speed	Quantity
1	450 Mbps	121
2	54 Mbps	134
	Grand Total	250

Internet and Intranet Applications:



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

To facilitate the faculty, staff and students accomplish their functions, various software applications have been made available on the Internet as well as Intranet. List of all such applications has been included in the Section 16.4.

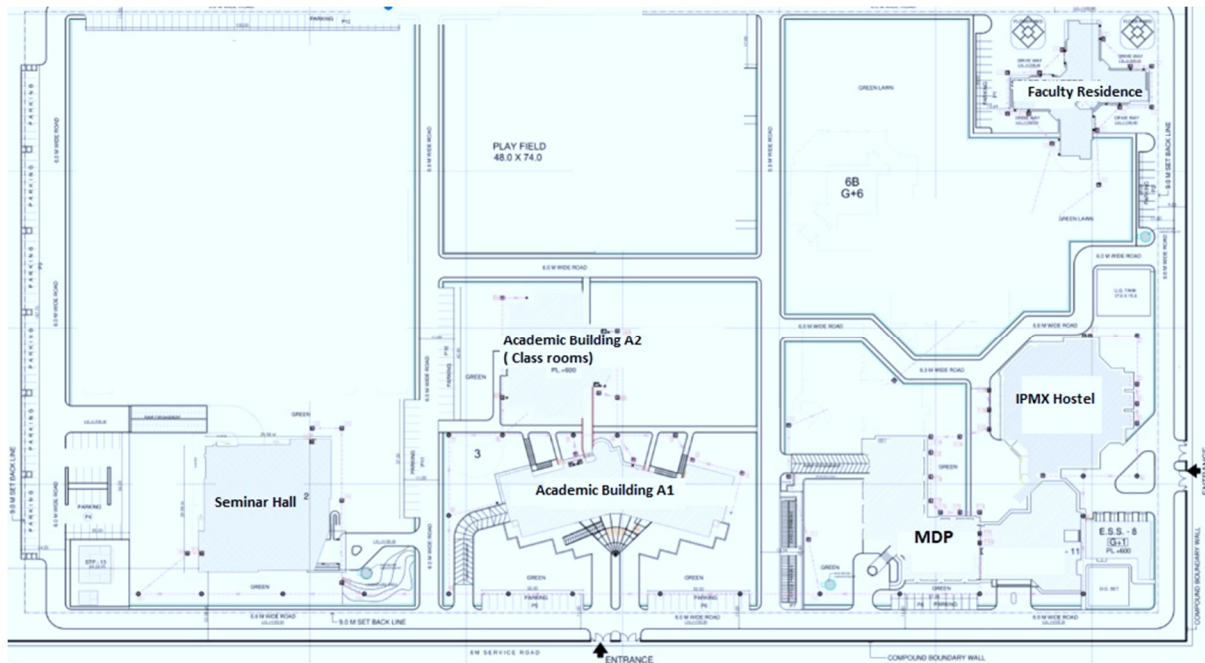
16.1.2. Noida Campus

16.1.2.1. Campus Layout

IIML Noida campus is a satellite campus of IIML, situated in a suburb of New Delhi in the National Capital Region. The Noida campus has a full-time dedicated pool of faculty having in-campus residence facilities for both faculty and the students. The campus has been developed as a Centre of Excellence in the field of Executive education.

The campus of IIML Noida is spread over an area of over 20 acres with well-facilitated with state-of-the-art teaching infrastructure, computer laboratories, academic blocks, sprawling lush-green open spaces, and student lounges, recreation center, convenient hostels, aesthetic and imposing auditoriums etc.

Noida Campus Layout



The various building structures of the Noida campus and their occupancy details are mentioned as follows:



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Building Name	Purpose	No floors	No of Users
1.	Academic Building (A1)	Administration & Academics	5	533
2.	Academic Building (A2)	Academics	4	634
3.	IPMX Hostel	Hostel	4	245
4.	MDP	Guest House	4	125
5.	Faculty Residence	Residence	5	89
6.	Seminar Hall	Auditorium	2	1220
7.	Security Cabin	Guard room	1	5

16.1.2.2. *Network related Issues prevalent currently*

- 1) There is a single leased line connectivity between Lucknow and Noida campuses, without any redundancy. Thus, in case of a failure of this leased line, the entire network of Noida campus is impacted.
- 2) For MDP and PGP hostel, connectivity of AP's inside the room is main concern due to existing strength of AP's and building structure.
- 3) Distribution of the network signals within the target coverage area is not appropriate.
- 4) Existing AP's in Faculty residence is not capable of covering complete area of Flat.

16.1.2.3. *Network Architecture*

The Network architecture of Noida campus is an extension of the Three-tiered architecture deployed at Lucknow campus, as has been explained in section 16.1.1.

The connectivity to the Noida campus is Provided by P2P link by ISP ISHAN with a capacity of 100 Mbps. This P2P line is connected to the Noida campus Network Distribution switch through a Cisco 1841 Router having a capacity of 100 Mbps that enables the flow of data traffic between Noida and Lucknow Campus. The Core Layer is based at IIM Lucknow campus and consists of Firewall, Fortinet analyzer, and WLC controller. At the Distribution layer, the distribution switch WS-C4507R of capacity

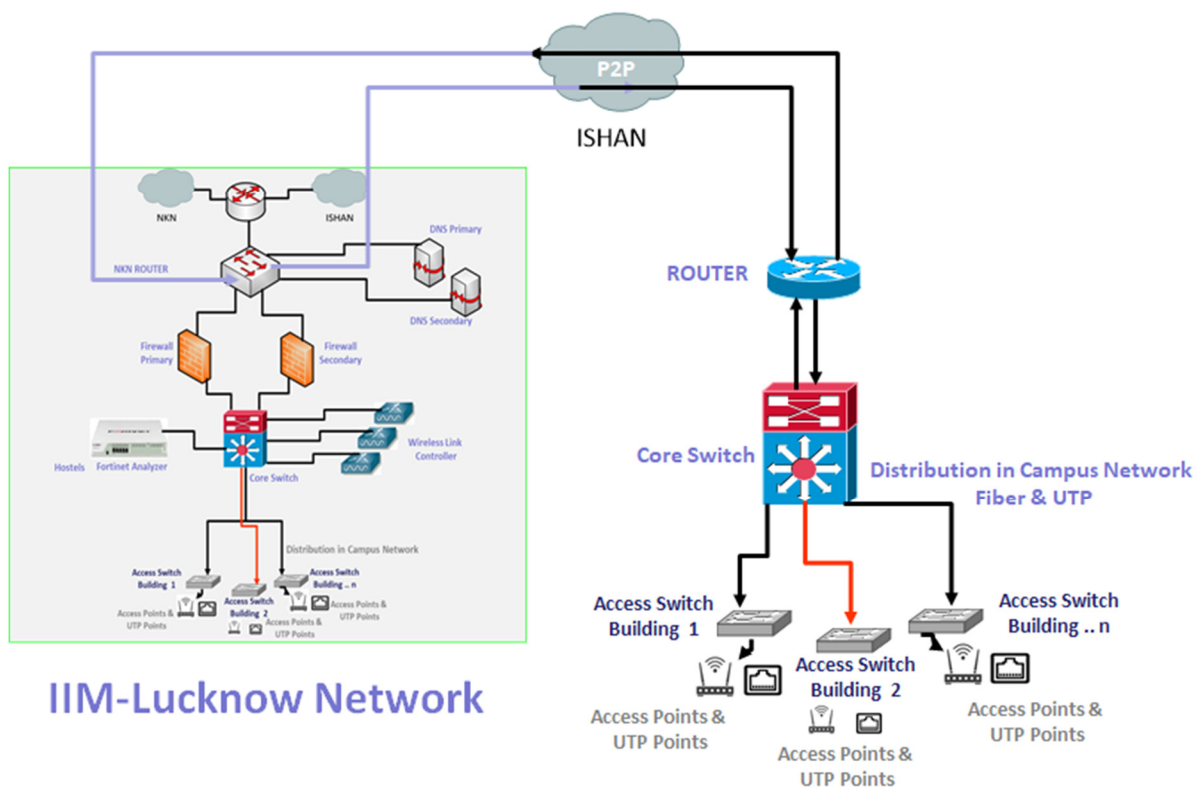


Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

1024 Mbps is installed in Noida campus which fetches the data from the Router and forwards it further to the various switches in the Access layer.

Existing IIML Network Layout at Noida campus

IIM-L (Noida) Network Layout Diagram



IIM-Lucknow Network

16.1.2.4. Security Implementation

As IIML Noida campus is having P2P connectivity from Lucknow campus which caters to entire Internet as well as Intranet traffic, the Network security is governed by devices are deployed at Lucknow campus. The various network security components deployed at Lucknow campus are described in Section 16.1.1. When a user at Noida campus accesses the network, the connection is redirected to the Lucknow network infrastructure where the user is authenticated (using the 3-tier authentication as described in section 16.1.1 and eligible services are provided.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

16.1.2.5. *Network Infrastructure*

The various components currently installed in IIML's Noida campus as part of network infrastructure are described as follows:

WAN Links

The Noida campus of IIML is currently equipped with a dedicated, fibre-optic cable based P2P link that is directly connected with the Lucknow campus. This link has a capacity of 100 Mbps and enables the wide area network (WAN) requirement of the Noida campus by providing Internet as well as Intranet data access to the users at Noida campus.

All users in the campus have been provided with UTP based wired as well as Wi-Fi network connectivity. The Noida campus has a fibre optic cable backbone that connects the network across all buildings. The Wi-Fi network supports 802.11n standards.

Active Components

As Noida campus is connected to Lucknow campus network infrastructure, all the active components are deployed at Lucknow campus. Refer section 16.1.1 for details.

Passive Components

a) Cabling:

The network cabling from access switches to end points/users is primarily through CAT 5 UTP (Unshielded Twisted Pair) Copper cables and CAT 6 at some places. Optical Fibre Cables are laid for connecting core to distribution/access tier.

b) Racks :

There are Racks of Floor Standing type present in the server room in A1 Building first floor. the distribution and access switches are placed in wall mounted positions in various buildings of the Institute.

c) LIU:

Fibre Patch Panel Light interface units (LIU) are extensively used for wired communication networks. The LIUs are used for routing, managing, and terminating optical cable connections. These are installed at places where termination is required.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

d) I/O Boxes and Face Plates:

The I/O Boxes and Face plates are being used to connect devices such as desktop computers, printers, and other peripherals to the network.

Wireless Network

The wireless network is implemented in the campus for providing Wi-Fi network access to the end users.

Wireless Access Points:

Wireless Access points (WAPs) are installed in the campus buildings for providing wireless connectivity to end users (details are provided in annexure). For faculty residence, outdoor access points are installed on poles while indoor AP's are provided in Academic blocks, Administrative and Hostel buildings.

Network Inventory

IIML's Noida campus is equipped with all the necessary computing resources to cater the needs of the academics as well as administrative activities of the Institute.

The IT network infrastructure at IIML is based on the backbone of a fiber optic network spanning across the campus, and connects Computers and Servers running on heterogeneous platforms. The network provides data accessibility to more than 500 wired and 100 wireless (Wi-Fi) network nodes. End user authentication provides necessary secured access to the Internet.

Each hostel room is connected with wired network while Wi-Fi is also available in common rooms.

The inventory of Network infrastructure components is detailed as follows:

S. No.	Campus	Equipment	Quantity	Used for	Model number	Location (Building)	Throughput (In Mbps)
1	Noida	Core switch	1	Distribution to Access Switch	WS-C4507R	A1 Building, First Floor	1024 / 100
2	Noida	Router	1	For WAN Link	Cisco 1841	A1 Building, First Floor	100
3	Noida	Access Switch	31	Distribution to Wireless AP/ PCs, Printers	Following models of Cisco switches: 3560, 2960, 1841, 2811,	Ground Floor of A1 Building, Computer Centre,	1024 / 100



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Campus	Equipment	Quantity	Used for	Model number	Location (Building)	Throughput (In Mbps)
					SG300-28P, C4507R	MDP Hostel, IPMX Hostel, Faculty Block, Server room	
4	Noida	Wireless AP (Access point)*	100	Wireless Access	Following models from Cisco and Dlink: AP-1242, 1231, 1602,1702, DWL-3200, WAP4410N, WAP121	A1, A2, IPMX, MDP Hostel, Seminar and Faculty Building, CCNC Stock	54 (33 Nos) 108 (40 Nos) 300 (24 Nos) 450 (3)

Inventory of Access Switches:

S. No.	Place	Model Number	Ports	Count
1.	A1 Building, Ground Floor	WS-C2960-24TT-L, WS-C3560-48PS	24 48	1 2
2.	A2 Building, Ground Floor	WS-C2960-24TT-L, WS-C3560-24PS	24 24	1 1
3.	Computer Centre	WS-C2960-24TT-L, WS-C4507R	24 24	2 1
4.	IPMX Hostel	WS-C2960-24TT-L, WS-C3560-24PS	24 24	7 1
5.	MDP Guest House	WS-C2960-24TT-L, WS-C3560-24PS	24 24	9 2
6.	Faculty Block	WS-C3560-48PS	48	1
7.	Seminar Building	SG300-28P 28-Port	28	1
8.	Server Room	Cisco-1841 Cisco-2811	24 24	1 1



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

Inventory of Access Points:

S. No.	AP Speed	Make & Quantity		Quantity Grand Total
		Cisco	Dlink	
1.	54 Mbps	33		33
2.	108 Mbps	19	21	40
3.	300 Mbps	24		24
4.	450 Mbps	3		3
	Grand Total	79	21	100

Internet and Intranet Applications:

To facilitate the faculty, staff and student at IIML Noida campus, same internet and intranet applications are available as explained in section 16.4.

16.2. Annexure 2: Envisaged Project Solution Architecture

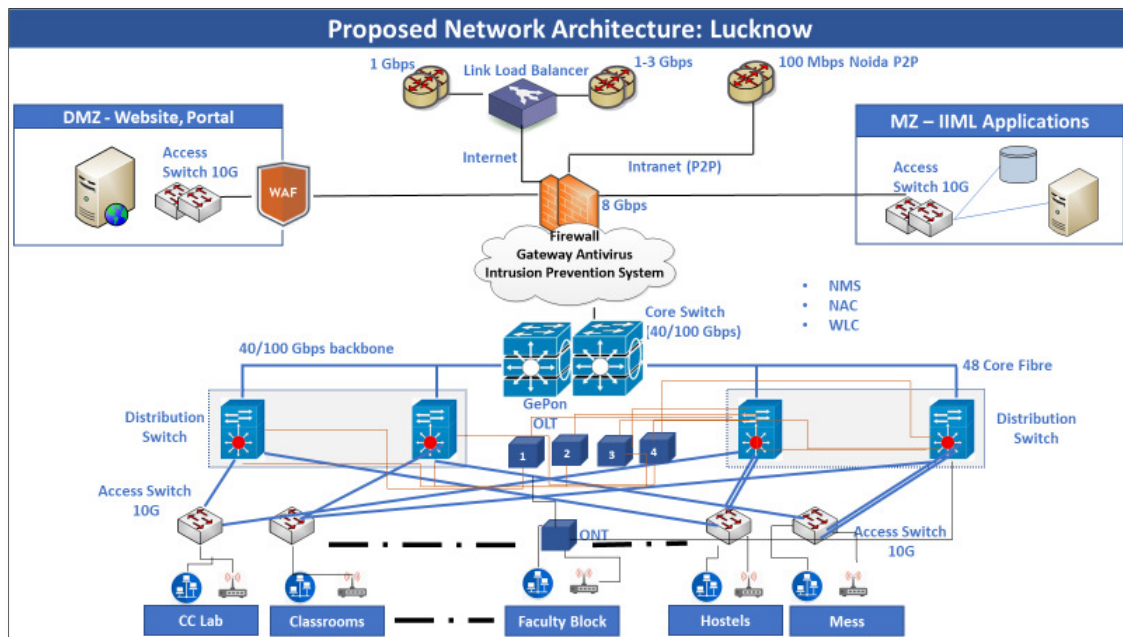
16.2.1. Network Architecture at Lucknow Campus:

The proposed Network Architecture for Lucknow campus is based on a three-tier architecture consisting of Core layer, Distribution layer, and Access layer. A simplified representation of the three-tiers is depicted in the figure below. This architecture helps in providing the required scalability and segregation of network connectivity between the various connected devices in a given network setup.

The Network architecture and its associated components proposed at IIM Lucknow campus are being described as follows:



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project



16.2.2. WAN Links

IIML network which is currently facilitated by the Internet connection from two ISPs – NKN and ISHAN, need to be upgraded with an enhanced capacity, considering the network usage. These ILL need to be upgraded as and when internet demand exceeds 1.2 Gbps. The existing P2P link to Noida shall continue to be used as primary link for Noida campus users to access applications hosted at Lucknow Data Centre.

16.2.3. Link load Balancer

The internet requests generated by the end-users in the local LAN are routed to the WAN links provided by the ISPs through a network appliance known as a Link Load Balancer. This load balancer component distributes the traffic load over various available WAN links and ensures maximized availability of Internet bandwidth by performing effective traffic management across the various available ISP links. The appliance comes with a set of administration policies that can be configured for effectively routing the incoming traffic requests to the various ISP line basis their bandwidth availability.

16.2.4. Firewall

It is being proposed that a Next Generation Firewall appliance (NGFW) be deployed to provide perimeter layer security to IIML network. Next-generation firewalls (NGFWs) filter network traffic to protect an organization from internal and external security threats. Along with maintaining features



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

of stateful firewalls such as packet filtering, IPsec and SSL VPN support, network monitoring and IP mapping features; NGFWs possess deeper content inspection capabilities using integrated intrusion detection systems (IDS) and intrusion protection systems (IPS) that detects attacks based on traffic behavioural analysis. NGFWs also have integrated features like anti-malware, ransomware, and Spam protection. These capabilities provide the ability to identify attacks, malware, and other threats, and allow the NGFW to block these threats thereby safeguarding the internal network components from any unauthorized obtrusions.

16.2.5. Application Hosting Zones

IIML applications are proposed to be hosted in two zones: DMZ and MZ. This will help to create the buffer zone between the internet-based services and the internal private network applications.

- **De-Militarized Zone (DMZ)**

DMZ is a physical or logical sub-network that hosts an organization's public facing services to an untrusted external network such as Internet. This keeps the sensitive & confidential data as well as the trusted network secure by restricting the access of non-trusted users to non-critical data and services only. DMZ shall host website iiml.ac.in, Etrigen on web server and DNS (primary and secondary) services.

To provide further security to public facing applications such as IIML website & Portal, an additional layer of Web Application Firewall (WAF) shall be deployed between the Next-Generation Firewall and the Application / Web Servers in the DMZ zone. Web Application Firewall helps protect web applications by filtering and monitoring HTTP traffic between a web application and the Internet. It typically protects web applications from attacks such as cross-site forgery, cross-site-scripting (XSS), file inclusion, and SQL injection, among others.

WAF shall be connected to the webserver through a 10G access switch.

- **Militarized Zone (MZ)**

This is a highly trusted physical or logical sub-network in a datacentre that houses sensitive Databases and applications/services that are intended for use by users from inside the network only. Since these artifacts are not exposed to general public (directly through internet), it keeps the data & applications secure. IIML applications that are used internally shall be hosted in MZ zone. The Application / Web



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

The access switches shall be placed at locations which are “always accessible” by the Support staff. These will NOT be placed in common rooms, hostel rooms or lavatories. Identification of space for installing Access switches needs to be done by IIML in consultation with System Integrator. However, it is being recommended that:

- a) Access switch location to be accessible from OFC & electrical cable (supply from Central/ semi-central UPS).
- b) Access switches may be installed at height of 3-5 ft from the ground
- c) Necessary prevention mechanisms are setup to prevent threats from birds, rodents, and theft of Access switches
- d) SI will need to undertake any civil work that may be required for proper installation of Access switches at various locations.

d) Access Points

An access point is a wireless network device that acts as a hub for end-user wireless devices to connect to a local area network. Access points are used for extending the wireless coverage of an existing network and for increasing the number of users that can connect to it. These are placed at certain strategic locations in a physical area such that it can provide the wireless network services with desired bandwidth to maximum number of users present in its vicinity.

It is being proposed that Access points shall be placed on poles/walls at various locations in the various buildings as has been specified in the Annexure. The access points shall be located indoors as well as outdoors depending on the location that provides the most optimized cost effectiveness in providing the desired network quality.

SI shall identify the best locations of installing the Access points during its pre-implementation survey and propose these locations in its Design document. These locations will need to be approved by IIML before installation is carried out.

e) WLAN controller

A WLAN controller provides a centralized platform for establishing a scalable wireless network. Wireless controller is proposed to be deployed at the distribution layer and shall enable controlling and managing of the various wireless network access points distributed over multiple sub-nets.

f) Network Access Control



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

Network access control keeps unauthorized users and devices out of a private network. It restricts access to only those devices that are authorized and compliant with security policies. NAC shall support AAA authentication and Guest access, Single solution for BYOD and control the user access.

g) Network Management System (NMS)

NMS solution shall provide 360 visibility of all the Network components in the network. NMS shall be used to identify, configure, monitor, update and troubleshoot network devices including wired and Wi-Fi devices.

h) Transceiver

An optical Transceiver is a powerful integrated device that can transmit as well as receive data through a fibre in the form of pulses of light at very high speeds and across long distances. Transceivers are wavelength-specific lasers that convert electrical data signals coming in from data switches into optical signals, and vice-versa. Each data stream is converted to a signal with a unique wavelength and transmitted over the optical fibre. It can be plugged into or embedded into another device within a data network for transporting the signals. Various trans receivers of 40G, 25G and 10G shall be used for different Access switches.

i) Wi-fi Devices & Extender

Wi-fi extender extends Wi-Fi network coverage space by boosting or amplifying existing signals. It is a unique solution that works by pulling in an existing weak Wi-Fi signal from transmitter (viz. a Wireless access point/ modem) and amplifying it before broadcasting the transmission to a wider area. This enables all wireless devices within that expanded coverage space to connect to internet or similar wireless network due to the enhanced signal strength.

Wi-fi extender is a highly cost-effective solution and shall be used to provide optimum network strength in all the corners of premises that have thick walls, cover a larger area or are built as duplex structures.

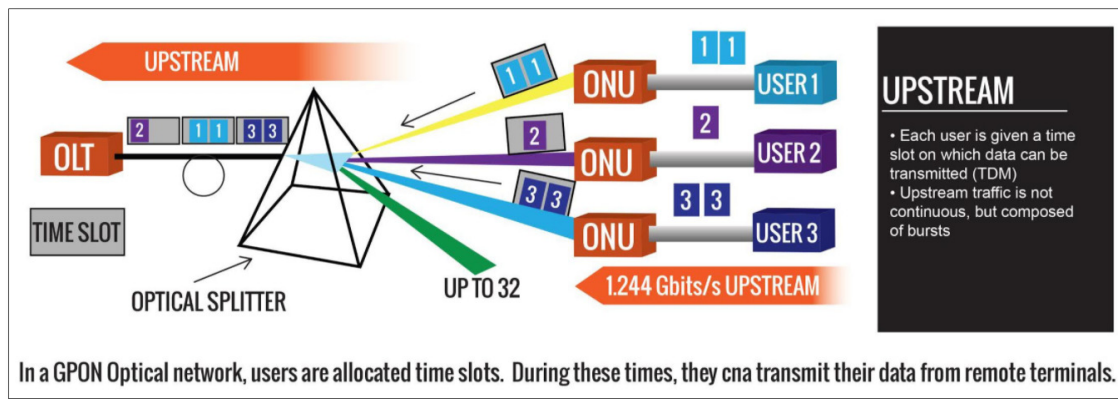
j) GePON

To cater the requirement of fast ethernet inside campuses, GePON connectivity has been proposed at some places. GePON (Ethernet Passive Optical Network) is based on an IEEE standard that uses Ethernet for sending data packets at speeds of up to 2.5Gbps. It is a type of optical access network



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

technology that uses point-to-multipoint architecture and has a passive optical fibre transmission to provide a variety of data services over Ethernet. GePON provides a fast Ethernet in which single optical fibre can be used to serve multiple devices or users. It is highly scalable, cost effective, easy to configure and provides service for up to 2300 subscribers simultaneously.



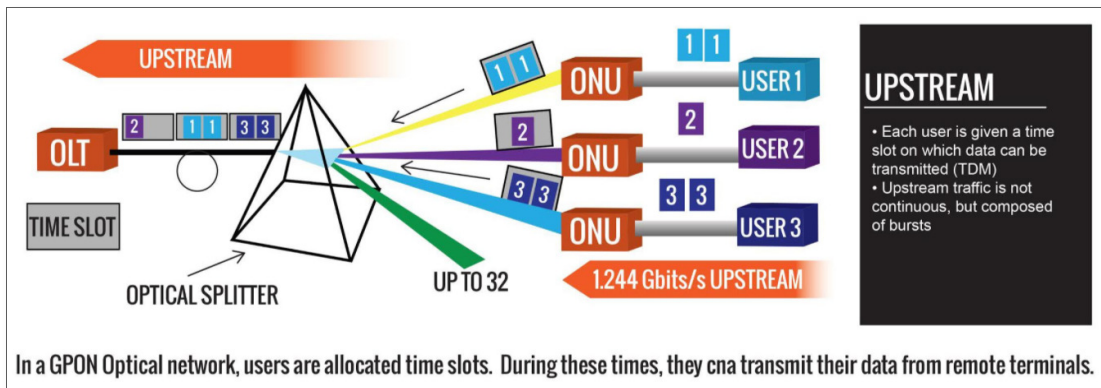
OLT (Optical Line Terminal) is the starting point for the passive optical network (PON), which is connected to a core switch through Ethernet cables. The primary function of the OLT is to convert, frame, and transmit signals for the PON network and to coordinate the data exchange with the various optical network terminals (ONT) or Optical network Units (ONU). Splitters are used to divide the signals coming in from OLT or ONT and route the data between OLT or ONT.

The data transfer between OLT and ONT is described pictorially below.

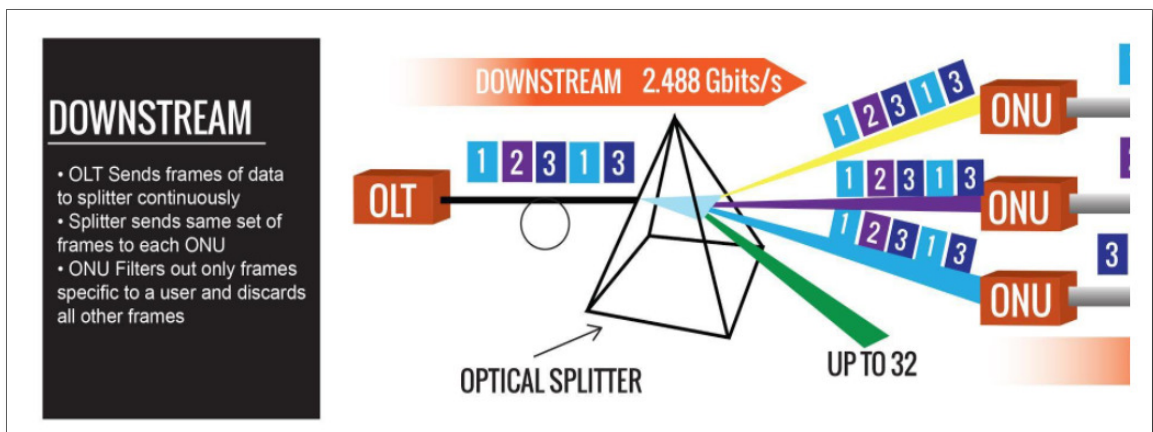


Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

Upstream Data transfer thru OLT:



Downstream Data transfer through OLT:



16.2.7. Passive Components

a) Optic Fibre Cable (OFC):

Considering features of fibre optic cabling like high bandwidth transmission, better reliability, and scalability for the future, all the backbone cabling in campuses are proposed to be done using the optic fibre cables of 48/24 cores. The length and capacity of the various fibre cables shall vary depending on the physical areas to be connected, number of users to be catered to and the resulting bandwidth requirements.

All the existing /old LAN cables (Cat 5) shall be removed.

b) CAT 6A Cable:

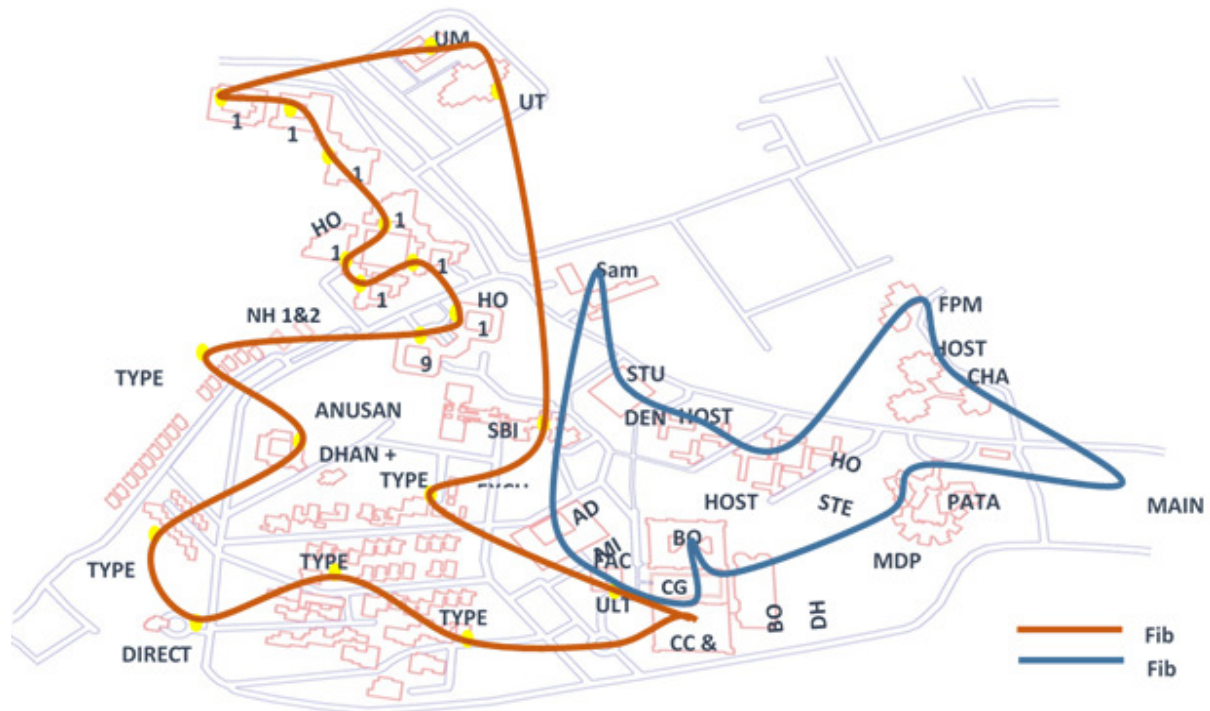
A Cat 6A cable provides bandwidth of 250 MHz and data transfer speeds up to 10 Gbps and may be stretched to 100 meters in length. It consists of four pairs of copper wires which are all utilized for



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

Fibre Layout at Lucknow Campus:

The fibre cables are proposed to be laid across the Lucknow campus as shown in the figure below:



Fibre cable shall be laid in a "Ring" topology to connect the various buildings as shown in the figure above. This shall provide redundancy in case the fibre cable gets cut off accidentally. The fibre cable shall be of 48 Core at Lucknow and shall have adequate redundancy of 8 Cores of OFC1 and 4 Cores of OFC2 to cater for future expansion of the buildings in the campus. The fibre cables should be laid along a safe path such as along the roads or nearby the boundary walls so that it does not get dug up or cut off accidentally during future expansion activities in the campus. Further, route markers should be properly installed along the laid cable for easy identification of the path of the cable. A detailed and updated map of the cable layout should be submitted with the Campuses' Administrative Office.

Fibre Layout at Noida Campus:

The SI shall draw a cable layout plan in a similar manner as has been depicted for Lucknow campus above. The laying of the cables shall also be done in the manner explained above. A Cable having 24 Cores shall be used at Noida campus with a reserve for future expansion.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

To cater the network requirement of Noida campus, the existing P2P link capacity 100 Mbps will be used to connect with the Lucknow campus network.

However, there is a pressing need for having a redundant link for the users of Noida campus. Following two alternatives may be considered for the additional network link:

a) P2P from Lucknow

In case the entire usage of network that is currently being transmitted through the existing P2P link is to be replicated, then a secondary, dedicated P2P line should be commissioned between Lucknow and Noida campus. However, this additional line should be procured from a different ISP which has a different PoP (Point of presence) from the existing link, and has a different fibre route of connecting the two campuses.

b) Internet leased line

Provisioning of ILL of adequate capacity shall eliminate dependency on P2P link for accessing internet.

This ILL link shall also serve as standby link to existing P2P link for accessing IIML applications and for secure data exchange site to site VPN shall be implemented.

16.3. Annexure 3: Technical Specifications & Compliance Sheet

The specifications elicited below for various IT; Non-IT are minimum indicative in nature. The bidder has the liberty to quote equivalent or higher specifications. All products quoted must have a product road map by the **manufacturer / OEM for at least next 7 years and End of Sale of least 24 months after the date of supply. In case an OEM goes out of business or stops supporting a component during the project duration, SI will have to provide a suitable replacement of the component(s) provided by that OEM, meeting the same or higher specifications and performance parameters.**

SI may propose components of different OEMs. It is responsibility of the SI to ensure seamless integration among the components. If any challenge is faced in integration for more than a week then the OEM support should be invoked. Beyond 2 weeks of delay, SI shall be liable to replace the component with another product meeting the same or higher specifications and performance parameters, after due approval from IIML.



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

Important Note: As part of Technical Bid Response, the Bidder shall submit specification compliance sheet for all the items mentioned in this section of the document.

It may be noted that no deviation to the given minimum specifications is permitted.

16.3.1. General Specifications

S. No	Specifications	Compliance (Yes/No)
1.	All hardware procured, shall be branded, and reputed as Enterprise grade system, none of SMB grade components to be quoted	
2.	All components shall be rated for continuous operation.	
3.	The Bidder shall provide all other H/W items that are not explicitly mentioned herein but are required to fulfil the requirements of this RFP.	
4.	The Specifications parameters are indicative, and any item of higher rating will be preferred.	
5.	Ensuring that the Wired & Wireless Network, Security infrastructure are sized adequately, and redundancy is built into the architecture that is required to meet the service levels mentioned in the RFP.	
6.	All events and changes applied to the device configurations shall be audited and logged / documented by the Systems Integrator	
7.	The proposed solution components should be enabled with complete IPv6 functionality from Day 1.	
8.	The proposed devices shall have remote monitoring capabilities to monitor for device and port status	
9.	All product should be supported by back-to-back support from OEM (wherever OEM is offering the same) for the entire duration of the project	
10.	The configuration proposed is expected to have adequate upgrade capability in terms of processors, memory, disk storage, etc. This should be achievable with minimum disruptions to processes and users. Any upgrade, expansion, supply of additional modules, servers or any other item required	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)
29.	The switch should support DHCP snooping to prevent malicious users from spoofing a DHCP server and sending out rough addresses.	
30.	The switch should support Dynamic ARP inspection (DAI) or equivalent to ensure user integrity by preventing malicious users from exploiting the insecure nature of ARP.	
31.	The switch should support flexible & multiple authentication mechanism, including 802.1X, MAC authentication	
32.	The switch should support MAC address notification to allow administrators to be notified of users added to or removed from the network.	
33.	Switch should support sflow/jflow/netflows	
34.	The Switch should support Rate limiting based on source and destination IP address, source and destination MAC address, Layer 4 TCP/UDP information, or any combination of these fields, using QoS ACLs (IP ACLs or MAC ACLs), class maps/equivalent, and policy maps/equivalent	
Management		
35.	CLI support to provide a common user interface and command set with all switches of the same vendor	
36.	RMON I / RMON II standards	
37.	SNMPv1, SNMPv2c, and SNMPv3	
38.	Switch should support operating temp from 0 to 40 degree	
39.	Switch/Switch OS should be EAL3/NDPP/Common Criteria Certified	
40.	The switch should be IPv6 ready logo certified from day 1	
41.	Switch should support EN 60950-1, EN 55024, EN 61000-3-2, EN 61000-3-3, EN 300 386, IEC/EN 61000-4-11 & ROHS.	
Eligibility		
42.	The OEM should be figuring in the latest Magic Quadrant of the Gartner report for wired and wireless Networking/Datacenter Networking Report.	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)
43.	All features should be supported from Day-1 as per highlighted in specifications to meet solution requirement and no subsequent licensing required for Project duration.	

16.3.2.3. Distribution Switch

S. No.	Specifications	Compliance (Yes/No)
1.	The 24-port switch shall have capability to support Multi-rate 1G/10G/40G ports/slots and should be enterprise class.	
2.	The switch shall have 24 x 10 GE SFP/SFP+ SM and 2x40G uplink slots from day 1 and also support/compatible port/slot speed.	
3.	The Switch should have dual redundant hot swappable power supplies. Should support AC/DC power supply.	
4.	The Switch should support HA /VSS/IRF/equivalent and should be able to build loop free L2 network with virtual switching.	
5.	Switch should have stacking/VSS bandwidth of 40Gbps or more, shall be supplied with required module & cables	
6.	Shall be based on a Modular Operating System architecture and the solution/appliance should be SDN ready.	
7.	Shall support In Service Software Upgrade (ISSU) to provide an upgrade of the entire platform or an individual task/process without impacting hardware forwarding. ISSU supports upgrades, downgrades, and rollbacks, when configured in HA mode.	
8.	The Switch should have Micro-USB/USB, RJ-45 for console port & storage port/Flash storage	
9.	The Switch should have at least 4GB/ higher flash memory to work on full load	
10.	The Switch should have at least 4 GB/ higher DRAM required for optimum performance of Network to meet defined SLAs.	
11.	The Switch should have at least 1 10/100/1000 dedicated out-of-band Management Port	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)
12.	The Switch should have required number of fans and in case of failure of any one of those the other fan(s) should automatically speed up. Fans should be hot swappable.	
13.	The switch should support low latency and low per port power consumption	
	Switch Performance	
14.	The Switch should be line rate non-blocking switching bandwidth.	
15.	The Switch should support up to 64000 MAC Addresses	
16.	The Switch should support 32K IPv4 routes	
17.	The Switch should support 1000/higher QoS ACLs which should suffice overall solution requirement	
18.	The Switch should support 400 Security ACLs	
19.	The Switch should support up to 1000 multicast groups	
20.	The Switch should support up to 1000 VLAN ID's	
21.	The Switch shall support Flexible templates for different policies/ configurations	
22.	The Switch should support 9000 bytes of Jumbo Frames	
	Layer 3 & 2 Switching Features	
23.	The Switch should have IP Static Routing IPv4/v6, RIP v1/v2/ RIPng / OSPF v3, ECMP, PIM-SM, VRRP v2 & v3, MSTP, RSTP, EVPN, VXLAN, PBR ready from Day 1	
24.	The switch should support routing protocols such as BGPv4, IS-ISv4 or equivalent & Open flow 1.3/NETCONF/ RESTCONF from day one.	
25.	The Switch should support IP Multicast and PIM, PIM Sparse Mode & Dense Mode/SSM	
26.	The switch should support 802.1d, 802.1s, 802.1w Spanning-Tree & its Enhancement for fast convergence/Equivalent	
27.	The Switch should have 802.1Q VLAN encapsulation & 4000 VLANs per switch	
28.	The switch should support 802.3ad (LACP) to combine multiple network links for increasing throughput and providing redundancy.	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)
29.	The switch should support DHCP snooping/ equivalent to prevent malicious users from spoofing a DHCP server and sending out rough addresses.	
30.	The switch should support Dynamic ARP inspection (DAI) or equivalent to ensure user integrity by preventing malicious users from exploiting the insecure nature of ARP.	
31.	The switch should support flexible & multiple authentication mechanism, including 802.1X, MAC authentication	
32.	The switch should support MAC address notification to allow administrators to be notified of users added to or removed from the network.	
33.	Switch should support sflow/jflow/netflows	
34.	The Switch should support Rate limiting based on source and destination IP address, source and destination MAC address, Layer 4 TCP/UDP information, or any combination of these fields, using QoS ACLs (IP ACLs or MAC ACLs), class maps/equivalent, and policy maps/equivalent	
	Management	
35.	CLI support to provide a common user interface and command set with all switches of the same vendor	
36.	RMON I / RMON II standards	
37.	SNMPv1, SNMPv2c, and SNMPv3	
38.	Switch should support operating temp from 0 to 40 degree	
39.	Switch/Switch OS should be EAL3/NDPP/Common Criteria Certified from Day1	
40.	The switch should be IPv6 ready logo certified from day 1	
41.	Switch should support EN 60950-1, EN 55024, EN 61000-3-2, EN 61000-3-3, EN 300 386, IEC/EN 61000-4-11 & ROHS.	
	Eligibility	
42.	The OEM should be figuring in the latest Magic Quadrant of the Gartner report for wired and wireless Networking/Datacenter Networking Report.	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)
43.	All features should be supported from Day-1 as per highlighted in specifications to meet solution requirement and no subsequent licensing required for Project duration.	

16.3.2.4. Access Switch – 48 Port

S. No.	Specifications	Compliance (Yes/No)
1.	Switch should have minimum 48 nos. 10/100/1000 Base-T ports with additional 2 nos. SFP+ SM uplink ports	
2.	Switch should have dedicated slot/ports for stacking and should support minimum 40 Gbps of stacking bandwidth with stacking ports and cables with minimum 2 switches in stack in addition to downlink, uplink port.	
3.	Should support AC/DC power supply	
	Performance Requirements	
4.	The switch should cater to wire rate performance	
5.	Shall have minimum 16K MAC Addresses.	
6.	Shall have minimum 1000 Active VLANs and 4,000 VLAN Ids support	
	IEEE Standards	
7.	Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.	
	Quality of Service (QoS) requirements and Security Features	
8.	Shall have 802.1p class of service, IP differentiated service code point (DSCP) and IP precedence.	
9.	IPv6 security featured should be supported	
10.	Should support 802.1x authentication and accounting with Dynamic VLAN assignment.	
11.	Switch should support IPv4 and IPv6 ACLs, VLAN, Port and Time-based access list with time ranges/ equivalent.	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)
	Regulatory Compliance	
12.	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.	
	Evaluation Compliance	
13.	Switch / Switch's Operating System should be tested and certified for EAL 2/NDPP or above under Common Criteria Certification.	
14.	The switch should be IPv6 ready logo certified from day 1	
	Warranty and Support	
15.	The warranty shall be offered directly from the switch OEM.	
16.	The OEM should be figuring in the latest Magic Quadrant of the Gartner report for wired and wireless Networking/Datacenter Networking Report.	
17.	All features should be supported from Day-1 as per highlighted in specifications to meet solution requirement and no subsequent licensing required for Project duration.	

16.3.2.5. Access Switch – 48 Port PoE+

S. No.	Specifications	Compliance (Yes/No)
1.	Switch should have minimum 48 nos. 10/100/1000 Base-T ports POE+ with additional 2 nos. SFP+ SM uplink ports	
2.	Should support AC/DC power supply	
	Performance Requirements	
3.	The switch should cater to wire rate performance	
4.	Shall have minimum 16K MAC Addresses.	
5.	Shall have minimum 1000 Active VLANs and 4,000 VLAN Ids support	
	IEEE Standards	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)
6.	Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.	
	Quality of Service (QoS) requirements and Security Features	
7.	Shall have 802.1p class of service, IP differentiated service code point (DSCP) and IP precedence.	
8.	IPv6 security featured should be supported	
9.	Should support 802.1x authentication and accounting with Dynamic VLAN assignment.	
10.	Switch should support IPv4 and IPv6 ACLs, VLAN, Port and Time-based access list with time ranges/ equivalent.	
	Regulatory Compliance	
11.	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.	
	Evaluation Compliance	
12.	Switch / Switch's Operating System should be tested and certified for EAL 2/NDPP or above under Common Criteria Certification.	
13.	The switch should be IPv6 ready logo certified from day 1	
	Warranty and Support	
14.	The warranty shall be offered directly from the switch OEM.	
15.	The OEM should be figuring in the latest Magic Quadrant of the Gartner report for wired and wireless Networking/Datacenter Networking Report.	
16.	All features should be supported from Day-1 as per highlighted in specifications to meet solution requirement and no subsequent licensing required for Project duration.	



Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project

16.3.2.6. *Access Switch -48 port PoE + mGig*

S. No.	Specifications	Compliance (Yes/No)
1.	Switch should have minimum 48 nos. 1G copper full POE+ ports with min. 12 mGIG ports up to 5G with additional 2x10G SFP+ uplink ports	
2.	Should support AC/DC power supply	
	Performance Requirements	
3.	The switch should cater to wire rate performance	
4.	Shall have minimum 16K MAC Addresses.	
5.	Shall have minimum 1000 Active VLANs and 4,000 VLAN Ids support	
	IEEE Standards	
6.	Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.	
	Quality of Service (QoS) requirements and Security Features	
7.	Shall have 802.1p class of service, IP differentiated service code point (DSCP) and IP precedence.	
8.	IPv6 security featured should be supported	
9.	Should support 802.1x authentication and accounting with Dynamic VLAN assignment.	
10.	Switch should support IPv4 and IPv6 ACLs, VLAN, Port and Time-based access list with time ranges/ equivalent.	
	Regulatory Compliance	
11.	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.	
	Evaluation Compliance	
12.	Switch / Switch's Operating System should be tested and certified for EAL 2/NDPP or above under Common Criteria Certification.	
13.	The switch should be IPv6 ready logo certified from day 1	
	Warranty and Support	
14.	The warranty shall be offered directly from the switch OEM.	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)
15.	The OEM should be figuring in the latest Magic Quadrant of the Gartner report for wired and wireless Networking/Datacenter Networking Report.	
16.	All features should be supported from Day-1 as per highlighted in specifications to meet solution requirement and no subsequent licensing required for Project duration.	

16.3.2.7. *Access Switch – 24 Port*

S. No.	Specifications	Compliance (Yes/No)
1.	Switch should have minimum 24 nos. 10/100/1000 Base-T ports with additional 2 nos. SFP+ uplink ports	
2.	Should support AC/DC power supply	
	Performance Requirements	
3.	The switch should cater to wire rate performance	
4.	Shall have minimum 16K MAC Addresses.	
5.	Shall have minimum 1000 Active VLANs and 4,000 VLAN Ids support	
	IEEE Standards	
6.	Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.	
	Quality of Service (QoS) requirements and Security Features	
7.	Shall have 802.1p class of service, IP differentiated service code point (DSCP) and IP precedence.	
8.	IPv6 First Hop Security/Equivalent	
9.	Should support 802.1x authentication and accounting with Dynamic VLAN assignment.	
10.	Switch should support IPv4 and IPv6 ACLs, VLAN, Port and Time-based access list with time ranges/ equivalent.	
	Regulatory Compliance	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)
11.	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.	
	Evaluation Compliance	
12.	Switch / Switch's Operating System should be tested and certified for EAL 2/NDPP or above under Common Criteria Certification.	
13.	The switch should be IPv6 ready logo certified from day 1	
	Warranty and Support	
14.	The warranty shall be offered directly from the switch OEM.	
15.	The OEM should be figuring in the latest Magic Quadrant of the Gartner report for wired and wireless Networking/Datacenter Networking Report.	
16.	All features should be supported from Day-1 as per highlighted in specifications to meet solution requirement and no subsequent licensing required for Project duration.	

16.3.2.8. *Access Switch – 24 Port PoE*

S. No.	Specifications	Compliance (Yes/No)
1.	Switch should have minimum 24 nos. 10/100/1000 Base-T ports POE+ with additional 2 nos. SFP+ uplink ports	
2.	Should support AC/DC power supply	
	Performance Requirements	
3.	The switch should cater to wire rate performance	
4.	Shall have minimum 16K MAC Addresses.	
5.	Shall have minimum 1000 Active VLANs and 4,000 VLAN Ids support	
	IEEE Standards	
6.	Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
	Quality of Service (QoS) requirements and Security Features	
7.	Shall have 802.1p class of service, IP differentiated service code point (DSCP) and IP precedence.	
8.	IPv6 security featured should be supported	
9.	Should support 802.1x authentication and accounting with Dynamic VLAN assignment.	
10.	Switch should support IPv4 and IPv6 ACLs, VLAN, Port and Time-based access list with time ranges/ equivalent.	
	Regulatory Compliance	
11.	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.	
	Evaluation Compliance	
12.	Switch / Switch's Operating System should be tested and certified for EAL 2/NDPP or above under Common Criteria Certification.	
13.	The switch should be IPv6 ready logo certified from day 1	
	Warranty and Support	
14.	The warranty shall be offered directly from the switch OEM.	
15.	The OEM should be figuring in the latest Magic Quadrant of the Gartner report for wired and wireless Networking/Datacenter Networking Report.	
16.	All features should be supported from Day-1 as per highlighted in specifications to meet solution requirement and no subsequent licensing required for Project duration.	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

16.3.2.9. Access Switch 24 Port PoE+ mGig

S. No.	Specifications	Compliance (Yes/No)
1.	Switch should have minimum 24 nos. 1G copper full POE+ ports with min. 8 mGIG ports up to 5G with additional 2x10G SFP+ uplink ports	
2.	Should support AC/DC power supply	
	Performance Requirements	
3.	The switch should cater to wire rate performance	
4.	Shall have minimum 16K MAC Addresses.	
5.	Shall have minimum 1000 Active VLANs and 4,000 VLAN Ids support	
	IEEE Standards	
6.	Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.	
	Quality of Service (QoS) requirements and Security Features	
7.	Shall have 802.1p class of service, IP differentiated service code point (DSCP) and IP precedence.	
8.	IPv6 First Hop Security/Equivalent	
9.	Should support 802.1x authentication and accounting with Dynamic VLAN assignment.	
	Switch should support IPv4 and IPv6 ACLs, VLAN, Port and Time-based access list with time ranges/ equivalent.	
	Regulatory Compliance	
10.	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.	
	Evaluation Compliance	
11.	Switch / Switch's Operating System should be tested and certified for EAL 2/NDPP/ equivalent or above under Common Criteria Certification.	
12.	The switch should be IPv6 ready logo certified from day 1	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)
	Warranty and Support	
13.	The warranty shall be offered directly from the switch OEM.	
14.	The OEM should be figuring in the latest Magic Quadrant of the Gartner report for wired and wireless Networking/Datacenter Networking Report.	
15.	All features should be supported from Day-1 as per highlighted in specifications to meet solution requirement and no subsequent licensing required for Project duration.	

16.3.2.10. GPON

S. No.	Specifications	Compliance (Yes/No)
	Features & Specifications	
1.	The solution should be GPON supported by their OLTs, ONTs	
2.	It should support the following standards - G.984.1, G.984.2, G.984.3	
3.	Should support 2.5G downstream and 1.25 upstream on PON ports.	
4.	It should support 20Kms distance and port speeds without using any repeater/extender/amplifier for the possible split numbers.	
5.	It should support SC/UPC fiber connector types	
6.	Should have minimum MTBF (mean time between failures) of up to 300,000 for OLT and up to 400,000 for ONT.	
	Should have minimum below EMI / EMC & safety compliances	
7.	ETSI 300 019 Environmental Engineering (EE) ; Environmental conditions and environmental tests for telecommunications equipment <ul style="list-style-type: none">● ETSI EN 301 489-1 Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)
	technical requirements <ul style="list-style-type: none"> ● ETSI EN 301 489-8 Electromagnetic Compatibility and Radio spectrum Matters(ERM);Electromagnetic Compatibility (EMC) Standard for Radio Equipment and services ; Part 8: Specific conditions for GSM Base stations ● BS EN 55022 ● CEI IEC 60950-1999 Safety of information technology equipment ● UL 60950 Safety of Information Technology Equipment ● IEC61000-4 Electromagnetic compatibility (EMC); part 4: testing and measurement techniques 	
8.	All the proposed devices should be SNMP managed	
9.	The GPON management software should be able to do configuration both OLT and ONT, Monitor and Alarms and more.	
10.	Should support temperature range of -5° C to +40°C	
11.	The solution must support Up to 128 ONT per OLT port without the performance degradation at any level of temperature and/or humidity and without any service interruption.	
12.	The proposed devices should support the in-band and out-of-band management capabilities for the OLT	
13.	The solution should support remote software upgrades using CLI, FTP/ TFTP or using the central management software	
	The OLT must have below features	
14.	VLAN profile	2K
15.	Us-traffic profile	2K
16.	Ds-traffic profile	2K
17.	DBA profile	2K
18.	ONT alarm profile	128



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications		Compliance (Yes/No)
19.	Line profile	2K	
20.	Unique profile	2K	
21.	Rule profile	2K	
22.	Discovery distance management	0-60km	
23.	ONT ranging	The max distance can be 60km and the accuracy can be 1m	
	L2 Features		
24.	802.1Q	1-4094	
25.	MAC address aging	default 300 sec (10-100000s)	
	MAC learning	64K	
26.	STP	OLT Uplink port	
27.	BPDU-CAR, Discard-BPDU	660pps/OLT, 30pps/PORT	
28.	Anti-ARP attack	16pps by default, maximum 100pps	
29.	Anti-ARP spoofing	1K	
30.	Anti-DOS attack	800	
31.	Anti-DHCP attack	2000	
	Layer 3		
32.	ARP	8000	
33.	DHCPv4 Snooping	2000	
34.	Static route	2000	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)
35.	SVI	500
	ACL	
36.	ACL	2K
	QoS	
37.	SP, WRR, SP+WRR, cos-map, dscp-map	YES, queue : 8
	Multicast	
38.	IGMP-Snooping, Static multicast, multicast proxy	1024
39.	The ONT must have below features	
	GPON Features	
	Support DS/US transmission rate to 2.488 Gbps/1.244 Gbps	2.488 Gbps/1.244 Gbps
40.	Wavelength: 1490/1550 nm downstream & 1310 nm upstream	1490 nm downstream & 1310 nm upstream
41.	Physical distance reach to 20 km	YES
42.	Support up to 8 T-CONTs/ 32 Gem ports.	8/32
43.	8 priority queues (US) on each GPON T-CONT	8
44.	Multiple T-CONTs per device (Default Max 8 Tcons and could be configured by OLT)	YES



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications		Compliance (Yes/No)
45.	Multiple GEM Ports per device (Default Max 12GEM ports and could be configured by OLT)	YES	
	Layer 2 Forwarding		
46.	Full duplex IEEE 802.3x	Speed : 10/100/1000M Duplex : half/full/auto	
	MAC address	2K	
47.	MTU size	ipoe wan max mtu1500 pppoe wan max mtu: 1492	
48.	MAC Ageing Time	Default:300s (0 ~ 65535)	
49.	STP Instances (RSTP/PVSTP) on GE port	1	
50.	QoS		
51.	Storm control	Default: Enabled (7000pps)	
52.	Total Bandwidth Limit Rate	Default: Disabled (8~1048568Kbps)	
53.	Multicast		
54.	IGMP-Proxy	support v1、 v2、 v3 group Member Aging Time: 260 last Member Aging Time: 10 querier Present Interval: 120	
	PoE		



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications		Compliance (Yes/No)
55.	Global Power Limit	Default:65W (1-65)	
56.	Poe-Port Power Limit	Default:30W (1-30)	
57.	Security		
58.	Port Forwarding (NAT)	8	
59.	Parental control (website blocking and network access period control)	16	
60.	MAC/IP filtering	20	
61.	URL address filtering	8	

16.3.2.11. Network Access Control (NAC)

NAC solution shall be deployed in both the capuses.

S. No.	Specifications	Compliance (Yes/No)
	General Requirements	
1.	Provide an easy-to-use BYOD ready granular secure access control solution that is context aware, identity enabled, location and device based. The proposed solution must combine Authentication, Authorization, and Accounting (AAA); Posture; Profiling; and Guest Access management services on to a single platform with a minimum endpoint footprint and supports the ability to be managed from a single management console.	
	Profiling / Visibility	
2.	The proposed NAC solution should be able to detect both new and existing endpoints and categorizes them based upon the type of endpoint (Ex: Windows, Printer, Network Device, IP Camera, Android, iPad, etc.)	
3.	Support the profiling of Android & iOS mobile devices, with the ability to detect: - -	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)
	<ul style="list-style-type: none"> • OS Type/Version • Installed Applications 	
4.	The proposed NAC solution must support network- based profiling by targeting specific endpoints (based on policy) for specific attribute device scans, resulting in higher accuracy and comprehensive visibility of what is on your network	
5.	The proposed solution should profile devices that uses MAC Authentication, 802.1X and SNMP protocol	
6.	The proposed NAC solution should provide support for discovery, profiling, policy-based placement, and monitoring of endpoint devices on the network all within the same appliance	
7.	The proposed NAC solution must support Profiling via SNMP, DHCP fingerprinting, HTTP-agent, NMAP, CDP, LLDP, WMI	
	Role-based Access / Enforcement	
8.	The proposed NAC solution must provide the ability to create custom profiling rules	
9.	The proposed NAC solution must provide flexible filtering capabilities to sort out device information based on different attributes (e.g., MAC address, Manufacturer name, hostname, IP address, etc.)	
10.	The proposed NAC solution should produce a real-time endpoint discovery with detailed information including which switch port the device is connected.	
11.	The proposed NAC solution must provide device inventory in CSV exportable format.	
12.	The proposed NAC solution must provide information on how many devices are not profiled, how many devices are newly seen in day/week/month, etc.	
13.	The proposed NAC solution shall include the following key components: <ul style="list-style-type: none"> a) RADIUS server 	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
	b) NAC client agents c) Policy Manager d) Enforcement Manager e) Integration Interfaces.	
14.	The proposed NAC solution must be capable of supporting 802.1X authentication and shall work with endpoint devices (supplicant) and network devices (authenticator) that are enabled for IEEE 802.1X authentication.	
15.	The proposed NAC solution must be capable of supporting SNMPv1/v2c/v3 enforcement and shall work with endpoint devices (without 802.1x supplicants) and network devices that are enabled SNMP to send traps to NAC server.	
16.	The proposed NAC solution must make use of alternate authentication methods such as MAC address authentication or web authentication to authenticate endpoint devices that do not support 802.1X authentication	
17.	The proposed solution NAC must support following credentials for authentication: a) User ID and password b) Digital certificates only c) Combination of User ID and password and digital certificates; or d) Combination of User ID and password and hardware token.	
18.	The proposed NAC solution should integrate with multivendor Switches and Wireless Controllers to support enforcement actions such as Switch port Block Assign to VLAN and Port ACL on non-compliant / unknown users.	
	Clients	
19.	The proposed solution NAC must enforce security policies by blocking, isolating, and repairing noncompliant machines in a quarantine area without needing administrator attention. Once the user's machine is remediated, the user's machine shall be redirected automatically to the assigned network	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
30.	The proposed NAC solution must support the following authenticating protocols:	
31.	Supports PAP, MS-CHAP, MS-CHAP-V2, EAP-MD5- Challenge, EAP-MS-CHAP-V2, (EAP)-MD5, Protected EAP (PEAP), EAP-Transport Layer Security (TLS), EAP Generic Token Card (EAP-GTC)	
	Guest Management	
32.	The proposed NAC solution must provide complete guest lifecycle management by allowing non-IT employees to provide controlled access to guests and consultant reducing the IT workload	
33.	Guest management portal shall support self-onboarding for Guest/Contractor or Employees BYOD devices.	
34.	Guest management portal shall support customizable guest web pages	
35.	Guest registration shall support multiple credential notification methods (SMS, Email, webpage, etc.)	
	VPN	
36.	The proposed NAC solution must have the capability to support interfacing and integration with an IPsec or Secure Sockets Layer (SSL) virtual private network (VPN).	
37.	The proposed NAC solution must allow Customer to: a) Apply to VPN connections the same access control policies as those for wired and wireless LAN; or b) Define a new set of access control policies that apply only to VPN connections.	
	Eco-system Integrations	
38.	The proposed NAC solution should integrate with next- generation Firewalls (Palo Alto Networks, Fortinet, Checkpoint, Juniper SRX, etc.)	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)
39.	The proposed NAC solution should integrate with Identity providers (Duo, RSA, etc.)	
40.	The proposed NAC solution should support enforcement through different switches (Cisco, Juniper, HP, etc.)	
41.	The proposed NAC solution should support enforcement through different WLCs (Cisco, Aruba, Ruckus, etc.)	
42.	The proposed NAC solution should support Active Directory server	
43.	The proposed NAC solution should support Standards- Based LDAP server	
	Regulatory Compliance	
44.	The proposed solution must comply to the following industries recognized certifications: PCI-DSS/ FIPS-2 NDcPP	
	Redundancy Support	
45.	Support 1+1 High Availability Configuration with options for Hot Standby-by and Active/Active redundancy	
	Monitoring and Reporting	
46.	Support built-in monitoring, reporting, and troubleshooting console to assist helpdesk operators and administrators streamline operations	
47.	NAC GUI should support Dashboard with contextual information (compliance, number of users, devices, etc.)	
48.	NAC GUI should support Wizards for ease of configuration	
49.	NAC GUI should support historical data on contextual information	
	Centralized Management System	
50.	The network access control policies should be managed and have the capability to be pushed down configuration centrally.	
	License Management System	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
51.	The proposed solution should have a centralized license management system with capability to lease licenses to different appliances from a central pool	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

16.3.2.12. Wireless LAN Controller (WLC)

WLC shall be deployed on both the sites.

S. No.	Specifications	Compliance (Yes/No)
	Hardware Features	
1.	Must be compliant with CAPWAP or equivalent IETF standard for controller-based WLANs.	
2.	WLC should be dedicated appliance/Dedicated Virtual appliance with support up to 1500 Access points. Should be a single/multiple appliance in High Availability mode. Should have 2 nos. 10G ports.	
	High Availability Features	
3.	Must support 1:1 redundancy with stateful failover of wireless clients.	
4.	Must have feature for stateful recovery without re-authentication of the client in the event of LAN and WLAN infrastructure disruption to deliver a non-stop client session	
	Management Features	
5.	Must support an ability to dynamically adjust channel and power settings based on the RF environment	
6.	Must have Automatic 802.11 interference detection, identification, classification, and mitigation. Classification should support a dynamically updatable signature library or equivalent	
	IPv6 Features	
7.	WLC should support L2 and L3 roaming of IPv6 clients	
	Security Features	
8.	Should adhere to the strictest level of security standards, including 802.11i, WPA2, WPA, WEP, 802.1X with multiple Extensible Authentication Protocol (EAP) types, PEAP, EAP-TLS, EAP-TTLS	
9.	Should support Management frame protection for the authentication of 802.11 management frames by the wireless network infrastructure	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

16.3.2.13. Indoor AP Aggregate Throughput 5Gbps

S. No.	Specifications	Compliance (Yes/No)
1.	Access Points proposed must include radios for 2.4 GHz and 5 GHz with 802.11ax.	
2.	Access Point must support OFDMA and MU-MIMO.	
3.	An access point must include a standard OEM provided Mounting brackets for mounting on Ceiling or Roof top.	
4.	Access Point shall support Ethernet and serial/console port	
5.	Should have 1x 100, 1000, 2500 Multigigabit Ethernet (RJ-45) – IEEE 802.3bz	
6.	Access Point should have USB port for future requirement.	
7.	Must have at least 3 dBi Antenna gain on each radioOS	
8.	Access Point should have inbuilt BLE radio.	
9.	Must support 4x4 MIMO or higher for both 5 Ghz and 2.4 GHz.	
10.	Must Support data rate up to 4.8 Gbps.	
11.	Must support minimum of 23dbm of transmit power in both 2.4Ghz and 5Ghz radios. And should follow the local regulatory Norms.	
12.	Must support AP enforced load-balance between 2.4Ghz and 5Ghz band.	
13.	Must incorporate radio resource management for power, channel, and performance optimization	
14.	Must have -95 dB or better Receiver Sensitivity.	
15.	Must support Proactive Key Caching and/or other methods for Fast Secure Roaming.	
16.	Must support Management Frame Protection.	
17.	Access Points must support Hardware-based encryption for secure communication.	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)
18.	Must support the ability to serve clients and monitor the RF environment concurrently.	
19.	Same model AP that serves clients must be able to be dedicated to monitoring the RF environment.	
20.	Must be plenum-rated (UL2043).	
21.	Must support 16 WLANs per AP for SSID deployment flexibility.	
22.	Access Point Must continue serving clients when link to controller is down. It should also have option to authenticate user through Radius server directly from Access Point during link unavailability to controller.	
23.	Must support telnet/SSH login/GUI to APs directly for troubleshooting flexibility.	
24.	Must support 802.3af power source when required.	
25.	802.11e and WMM	
26.	Must support QoS and Video Call Admission Control capabilities.	
27.	The AP should have back-to-back warranty from the OEM with 24x7 TAC support for both hardware & software and 8x5xNBD advance hardware replacement and should be supported by an OEM with active contract for next 5 years, OEM support letter to be submitted along with the bid.	

16.3.2.14. *Indoor AP - Aggregate Throughput 2Gbps*

S. No.	Specifications	Compliance (Yes/No)
1.	Access Points proposed must include radios for 2.4 GHz and 5 GHz with 802.11ac Wave 2 AP must support 4x4 MIMO	
2.	Access Point must provide Kensington lock option for theft protection.	
3.	Must have internal / external antenna options.	
4.	Mounting kit should be standard from OEM directly.	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
5.	The Access Point should have a capability to handle high density environment with more number of concurrent users by having more memory and CPU	
6.	Access point must support flexible Dynamic Frequency Selection across 20MHz, 40MHz, 80MHz / 160MHz wide channels to combat performance problems due to wireless interference.	
7.	Access point must have an additional USB port for future use.	
8.	Access point should have 2x10/100/1000 Ethernet and serial/console port	
9.	Must have at least 3 dBi Antenna gain on both 2.4 GHz and 5Ghz	
10.	Must support 4X4 multiple-input multiple-output (MIMO) with three/four spatial streams	
11.	Must support the physical rate of 1.73 Gbps on 5GHz radios.	
12.	Must support minimum of 20dbm of transmit power on both 2.4 Ghz & 5GHz Radio.	
13.	The AP must be capable of optimizing the SNR exactly at the position where 802.11a/g/n/ac client is placed (beamforming) without requiring any support or feedback from clients, hence it should work with all 802.11a/g/n/ac clients.	
14.	Should have capability to detect the non-Wi-Fi interference wireless transmissions while simultaneously serving network traffic	
15.	Must support AP enforced load-balance between 2.4Ghz and 5Ghz band.	
16.	Must incorporate radio resource management for power, channel, coverage hole detection and performance optimization	
17.	Must have -94 dB or better Receiver Sensitivity.	
18.	Must support Proactive Key Caching and/or other methods for Fast Secure Roaming.	
19.	Must support Management Frame Protection.	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
20.	Must operate as a sensor for wireless IPS	
21.	Should support non-Wi-Fi detection for off-channel rogues and Containment for both radio while serving the client simultaneously.	
22.	Access Points must support Hardware-based/Equivalent encrypted management traffic between controller and Access point for better security.	
23.	Same model AP that serves clients must be able to be dedicated to monitoring the RF environment.	
24.	AP model proposed must be able to be both a client-serving AP and a monitor-only AP for Intrusion Prevention services.	
25.	Mesh support should support QoS for voice over wireless.	
26.	Must be plenum-rated (UL2043).	
27.	Must support 16 WLANs per AP for SSID deployment flexibility.	
28.	Must continue serving clients when WAN link to controller is back up again, should not reboot before joining	
29.	The APs must support centralized wireless mode with the use of a controller	
30.	When operated in remote AP mode, the AP must not disconnect any clients when the connection to the controller fails or in the case the failed connection has been restored again.	
31.	Access point should be able to do the spectrum scanning for Wi-Fi and non-Wi-Fi interference for both on-channel and off-channel at all 20Mhz ,40Mhz, 80Mhz /160Mhz channels	
32.	Must support telnet/SSH login/GUI to APs directly for troubleshooting flexibility.	
33.	Must support Power over Ethernet)/ power injectors.	
34.	802.11e and WMM	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
35.	Must support Reliable Multicast to Unicast conversion to maintain video quality at AP level	
36.	Must support QoS and Video Call Admission Control capabilities.	
37.	The AP should have back-to-back warranty from the OEM with 24x7 TAC support for both hardware & software and 8x5xNBD advance hardware replacement and should be supported by an OEM with active contract for next 5 years, OEM support letter to be submitted along with the bid.	

16.3.2.15. Outdoor AP - Aggregate Throughput - 1.3 Gbps 2x2/ Higher

S. No.	Specifications	Compliance (Yes/No)
1.	Access Points proposed must include radios for both 2.4 GHz and 5 GHz.	
2.	AP should support dual band antenna.	
3.	Single/Dual-polarized antennas	
4.	Must have -95 dB or better Receiver Sensitivity.	
5.	Must support 2 x 2 multiple-input multiple-output (MIMO) with two spatial streams	
6.	Must support 802.11ac, Wave 1/2 and backward compatible with 802.11n standards	
7.	Aggregate throughput of 1.3 Gbps	
8.	Must support 80 MHz wide channels in 5 GHz.	
9.	Must support WAP enforced load-balance between 2.4Ghz and 5Ghz band.	
10.	Should support configuring the access point as network connected sensor to access any network location covered by the access point to get real-time Spectrum analysis data	
11.	Must support EIRP 25dbm or higher for both 2.4 & 5GHz	
12.	Access point should 802.11ac, 802.11n and 802.11a/b/g Beam forming	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)
13.	The Wireless Backhaul/Mesh shall operate in 5Ghz	
14.	Support Encrypted and authenticated connectivity between all backhaul components	
15.	Access point should have 1 10/100/1000Gbps Port	
16.	Wireless AP should support beam forming technology to improve downlink performance of all mobile devices, including one-, two spatial-stream devices on 802.11ac without taking the inputs from client.	
17.	Must incorporate radio resource management for power, channel, coverage hole detection and performance optimization	
18.	Access point shall support powering from AC /DC/ PoE Injector.	
19.	Access point shall support pole, wall and Cable strand mounting options.	
20.	The Access point shall be IP67 / NEMA rated	
21.	The Access point shall support operating temperature of -20 to 55°C	
22.	802.11e and WMM	
23.	Wi-Fi Alliance Certification for WMM	
24.	Must support Multicast to Unicast conversion to maintain video quality at AP level	
25.	Must support the ability to serve clients and monitor the RF environment concurrently.	
26.	Same model AP that serves clients must be able to monitor the RF environment.	
27.	AP model proposed must be able to be both a client-serving AP and a monitor AP for Intrusion Prevention services.	
28.	Should support mesh capabilities for temporary connectivity in areas with no Ethernet cabling.	
29.	Must support 16 WLANs per AP for BSSID deployment flexibility.	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
30.	The AP should have back-to-back warranty from the OEM with 24x7 TAC support for both hardware & software and 8x5xNBD advance hardware replacement and should be supported by an OEM with active contract for next 5 years, OEM support letter to be submitted along with the bid.	

16.3.2.16. Indoor AP Throughput 450 Mbps

S. No.	Specifications	Compliance (Yes/No)
1.	Access Points proposed must include radios for 2.4 GHz and 5 GHz with 802.11ac Wave 2 AP must support 2X2 MIMO	
2.	Access Point must provide Kensington lock option for theft protection.	
3.	Must have internal / external antenna options.	
4.	Mounting kit should be standard from OEM directly.	
5.	The Access Point should have a capability to handle high density environment with more number of concurrent users by having more memory and CPU	
6.	Access point must support flexible Dynamic Frequency Selection across 20Mhz, 40Mhz, 80MHz / 160Mhz wide channels to combat performance problems due to wireless interference.	
7.	Access point must have an additional USB port for future use.	
8.	Access point should have 1x10/100/1000 Ethernet and serial/console port	
9.	Must have at least 3 dBi Antenna gain on both 2.4 Ghz and 5Ghz	
10.	Must support 2X2 multiple-input multiple-output (MIMO) with three/four spatial streams	
11.	Must support the physical rate of 450 Mbps on 5GHz radios.	
12.	Must support minimum of 20dbm of transmit power on both 2.4 Ghz & 5GHz Radio.	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
13.	The AP must be capable of optimizing the SNR exactly at the position where 802.11a/g/n/ac client is placed (beamforming) without requiring any support or feedback from clients, hence it should work with all 802.11a/g/n/ac clients.	
14.	Should have capability to detect the non-Wi-Fi interference wireless transmissions while simultaneously serving network traffic	
15.	Must support AP enforced load-balance between 2.4Ghz and 5Ghz band.	
16.	Must incorporate radio resource management for power, channel, coverage hole detection and performance optimization	
17.	Must have -90 dB or better Receiver Sensitivity.	
18.	Must support Proactive Key Caching and/or other methods for Fast Secure Roaming.	
19.	Must support Management Frame Protection.	
20.	Must operate as a sensor for wireless IPS	
21.	Should support non-Wi-Fi detection for off-channel rogues and Containment for both radio while serving the client simultaneously.	
22.	Access Points must support Hardware-based/Equivalent encrypted management traffic between controller and Access point for better security.	
23.	Same model AP that serves clients must be able to be dedicated to monitoring the RF environment.	
24.	AP model proposed must be able to be both a client-serving AP and a monitor-only AP for Intrusion Prevention services.	
25.	Mesh support should support QoS for voice over wireless.	
26.	Must be plenum-rated (UL2043).	
27.	Must support 16 WLANs per AP for SSID deployment flexibility.	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
28.	Must continue serving clients when WAN link to controller is back up again, should not reboot before joining	
29.	The APs must support centralized wireless mode with the use of a controller	
30.	When operated in remote AP mode, the AP must not disconnect any clients when the connection to the controller fails or in the case the failed connection has been restored again.	
31.	Access point should be able to do the spectrum scanning for Wi-Fi and non-Wi-Fi interference for both on-channel and off-channel at all 20Mhz ,40Mhz, 80Mhz /160Mhz channels	
32.	Must support telnet/SSH login/GUI to APs directly for troubleshooting flexibility.	
33.	Must support Power over Ethernet)/ power injectors.	
34.	802.11e and WMM	
35.	Must support Reliable Multicast to Unicast conversion to maintain video quality at AP level	
36.	Must support QoS and Video Call Admission Control capabilities.	
37.	The AP should have back-to-back warranty from the OEM with 24x7 TAC support for both hardware & software and 8x5xNBD advance hardware replacement and should be supported by an OEM with active contract for next 5 years, OEM support letter to be submitted along with the bid.	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

16.3.2.17. Home AP 300 Mbps

S. No.	Specifications	Compliance (Yes/No)
1.	Access Point shall support the latest dual band, 2x2:2SS Wave-2, MU-MIMO standard-based Wi-Fi with wall mount support.	
2.	Access Point shall have 1x10/100/1000 Base T RJ45 auto sensing uplink port along with 3x10/100/1000 Base-T RJ45 LAN ports.	
3.	Must support minimum of 20dbm of transmit power in both 2.4Ghz and 5Ghz radios. And should follow the local regulatory Norms.	
4.	Must support AP enforced load-balance between 2.4Ghz and 5Ghz band.	
5.	Must incorporate radio resource management for power, channel and performance optimization	
6.	Must have -97 dB or better Receiver Sensitivity.	
7.	Must support Proactive Key Caching and/or other methods for Fast Secure Roaming.	
8.	Must support Management Frame Protection.	
9.	Access Points must support Hardware-based encryption for secure communication.	
10.	Must support the ability to serve clients and monitor the RF environment concurrently.	
11.	Same model AP that serves clients must be able to be dedicated to monitoring the RF environment.	
12.	Must support 16 WLANs per AP for SSID deployment flexibility.	
13.	Access Point Must continue serving clients when link to controller is down. It should also have option to authenticate user through Radius server directly from Access Point during link unavailability to controller.	
14.	Must support telnet/SSH login/GUI to APs directly for troubleshooting flexibility.	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
15.	Must support Power over Ethernet and power injectors.	
16.	802.11e and WMM	
17.	Must support Reliable Multicast to Unicast conversion to maintain video quality at AP level	
18.	Must support QoS and Video Call Admission Control capabilities.	
19.	Access Point Must continue serving clients when link to controller is down. It should also have option to authenticate user through Radius server directly from Access Point during link unavailability to controller.	
20.	Must support 802.3af power source when required.	
21.	Must support QoS and Video Call Admission Control capabilities.	
22.	The AP should have back-to-back warranty from the OEM with 24x7 TAC support for both hardware & software and 8x5xNBD advance hardware replacement and should be supported by an OEM with active contract for next 5 years, OEM support letter to be submitted along with the bid.	

16.3.2.18. Indoor AP / Mesh / Repeater

S. No.	Specifications	Compliance (Yes/No)
1.	Access Point shall support the latest dual band, 2x2:2SS Wave-2, MU-MIMO standard-based Wi-Fi and should support mesh to extend the network range with 5Ghz backhaul	
2.	Access Point shall support Ethernet and serial/console port	
3.	Must support minimum of 20dbm of transmit power in both 2.4Ghz and 5Ghz radios. And should follow the local regulatory Norms.	
4.	Must support AP enforced load-balance between 2.4Ghz and 5Ghz band if it works in AP mode with standard LAN connectivity	
5.	Must incorporate radio resource management for power, channel, and performance optimization	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

16.3.2.19. Network Monitoring Solution

S. No.	Specifications	Compliance (Yes/No)
1.	NMS should be hardware appliance/ VM based and should be sized as per network requirements and OEM practices.	
2.	NMS must recognize all active networking devices and NGFW, WAF for monitoring purpose.	
3.	Monitoring of devices to be from a single console.	
4.	NMS should support software-based automation capability and it should support multiple application to solve business problems.	
5.	NMS should support to provide central management from single dashboard, device lifecycle management like device discovery, topology, inventory, image upgrade for devices.	
6.	NMS should be able to integrate with NAC solution.	
7.	NMS should be able to integrate with external services like DHCP, DNS, SNMP, AAA servers	
8.	NMS should be able to collect real time telemetry data from syslog, SNMP, flow etc. or equivalent and should provide end to end visibility, proactive and predictive information for troubleshooting	
9.	NMS should support providing, guided remediation for faster resolution of problem	
10.	It should support to create custom templates for faster provisioning of network devices	
11.	NMS should support following management and visibility capability: a. Network and device health with top 10 issues b. Network topology based on site locations (Lucknow, Noida) c. Client health summary, Client on boarding in wireless, RF details, history of performance of each client device	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
	d. Capability to view historical events to check network status when issue occurred	
12.	Device health summary, history of performance of network components	
13.	NMS should support REST APIs to share data with third party applications	
14.	NMS should have redundant power supplies in case of a Hardware Appliance/ VM based.	
15.	The NMS should have back-to-back warranty from the OEM with 24x7 TAC support for both hardware & software in case if a Hardware Appliance and 8x5xNBD advance hardware replacement and should be supported by an OEM with active contract. OEM support letter to be submitted along with the bid.	

16.3.2.20. Rack - 42U

S. No.	Specifications	Compliance (Yes/No)
1.	19 inches Rack Mount	
2.	Height of the rack must be 42U or 1.86 meters	
3.	All the racks should be mounted on the floor with castor wheels with brakes (set of 4 per rack)	
4.	All racks must be lockable on all sides with unique key for each rack	
5.	Racks should be compatible with floor-throw as well as top-throw Mini Data Center cooling systems	
6.	Vertically Mounted, 32AMPS with 25 Power Outputs for 5 KVA racks (Racks which have 5 KVA rating)	
7.	A minimum rating of at least 48 AMPS with 25 Power Outputs for 8 KVA Racks (Racks with 8 KVA rating)	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
8.	25 Power outs of IEC 320 C13 or C14 Sockets for 5KVA and 8 KVA racks	
9.	Intelligent PDU with remote monitoring using suitable technology such as SNMP	
10.	LED readout for the total current being drawn from the channel. A rack level power consumption readout meter is preferred.	
11.	EIA-310 Standard for Cabinets, Racks, Panels and Associated Equipment and accommodate industry standard 19" rack mount equipment.	
12.	OEM racks with Adjustable mounting depth, Multi operator component compatibility, Numbered U positions, Powder coat paint finish and Protective grounding	
13.	Aluminum extruded profile with detachable side panel	
14.	Perforated front and back doors	
15.	All racks should have mounting hardware 2 packs, blanking panel (4U to5U size)	
16.	Heavy Duty Extruded Aluminum Frame for rigidity.	
17.	Duty Top and Bottom frame of MS. Two pairs of 19" mounting angles with 'U' marking.	
18.	Depth support channels - 3 pairs.	
19.	With an overall weight carrying Capacity of minimum 500Kgs.	
20.	Fan 230V AC (minimum 4 Nos. per Rack)	
21.	Fan Housing Unit minimum 4 Fan Position (Top Mounted) (1 no. per Rack-Monitored	
22.	Thermostat based - The Fans should switch on based on the Temperature within the rack. The temperature setting should be factory settable. This unit should also include humidity & temperature sensor	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

16.3.3. Passive Components

S. No.	Specifications	Compliance (Yes/No)
	General Requirements	
1.	All Passive components (Copper and Fibre) must be from the same OEM.	
2.	For CAT 6 A cables including patch cords must be \pm each individual pair separately shielded.	
3.	Insulation must be fire retardant.	
4.	All CAT 6 A and Fibre cables must be LSZH.	
5.	The OEM shall be ISO 9001:2000certified	
6.	The OEM shall be ISO 14001accredited	
7.	The Copper and Fiber cabling system shall be certified by OEM to have application support warranty for 25years	
	COPPER CABLING SYSTEM	
8.	CAT6A Foiled Twisted Pair Cable – Category 6A must be solid copper conductor 23 AWG having NVP: 75-77% with 4 pair individually foiled LSZH cable and must be compliant with TIA/EIA-568-C.2 for 500MHz (ETL/3P certificate to be enclosed along with the bid).	
9.	FACE PLATE: 1 port or two port <ul style="list-style-type: none">• Single/Double Gang as per the requirement & complete in all respect and as directed to the satisfaction of engineer• Labelling provision must be there.	
	CAT6A SHIELDED RJ45 JACK	
10.	Must be compliant with latest ISO/IEC 11801 A1.1 draft and ratified TIA/EIA 568-C.2 and should be verified 3P/ETL/GHMT for the support of 10GBASE-T performance	
11.	Must use insulation displacement connectors (IDC)	
12.	Allow for a minimum of 50 re-terminations without signal degradation.	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)
13.	Be constructed of high impact, flame-retardant thermoplastic and robust die cast zinc alloy housing with icon options for better visual identification.	
14.	With shutter provision to protect from dust and moisture. If shutter provision is not available on RJ45 jack it is acceptable on face plate also.	
15.	It should follow 568A / B wire patterns / configuration	
16.	Color options in jacks should be available.	
17.	The I/O should be UL Listed and ETL/3P / GHMT Verified	
18.	Mechanical Characteristic: Jack Connector <ul style="list-style-type: none"> • Plastic Housing: Robust die cast Zinc Alloy housing plated with Bright Nickel/Cu • Operating Life: Minimum 750 insertion cycles • Contact Material: Copper alloy / Gold-Plated Bronze • Contact Plating: >0.75 micrometers Gold/Ni 	
19.	CAT 6A 24 PORT JACK / patch PANEL LOADED <ul style="list-style-type: none"> • Be made of steel / aluminum, in 24 port configurations. Each jack for the jack panel should have shuttered or dust cover with jack for dust free environment. • Have port identification numbers on the front of the panel. • Should have self-adhesive, clear label holders (transparent plastic window type) and white designation labels with the panel, with optional color labels / icons. • Each port / jack on the panel should be individually removable on field from the panel. • Should be certified by third Party like UL. Certificates to be submitted with bid. • Should be supplied with metallic rear cable management shelf/support bar as a part of Jack Panel. 	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
20.	<p>CAT 6A SHIELDED PATCH/MOUNTING CORDS (1 Mtr., 2 Mtr. and 3 Mtr.)</p> <ul style="list-style-type: none"> Category 6A Equipment cords (Length ± 1mtr and 3mtr.) The work area equipment cords shall be comply with TIA/EIA-568-C.2 and Performance Specifications should be tested by ETL/3P in channel for 4 pair Category 6A Cabling Category 6A equipment cords: Shall be round, and consist of eight insulated 26 AWG, stranded bare copper conductors, arranged in four color-coded twisted-pairs each pair should be foiled with aluminium shield. Equipped with 8-position shielded plugs on both ends, wired straight through with standards compliant wiring. Should have 50 micro inches of gold plating over nickel contacts. Modular cords should include a molded strain relief boot. Should be certified by UL/ third party. <p>Mechanical Characteristic: patch cord Cable</p> <ul style="list-style-type: none"> Conductor size: 26 AWG stranded bare copper. Jacket: LSZH <p>Mechanical Characteristic: Plug</p> <ul style="list-style-type: none"> Temperature range: -10°C to +60°C Operating life: Minimum 750 insertion cycles Contact Material: Copper alloy/Gold-plated bronze Contact plating: >0.75 micrometres Au/Ni 	
	OPTICAL FIBRE CABLING	
21.	24 Core Single-Mode(SM) 9/125 µm OS2 Armoured Multi-Tube Optical Fiber Cable 12 cores	
22.	The fiber type should be 9/125 µm, OS2 Matched Cladding Single Mode optical fiber.	
23.	Fiber should be coated with acrylate coating.	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)																		
24.	The fiber should be optimized for operation at 1310 nm and at 1550 nm.																			
25.	<p>Physical Characteristics</p> <table border="1"> <tr> <td>No of Cores</td> <td>12 cores</td> </tr> <tr> <td>Nominal mode field diameter</td> <td>9 μm</td> </tr> <tr> <td>Mode field diameter tolerance</td> <td>±0.5μm</td> </tr> <tr> <td>Cladding diameter</td> <td>125 μm</td> </tr> <tr> <td>Cladding diameter tolerance</td> <td>±1.0 μm</td> </tr> </table>	No of Cores	12 cores	Nominal mode field diameter	9 μm	Mode field diameter tolerance	±0.5μm	Cladding diameter	125 μm	Cladding diameter tolerance	±1.0 μm									
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26.	<p>Optical Characteristics:-</p> <table border="1"> <tr> <td>Attenuation (of cable with fibers):</td> <td></td> </tr> <tr> <td>At 1310 nm</td> <td>" 0.35 G%/NP</td> </tr> <tr> <td>At 1550 nm</td> <td>" 0.22 G%/NP</td> </tr> <tr> <td>Polarisation Mode Dispersion (PMD)</td> <td>" 0.06(SV/VT NP)</td> </tr> <tr> <td>Proof Stress level</td> <td>> 0.7 (~ 1%) GPa</td> </tr> <tr> <td>Core-Cladding Concentricity error</td> <td>" 0.5—P</td> </tr> <tr> <td>Cladding non-circularity</td> <td>" 0.7 %</td> </tr> <tr> <td>Diameter of outer coating layer</td> <td>242 ± 5 μm</td> </tr> <tr> <td>Cut-off wavelength</td> <td>" 1260 QP</td> </tr> </table>	Attenuation (of cable with fibers):		At 1310 nm	" 0.35 G%/NP	At 1550 nm	" 0.22 G%/NP	Polarisation Mode Dispersion (PMD)	" 0.06(SV/VT NP)	Proof Stress level	> 0.7 (~ 1%) GPa	Core-Cladding Concentricity error	" 0.5—P	Cladding non-circularity	" 0.7 %	Diameter of outer coating layer	242 ± 5 μm	Cut-off wavelength	" 1260 QP	
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Cut-off wavelength	" 1260 QP																			
27.	<p>Construction Details</p> <table border="1"> <tr> <td>CORE</td> <td>Germanium doped core with no phosphorus i.e. reduced tendency for hydrogen degradation.</td> </tr> <tr> <td>COATING</td> <td>UV-curable dual layer acryl ate coating, which ensures excellent micro bending and abrasion resistance.</td> </tr> <tr> <td>Fibre/Tube Identification</td> <td>Color coded</td> </tr> </table>	CORE	Germanium doped core with no phosphorus i.e. reduced tendency for hydrogen degradation.	COATING	UV-curable dual layer acryl ate coating, which ensures excellent micro bending and abrasion resistance.	Fibre/Tube Identification	Color coded													
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**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
	Fibre protection(Tubes)	Polybutylene Terephthalate (PBT)
	Armor	Corrugated Steel tape Armor (ECCS Tape)
	Inner Jacket	High density polyethylene
	Outer Jacket	UV Stabilized High density polyethylene (HDPE) LSZH.
	Outer Jacket Color	Black
	Central Strength Member	Fibre Reinforced Plastic(FRP)
	Dimensions:-	
	Cable Diameter	15.1 ± 4.0 mm
	Mechanical and Environmental	
	Max Bend Radius(full load)	10 X Overall diameter
	Max. Bending Radius (during installation)	20 X Overall diameter
	Performance:-	
	Max. Tensile Strength-Short Term	Minimum 2000N
	Max. Crush Resistance-Short Term	Minimum 4000N/10 cm
	Operating Temperature range	-10°C to +70°C
28.	Fiber Optic LIU	
	Fiber optic patch panel	Fibre management enclosures that can be used as a wall mount enclosure for isolated applications or rack mount enclosure for integrated applications.
	Height	1 U, 1.75 inches
	No. of fiber ports	12/24
	Material	Powder coated Mild Steel/aluminum
		Rugged steel/aluminum construction in graphite finish



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
	Rear, side & base access for Incoming / Outgoing fiber cables	
	Cable Management rings	Management rings within the system to accommodate excess fibre rings cordage behind the through adapters and maintain fibre bend radius.
	Adaptor Slots	Built in Slots for LC adaptors.
	Sliding cover	Panel cover is of slide out for easy operation & maintenance
	Splice Tray	24Fiber Splice Tray of ABS material should be supplied for the LIU.
29.	Fiber Optic Adaptors (Single mode)	
	Fiber optic adaptors	LC Type Single Mode Adaptors
	Type	LC Type
		Meets TIA/EIA 568-C.3 and IEC 874-109 standards
		Adaptors should be snap mount for easy insertion and removal.
		Shuttered feature protects from light emissions and dust.
	Material Ferrule	Zirconia Alignment sleeve
30.	Fiber Optic Pigtail 9/125 Single mode OS2 LC Type	
	Fiber optic pigtails	Single mode OS2 Pigtails with
	Type	9/125 micron OS2fibre perfor
	Cordage Outer Diameter	2.0mm ±0.1mm x 4.1 ± 0.2mm



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
	Cable	900µmTight Buffered
	Retention Strength	100N
	Jacket Material	LSZH
	Operating Temp.	-10°C to 75°C
	Connector Insertion Loss	0.30dB(Max)
31.	Fiber Optic Patch Cord LC-LC 9/125 OS2 Single mode	
	Fiber Optic Patch Cords	LC-LC 9/125 µm, OS2 Single mode Duplex Patch Cord
	Cable	9/125 µm, OS2 SM, Duplex patch cord.
	Connectors	The optical fiber patch leads shall comprise of Single-mode 9/125µm OS2 fiber with 2x LC type fiber connectors terminated at both end of the patch cord.
	Cordage O.D	(Duplex): 2.0mm ± 0.1mm x 4.1± 0.2mm
	Cable	900µmTight Buffered
	Strength Member	Aramid Yarn
	Jacket Material	LSZH
	Connector Loss	0.30dB(max)
	Operating Temperature	-10°C to +70°C
		*For 100G connectivity for distance of 2KM
		Required trans-receivers, patch cords etc.
32.	Gang Box (As per approved make) Surface mounted , Plastic/ PVC Material, White Colour, supports one or two I/O ports	
33.	Cat 6 Unshielded RJ45 Connectors (As per approved make)	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)
	Standard Acrylic unshielded RJ45 connector	

16.3.4. Ducting & Laying of Optical Fibre Cable

S. No.	Specifications	Compliance (Yes/No)
	Laying of underground cables	
1.	The SI shall undertake fiber laying work in a manner so as to cause least public inconvenience. SI Shall suitably cordon-off the area to ensure public safety.	
2.	The SI shall have to provide barricading, danger lighting and other necessary caution boards, danger lights while executing the works, wherever necessary.	
3.	The SI shall ensure safety and security of all underground installations/ utilities/ facilities and shall be solely responsible for compensation/ indemnification of concerned authority for damage caused/ claims or replacements sought for at the cost and risk of SI to the concerned authority.	
4.	SI shall be encouraged to execute the works during off-peak times so as to cause minimum inconvenience to the public movement.	
5.	As far as possible, the SI should carry out the work by using Micro Trenching/ Horizontal Directional Digging (HDD) techniques or Horizontal boring methods so as to minimize the damage and to cause minimum inconvenience. <u>SI should propose the overall digging approach in the technical bid.</u>	
6.	The SI shall carry out Ground survey of existing utilities/ services along the route where the cable is proposed to be laid.	
7.	Using latest imaging /manual marking technique, SI shall submit the cable layout drawing/map to the competent authority for approval.	
8.	Optical Fiber Cable Drums shall be handled with utmost care. The drum shall not be subjected to shocks by dropping etc. They shall not be normally rolled along the ground for long distance and when rolled, shall in the direction indicated by the arrow. The battens shall be removed only at the time of actual laying.	
9.	Before starting the cable blowing, pipe shall be checked for obstacles or damage. Always blow downhill wherever possible if required.	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

10.	Care must be taken not to violate the minimum bending radius applicable for the fiber optic cable. Tension in the cable during laying shall not exceed tension limit of the OFC.	
11.	While installing the cable, excess length of about 5 meters shall be provided at each joint location for each side. Excess length of 5 meters shall be kept at one ends of road crossing, culvert crossing. However, exact excess lengths and manhole locations shall be finalized during detailed engineering depending upon the site requirement.	
12.	The top of the casing/ conduit pipe containing the cables shall be at least 5.5 feet below the top surface. Wherever the depth of 5.5 feet is not feasible, as exception cable can be laid at lesser depth with cable being placed in HDPE pipes and a layer of bricks on top of it.	
13.	Conduits shall be rodded by an acceptable method and cleaned before cables are pulled in. Duct assignment shall be always done carefully to avoid crossing of cables between the duct entrance and cable bearer, and blockage of future access to vacant duct. In general, placing shall start at the bottom row and handhole/ manhole wall side of the duct arrangement.	
14.	SI shall avoid laying overhead cables. Wherever, it is not feasible to avoid laying of overhead cables, the SI shall take all precautionary measures to maintain the ecosystem and aesthetics of that area.	
15.	Pits of 6.5 feet x 6.5 feet and 5.5 feet deep, or of lower size shall be made at a distance of 100 mtrs/ as required, centre-to-centre, for laying cables. However, in case of special site conditions, variable depth/ dimensions may be permitted depending on the site conditions.	
16.	SI shall place route markers, along the route at an interval of 200 mtrs with clear marking of the ownership and depth of the cable laid, wherever necessary.	
17.	In order to avoid repeated digging on the same routes, the SI may voluntarily lay extra ducts /conduits with redundant capacity so as to take care of any future needs. However, the creation of excess capacity shall not be a pre-condition for giving right of way permission.	
18.	The SI shall restore the dug-up area/ sites to their original condition simultaneously, clear the area of any unused earth/ debris, and dispose of such debris/ earth at the	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

	sites away from the work site as permitted by the competent authority and to the satisfaction of the concerned authority.	
19.	The SI shall refill the area if already filled area further sinks due to rain, etc.	

16.3.5. Security Components

The Following mentioned below security components to be provided as single/multiple boxes.

16.3.5.1. Next Generation Firewall 8 Gbps

S. No.	Specifications	Compliance (Yes/No)
	Hardware Architecture	
1.	The appliance-based security platform should provide firewall, AVC, IPS, URL Filtering and Advanced Malware Protection for Zero-day Threats functionality in a single appliance from day one	
2.	The appliance should support at least 8 * RJ-45 & 4 * 10G Gigabit ports and should be scalable to additional 4 * 10G plus, 2 * 40G ports if required in future.	
3.	The appliance hardware should be a multicore CPU architecture with a hardened 64-bit operating system.	
4.	The proposed solution shouldn't use a proprietary ASIC hardware for any kind of performance Improvement. If option to disable ASIC is there than OEM must mention the performance numbers in datasheet.	
	Performance & Scalability	
5.	Should support 8 Gbps cumulative throughput including all components of NGFW (FW, AVC, A. virus/A. malware, spyware, IPS) real-world / production performance	
6.	Firewall should support at least 25,00,000 concurrent sessions with application visibility turned on	
7.	Firewall should support at least 50,000 connections per second with application visibility turned on	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)
8.	Firewall should have integrated redundant power supplies	
9.	Firewall should have integrated redundant hot-swappable fan tray / modules	
	NG Firewall Features	
10.	Firewall should support creating access-rules with IPv4 & IPv6 objects, user/groups, application, geolocation, URL, zones etc.	
11.	Firewall should support manual NAT, static NAT, dynamic NAT, dynamic pat	
12.	Firewall should support Nat66/NPTv6 (IPv6-to-IPv6), Nat 64 (IPv6-to-IPv4), Nat46 (IPv4-to-IPv6) / IPV4 over IPV6 functionality.	
13.	Should support Static, RIP, OSPF, OSPFv3 and BGP, BGPv6/MP-BGP	
14.	Should support Multicast protocols like IGMP, PIM, etc.	
15.	Should support capability to integrate with other security solutions to receive contextual information like security group tags/names	
16.	Should support more than 3000 (excluding custom application signatures) distinct application signature as application detection mechanism to optimize security effectiveness.	
17.	Should be capable of dynamically tuning IDS/IPS sensors (e.g., selecting rules, configuring policies, updating policies, etc.) with minimal human intervention.	
18.	Should support more than 10,000 (excluding custom signatures) IPS signatures or more. Should support capability to configure correlation rule where multiple rules/events can be combined together for better efficacy	
19.	Should be capable of automatically providing the appropriate inspections and protections for traffic sent over non-standard communications ports.	
20.	Should be able to link Active Directory and/or LDAP usernames to IP addresses related to suspected security events.	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
32.	Should support Reputation- and category-based URL filtering offering comprehensive alerting and control over suspect web traffic and enforces policies.	
33.	Should support safe search for YouTube EDU enforcement	
	Management	
34.	The solution should have centralized management of all four firewall deployed at Lucknow & Noida	
35.	The management platform must be accessible via a web-based interface and ideally with no need for additional client software	
36.	The management platform must provide a highly customizable dashboard.	
37.	The management platform must domain multi-domain management	
38.	The management platform must provide centralized logging and reporting functionality	
39.	The management platform must be capable of role-based administration, enabling different sets of views and configuration capabilities for different administrators subsequent to their authentication.	
40.	Should support troubleshooting techniques	
41.	Should support REST API for monitoring and config programmability	
42.	The management platform must provide multiple report output types or formats, such as PDF, HTML, and CSV.	
43.	The management platform must support multiple mechanisms for issuing alerts (e.g., SNMP, e-mail, SYSLOG).	
44.	The solution should be able to give insights on hosts/users on the basis of Indicators of Compromise. Any license required for this should be included from day one.	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
45.	The management platform must provide built-in robust reporting capabilities, including a selection of pre-defined reports and the ability for complete customization and generation of new reports.	
46.	The management platform support running on-demand and scheduled reports	
47.	The management platform must risk reports like advanced malware, attacks and network	
48.	The management platform must include an integration mechanism, preferably in the form of open APIs and/or standard interfaces, to enable events and log data to be shared with external network and security management applications, such as Security Information and Event Managers (SIEMs), and log management tools.	
	Support	
49.	The NGFW should have back-to-back warranty from the OEM with 24x7 TAC support for both hardware & software and 8x5xNBD advance hardware replacement and should be supported by an OEM with active contract for next 5 years, OEM support letter to be submitted along with the bid.	
	Hardware	
50.	Temperature Operating: 0 to 40°C	
51.	Temperature Nonoperating: -20 to 65°C	
52.	Humidity: 10 to 85% noncondensing	

16.3.5.2. Next Generation Firewall 2 Gbps

S. No.	Specifications	Compliance (Yes/No)
	Hardware Architecture	



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)
12.	Firewall should support Nat66/NPTv6 (IPv6-to-IPv6), Nat 64 (IPv6-to-IPv4), Nat46 (IPv4-to-IPv6) / IPV4 over IPV6 functionality.	
13.	Should support Static, RIP, OSPF, OSPFv3 and BGP, BGPv6/MP-BGP	
14.	Should support Multicast protocols like IGMP, PIM, etc.	
15.	Should support capability to integrate with other security solutions to receive contextual information like security group tags/names	
16.	Should support more than 3000 (excluding custom application signatures) distinct application signature as application detection mechanism to optimize security effectiveness.	
17.	Should be capable of dynamically tuning IDS/IPS sensors (e.g., selecting rules, configuring policies, updating policies, etc.) with minimal human intervention.	
18.	Should support more than 10,000 (excluding custom signatures) IPS signatures or more. Should support capability to configure correlation rule where multiple rules/events can be combined together for better efficacy	
19.	Should be capable of automatically providing the appropriate inspections and protections for traffic sent over non-standard communications ports.	
20.	Should be able to link Active Directory and/or LDAP usernames to IP addresses related to suspected security events.	
21.	Should be capable of detecting and blocking IPv6 attacks.	
22.	Should support the capability to quarantine end point by integrating with other security solution like Network Admission Control	
23.	The solution must provide IP reputation feed that comprised of several regularly updated collections of poor reputation of IP addresses determined by the proposed security vendor	
24.	Solution must support IP reputation intelligence feeds from third party/inhouse and custom lists of IP addresses including a global blacklist	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
25.	The Appliance OEM must have its own threat intelligence analysis center and should use the global footprint of security deployments for more comprehensive network protection.	
26.	The detection engine should support capability of detecting and preventing a wide variety of threats (e.g., network probes/reconnaissance, VoIP attacks, buffer overflows, P2P attacks, etc.).	
27.	Should be able to identify attacks based on Geo-location and define policy to block on the basis of Geo-location	
28.	The detection engine should support the capability of detecting variants of known threats, as well as new threats	
29.	The detection engine must incorporate multiple approaches for detecting threats, including at a minimum exploit-based signatures, vulnerability-based rules, protocol anomaly detection, and behavioral anomaly detection techniques.	
30.	Should support custom Application signature to easily customize security to address new and specific threats and applications quickly	
	URL Filtering Features	
31.	Should support URL threat intelligence feeds to protect against threats	
32.	Should support Reputation- and category-based URL filtering offering comprehensive alerting and control over suspect web traffic and enforces policies.	
33.	Should support safe search for YouTube EDU enforcement	
	Management	
34.	The solution should have centralized management of all four-firewall deployed at Lucknow & Noida	
35.	The management platform must be accessible via a web-based interface and ideally with no need for additional client software	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
36.	The management platform must provide a highly customizable dashboard.	
37.	The management platform must domain multi-domain management	
38.	The management platform must provide centralized logging and reporting functionality	
39.	The management platform must be capable of role-based administration, enabling different sets of views and configuration capabilities for different administrators subsequent to their authentication.	
40.	Should support troubleshooting techniques	
41.	Should support REST API for monitoring and config programmability	
42.	The management platform must provide multiple report output types or formats, such as PDF, HTML, and CSV.	
43.	The management platform must support multiple mechanisms for issuing alerts (e.g., SNMP, e-mail, SYSLOG).	
44.	The solution should be able to give insights on hosts/users on the basis of Indicators of Compromise. Any license required for this should be included from day one.	
45.	The management platform must provide built-in robust reporting capabilities, including a selection of pre-defined reports and the ability for complete customization and generation of new reports.	
46.	The management platform support running on-demand and scheduled reports	
47.	The management platform must risk reports like advanced malware, attacks and network	
48.	The management platform must include an integration mechanism, preferably in the form of open APIs and/or standard interfaces, to enable events and log data to be shared with external network and security	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
	management applications, such as Security Information and Event Managers (SIEMs), and log management tools.	
	Support	
49.	The NGFW should have back-to-back warranty from the OEM with 24x7 TAC support for both hardware & software and 8x5xNBD advance hardware replacement and should be supported by an OEM with active contract for next 5 years, OEM support letter to be submitted along with the bid.	
	Hardware	
50.	Temperature Operating: 0 to 40°C	
51.	Temperature Nonoperating: -20 to 65°C	
52.	Humidity: 10 to 85% noncondensing	

16.3.5.3. Web application firewall

S. No.	Specifications	Compliance (Yes/No)
1.	The proposed WAF must be ICSA Certified dedicated appliance and it should not be white labelled product.	
2.	Traffic ports as required: 2x1G RJ-45, 2x1G SFP Fiber Ports and 2x10G SFP+	
3.	<ul style="list-style-type: none"> • Throughput: 5 Gbps • HTTP Request Per Second: 600K • Maximum L4 concurrent connections: 14M • Compression Throughput: 1Gbps • SSL/TLS TPS: 3K with RSA 2K and 2K with ECC, FIPS complied • SSL/TLS Bulk Encryption: 1Gbps • Memory: 8 GB 	•



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
	WAF should have the flexibility to be deployed in the following modes:	
4.	Reverse proxy	
5.	The solution must be able to handle OWASP Top 10 attacks and Application Layer Encryption	
6.	WAF should support for IPv4 and IPv6 traffic	
	Hiding Sensitive Content Parameters:	
7.	It should be able to Mask values of sensitive parameters (for example, passwords, credit card and social AADHAR)	
8.	It should be able to extract the attack source IP address	
9.	The proposed WAF must have Application layer encryption to support the encryption of credentials on real time to ensure the protection from credential-based attack.	
10.	The proposed solution must provide protection against attacks designed to abuse the application functionality. the solution must offer visibility into synthetic traffic ornated by bots and legit human traffic. SI must design and size the solution for both web and mobile based application using mobile SDK.	
11.	Application Layer Encryption service which allows Application security solution to protect credentials and sensitive fields from compromise at the client/browser level.	
	Auto Policy Optimization	
12.	Known Types of Attack Protection	
13.	Zero Day Attack Blocking	
14.	Security Filter Auto Policy Generation	
15.	Working in Learn Mode	
16.	Auto Discovery	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
17.	Application Layer Encryption	
	Following Threats should be protected by the proposed WAF solution	
	a. Parameters Tampering	
	b. Cookie Poisoning	
	c. SQL Injection	
	d. Session Hijacking	
	e. Web Services Manipulation	
	f. Stealth Commands	
	g. Debug Options	
	h. Backdoor	
	i. Manipulation of IT Infrastructure Vulnerabilities	
	j. Buffer Overflow Attacks	
	k. Data Encoding	
18.	l. Protocol Piggyback	
	m. Cross-Site Scripting (XSS)	
	n. Brute Force Attacks	
	o. OS Command Injection	
	p. Cross Site Request Forgery (CSRF)	
	q. Hot Link	
	r. Information Leakage	
	s. Path (directory) Traversal	
	t. Predefined resource location	
	u. Directory Listing	
	v. Parameter Pollution (HPP)	
	The proposed WAF should support the following Security Filters:	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
19.	a. Allow List Security Filter	
	b. Brute Force Security Filter	
	c. Database Security Filter	
	d. Files Upload Security Filter	
	e. Global Parameters Security Filter	
	f. HTTP Methods Security Filter	
	g. Logging Security Filter	
	h. Safe Reply Security Filter	
	i. Webservices Security Filter	
	j. XML Security Filter	
	k. Parameters Security Filter	
	l. Path Blocking Security Filter	
	m. Session Security Filter	
	n. API Security	
	The proposed WAF should support the Activity Tracking, which should include the following:	
20.	a. Mimicking user behaviour	
	b. Dynamic IP	
	c. Anonymity	
	d. Scraping	
	e. Clickjacking	
	WAF should support the Historical Security Reporting	
21.	a. Customizable dashboards, reports, and notifications	
	b. Advanced incident handling	
	c. Standard security reports	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
	d. In-depth forensics capabilities	
22.	Offered solution hardware or operating system should be EAL or NDPP (Network Device Protection Profile) certified under Common Criteria Program for security related functions.	
23.	OEM should be profitable in last 3 years and same can be viewed in public domain.	

16.3.6. Single Sign-On Solution

S. No.	Specifications	Compliance (Yes/No)
	General Functionalities	
1.	Solution shall enable single sign on for: VPN connection, Gmail (on IIML domain), existing AD and Edu Roam login.	
2.	Solution must support SSO for existing in-house/ COTS IIML applications.	
3.	The proposed solution should allow users to enroll multiple devices (PC, Laptop, Mobile, Tablet) for authentication	
4.	The proposed solution should allow users to select a preferred device for authentication	
5.	The proposed solution should allow users to select an alternative device (provisioned for that user) if their primary device is not available.	
6.	The proposed solution should allow users to securely manage their devices to reduce administrative workload.	
7.	The proposed solution should support authentication with a push notification to a mobile smartphone.	
8.	The proposed solution should support authentication with a SMS method.	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
34.	The proposed solution should allow administrators to create groups to organize and manage users	
35.	The proposed solution should allow administrators to re-activate devices for users	
36.	The proposed solution should allow administrators to generate a one-time use bypass code based upon appropriate rights	
37.	The proposed solution should allow administrators to limit authentication factors/types for all users globally	
38.	The proposed solution should support username normalization to control the number of user IDs in the system and optimize licensing (ie- treating jdoe@acme.com,acme/jdoe and jdoe as the same user)	
39.	The proposed solution should support users who may be part of multiple domains	
40.	The proposed solution should log IP address of login device	
41.	The proposed solution should support Role Based Administration Controls for admins	
42.	The proposed solution should provide admins the ability to see which authentication devices are rooted/jailbroken, including the option to view the list of users provisioned for those devices	
43.	The proposed solution should provide admins the ability to see the operating system for authentication devices, including the option to view the list of users provisioned for those devices	
44.	The proposed solution should provide admins the ability to see which authentication devices are not protected with screen lock, including the option to view the list of users provisioned for those devices	
45.	The proposed solution should log all administration actions	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
8.	The solution should provide ticketing where the user can take a screenshot of the error message and can attach to the service request. The user can type in a couple of text lines to describe the error in simple natural language. Rest of the details are picked by the service desk agent from the pictures/screenshots attached or the text description provided. The service desk agent then can pick up the ticket to provide the resolution of the same with the information already filled in (category, impact, and assignment).	
9.	When receiving a call from an end user, the user's description of the issue can be entered as is by the help desk agent. Then, the agent should be capable to suggest the most likely categories and service for the help desk agent to choose. Any of the fields that were auto-generated can then be adjusted or corrected, if needed, also enabling the system to learn adaptively to be smarter in the future.	
10.	The proposed solution shall provide problem management module for recording problem work around and solution must be able to relate and link problem to specific incidents, knowledge management should provide service desk personal with speedy and accurate resolution to their problem either from Browser and ticket screen.	
11.	The solution should provide the capability to search previously saved service request, incidents, problems to help agent resolve the current issue at hand faster.	
12.	The solution should offer similar ticket search facility that should result only list service requests, incidents, and problems having the same Classification.	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)	
2.	Input		
	Nominal Voltage		380V / 400V / 415V AC (3Ph+N+PE)
	Voltage Range		190V~520V AC Load Dependent
	Frequency Range		50 / 60 Hz \pm 20% (Auto Sensing)
	Power Factor		\geq 0.99
	THDi		< 3% @ Linear Load
3.	Output		
	Output Voltage		220V / 230V / 240V AC (L+N)
	Voltage Regulation		\pm 1%
	Frequency Range		Auto Sensing 50 / 60 Hz \pm 1~10% Sync Mode (Configurable), 50/60 Hz \pm 0.1 Hz Battery Mode
	Crest Factor		3:01
	Power Factor		0.7 to Unity (1.0)
	Harmonic Distortion		\geq 2 % THD (Linear Load); \geq 5 % THD (Non-linear Load)
	Transfer Time		Zero
	Waveform		Pure Sinewave
	Over Load		\geq 125% for 10 min, \geq 150% for 1 min, \leq 150% for 200 ms
	Efficiency		Up to 95% Dual Conversion Mode, 99% ECO Mode
	4.		Battery
Nominal DC Voltage		\pm 192V	
Battery Quantity		16 ~ 20 pcs (adjustable) x 2	
Typical Recharge Time		8 hours to 90% capacity	
5.	System Features		
	IP Protection		IP 20



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications		Compliance (Yes/No)
	Alarm / Protections	Short Circuit, Input Under/Over Voltage, Over Temperature, Over Current, Over Load, DC BUS Under / Over Voltage and Battery low	
	LCD / LED Display	UPS status, Load % / VA / W, Battery level, Input/Output voltage, Discharge timer, and Fault Code	
6.	Standards		
	Quality	ISO 9001, ISO 14001, OHSAS 18001, ISO 27001, ISO 50001, RoHS	
	Safety	IEC/EN62040-1	
	EMC/ Performance	IEC/EN62040-2; IEC/EN62040-3, Complying to CE	
7.	Environmental		
	Temperature	Operating: 0~45°C, Storage: -10°C ~ 55°C	
	Humidity / Altitude	0~95% RH Non-condensing / <1500 M	
	Noise	< 60dB	
8.	Communication Interface		
	Monitoring / Remote controlling	RS-232 SNMP / ModBus / Dry Contact / USB / RS-485 NetAgent Utility v5.8 / View Power	
9.	Other Features		
	<ul style="list-style-type: none"> • True Online Double-conversion Modular hot-swappable design for ease of power expansion, installation and maintenance. • Standard 19" form factor with tower/rack convertible design • Parallel operation with common battery • DSP technology guarantees high reliability • ECO mode operation for energy saving • Emergency power off function (EPO) 		



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Specifications	Compliance (Yes/No)										
	<ul style="list-style-type: none"> • Generator compatible • Customized system for 4 Module • Total rack size to house 4 Nos. of module • Each module have own Monitoring System with LED + LCD • Centralized Monitoring System for detailed Monitoring of Entire Parameters • Manufacturer must be an ISO 9001, 14001, OHSAS18001 and 27001 certified • The product should be RoHS and CE certified • Must have all over India service centres 											
	UPS rating actual 10 KVA											
10.	Each module should be arranged in such a manner that the total UPS KVA rating = actual rating + 1 module for redundancy . Maximum module to be lower than 10 KVA											
11.	<p>Input</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Nominal Voltage</td> <td>380V / 400V / 415V AC (3Ph+N+PE)</td> </tr> <tr> <td>Voltage Range</td> <td>190V~520V AC Load Dependent</td> </tr> <tr> <td>Frequency Range</td> <td>50 / 60 Hz ± 20% (Auto Sensing)</td> </tr> <tr> <td>Power Factor</td> <td>≥ 0.99</td> </tr> <tr> <td>THDi</td> <td>< 3% @ Linear Load</td> </tr> </table>	Nominal Voltage	380V / 400V / 415V AC (3Ph+N+PE)	Voltage Range	190V~520V AC Load Dependent	Frequency Range	50 / 60 Hz ± 20% (Auto Sensing)	Power Factor	≥ 0.99	THDi	< 3% @ Linear Load	
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**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)										
	<table border="1"> <tr> <td>Harmonic Distortion</td> <td>≥ 2 % THD (Linear Load); ≥ 5 % THD (Non-linear Load)</td> </tr> <tr> <td>Transfer Time</td> <td>Zero</td> </tr> <tr> <td>Waveform</td> <td>Pure Sinewave</td> </tr> <tr> <td>Over Load</td> <td>≥125% for 10 min, ≥150% for 1 min, ≤ 150% for 200 ms</td> </tr> <tr> <td>Efficiency</td> <td>Up to 95% Dual Conversion Mode, 99% ECO Mode</td> </tr> </table>	Harmonic Distortion	≥ 2 % THD (Linear Load); ≥ 5 % THD (Non-linear Load)	Transfer Time	Zero	Waveform	Pure Sinewave	Over Load	≥125% for 10 min, ≥150% for 1 min, ≤ 150% for 200 ms	Efficiency	Up to 95% Dual Conversion Mode, 99% ECO Mode	
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Battery												
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**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)						
	<table border="1"> <tr> <td>Noise</td> <td>< 60dB</td> </tr> </table>	Noise	< 60dB					
Noise	< 60dB							
17.	<p>Communication Interface</p> <table border="1"> <tr> <td>Monitoring / Remote controlling</td> <td>RS-232</td> </tr> <tr> <td></td> <td>SNMP / ModBus / Dry Contact / USB / RS-485</td> </tr> <tr> <td></td> <td>NetAgent Utility v5.8 / View Power</td> </tr> </table>	Monitoring / Remote controlling	RS-232		SNMP / ModBus / Dry Contact / USB / RS-485		NetAgent Utility v5.8 / View Power	
Monitoring / Remote controlling	RS-232							
	SNMP / ModBus / Dry Contact / USB / RS-485							
	NetAgent Utility v5.8 / View Power							
18.	<p>Other Features</p> <ol style="list-style-type: none"> True Online Double-conversion Modular hot-swappable design for ease of power expansion, installation and maintenance Standard 19" form factor with tower/rack convertible design Parallel operation with common battery DSP technology guarantees high reliability ECO mode operation for energy saving Emergency power off function (EPO) Generator compatible Customized system for 4 Module Total rack size to house 4 Nos. of module Each module have own Monitoring System with LED + LCD Centralized Monitoring System for detailed Monitoring of Entire Parameters Manufacturer must be an ISO 9001, 14001, OHSAS18001 and 27001 certified The product should be RoHS and CE certified Must have all over India service centres 							



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

16.3.9. Earthing

S. No.	Specifications	Compliance (Yes/No)
1.	Ability to provide protection for personnel and equipment against lightning strike by directing damaging currents away from equipment.	
2.	Provides grounding of all electrical equipment, steel structures, etc. by copper conductors / strips of appropriate sizes suitable protected against theft.	
3.	The server room earthing to be carried out to form an earthing mesh of insulated copper wire below the false flooring and connected to false flooring supports.	
4.	Main earth grid inside the building will be routed along cable trays and provide earthing to all the electrical equipment (e.g., equipment, racks, cabinets, ladder racks, enclosures, cable trays, etc.).	
5.	All grounding/earthing components should be listed by an approved test lab such as UL, and local electrical codes must be adhered to.	
6.	Safety earthing system will be provided to effectively bond the non-current carrying metallic parts.	
7.	All ground conductor connections shall be made by electric arc welding/brazing.	
8.	Grounding solution should be engineered properly, adequately sized and visually verifiable.	

16.3.10. Rodent Control

S. No.	Specifications	Compliance (Yes/No)
1.	Rodent Repellent System should compose of one Master console and accessories that include appropriate no. of Transducers, specially coated CT wires & stand brackets. The Master console should be installed in the main control room / DC/DR and the Transducers in the other areas i.e. above and below false ceiling and below false flooring.	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Specifications	Compliance (Yes/No)
2.	The powerful sound waves generated by the Transducers of Rodent Repellent Panel should be within the hearing range of many Rodents and cause them pain and discomfort.	
3.	The Transducers should be able to withstand high temperatures in the false ceiling and low temperatures in cold storages and air locks.	
4.	The Transducers should work with any power connection	



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

16.4. Annexure 4: List of IIML Applications & Software

Snapshot of various applications accessible thru Internet:

S. No.	Application Name	Description	Type of user (student/ faculty/ staff)	Maximum concurrent users supported	Network/ Standalone	Network based license validation	Version No.	Platform
1.	Adobe Acrobat Professional	PDF Reader & Writer	Faculty, students	10	Standalone	No	10	Windows
2.	Amos	Structural Equation Modeling	Faculty, students	3	Network	Yes	18	Windows
3.	Atlas.ti	Qualitative Data Analysis	Faculty, students	5	Standalone	no	7	Windows/ Mac
4.	Eviews	Econometrics analysis, forecasting	Faculty, students	20	Network	yes	11	Windows
5.	GAMS	General Algebraic Modeling System	Faculty, students	5	Standalone	no	24.8.5	Windows
6.	Lisrel	Structural Equation Modeling software	Faculty, students	4	Standalone	no	8.7	Windows
7.	Kaspersky Endpoint Security	Antivirus Software	Faculty	150	Network	yes	10	Windows
8.	MatLab	Technical computing Language	Faculty, students	unlimited	Both	yes	2020a	Windows/ Mac/ Linux



Request for Proposal (Volume I) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

S. No.	Application Name	Description	Type of user (student/ faculty/ staff)	Maximum concurrent users supported	Network/ Standalone	Network based license validation	Version No.	Platform
9.	Microsoft Volume Licensing Software	Open Value Subscription Education Solution	Faculty, students	unlimited	Both	yes		Windows
10.	Minitab	Statistical Package	Faculty, students	75	Network	yes	17	Windows
11.	Papercut-NG	Printing Software	Accounting Faculty, students	2000	Network	yes	13.4	Windows
12.	SAS with E-miner & Text Miner	Statistical System	Analytic Faculty, students	50	Standalone	yes	9.4	Windows
13.	SPSS	Statistical Package	Faculty, students	50	Network	yes	24	Windows/ Mac
14.	Stata/MP	Data Analysis & Statistical Software	Faculty, students	10	Network	yes	16	Windows
15.	Systat 12	Statistical & Graphical Software	Faculty, students	10	Standalone	no	12	Windows
16.	Simul8	Simulation Software	Faculty, students	unlimited	Standalone	no	25	Windows
17.	Tally ERP	Accounting Software Package	Staff	unlimited	Network	Yes	9(6.4)	Windows



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Application Name	Description	Type of user (student/ faculty/ staff)	Maximum concurrent users supported	Network/ Standalone	Network based license validation	Version No.	Platform
18.	Turnitin Anti- plagiarism Web Tool	Anti-plagiarism Web Tool	Faculty, students	1198	Web based	yes		Windows/ Mac/ Linux
19.	UCINET	Social Network Analysis Program	Faculty, students	10	Standalone	no	6	Windows



**Request for Proposal (Volume I) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Snapshot of various applications available on Intranet by team SYNAPSE

S. No.	Application Name	Description	Type of user (student /faculty/ staff)	Maximum no of supported users (concurrent users)
1.	ERP Faculty IIM	Faculty & Staff profile & Salary	Faculty /Staff	Unlimited
2.	Etrigan 2.1	Student Profile	Student	Unlimited
3.	Claroline	Open-source learning E-	Student	Unlimited
4.	cerberus	Student activity	Student	Unlimited
5.	Gyanoday	Library resource	Faculty/students	Unlimited
6.	Mess Portal	Mess Booking	Student	Unlimited

*** END ***



**Indian Institute of Management (IIM)
Lucknow**

**Request for Proposal
(Volume II)
for**

**Network Infrastructure Upgrade
Project**

RFP Reference No: IIML/PUR/NETWORK/28/2021-22



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

Disclaimer

The information contained in this Request for Proposal document (“RFP”) or subsequently provided to Bidders, whether in documentary or any other form by or on behalf of Indian Institute of Management (IIM), or any of its employees or advisors, is provided to Bidders on the Terms and Conditions set out in this RFP and such other terms and conditions subject to which such information is provided.

This RFP is not an agreement and is neither an offer nor an invitation by IIM to the prospective Bidders or any other person. The purpose of this RFP is to provide interested parties with information that may be useful to them in the formulation of their Proposals pursuant to this RFP.

This RFP may not be appropriate for all companies, and it is not possible for IIM, its employees, or advisers to consider the objectives, technical expertise and particular needs of each party who reads or uses this RFP. The assumptions, assessments, statements, and information contained in this RFP, may not be complete, accurate, adequate, or correct. Each bidder should therefore conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments and information contained in this RFP and obtain independent advice from appropriate sources.

Information provided in this RFP to the Bidders is on a wide range of matters, some of which depend upon interpretation of facts. The information given is not an exhaustive account of requirements and should not be regarded as a complete or authoritative statement of facts. The specifications laid out in this RFP are indicated as the minimum requirements whereas the bidders are expected to focus on the objectives of the project and formulate their solution offerings in a manner that enables achieving those objectives in letter as well as spirit.

IIM accepts no responsibility for the accuracy or otherwise for any interpretation or opinion expressed herein. IIM, its employees and advisers make no representation or warranty and shall have no liability to any person including any Bidder under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFP or otherwise, including the accuracy, adequacy, correctness, reliability or completeness of the RFP and any assessment, assumption, statement or information contained therein or deemed to form part of this RFP or arising in any way in this Selection Process.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

IIM also accepts no liability of any nature whether resulting from negligence or otherwise however caused arising from reliance of any Bidder upon the statements contained in this RFP.

IIM may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumption contained in this RFP.

The issue of this RFP does not imply that IIM is bound to select a Bidder or to appoint the Selected Bidder, as the case may be. IIM reserves the right to reject all or any of the Proposals without assigning any reasons whatsoever.

The Bidder shall bear all its costs associated with or relating to the preparation and submission of its Proposal including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by IIM or any other costs incurred in connection with or relating to its Proposal. All such costs and expenses will remain with the Bidder and IIM shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a Bidder in preparation or submission of the Proposal, regardless of the conduct or outcome of the Selection Process.



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Glossary

Glossary of Acronyms

BOM	Bill of Material
BOQ	Bill of Quantity
BG	Bank Guarantee
EMD	Earnest Money Deposit
CPPP	Central Public Procurement Portal
DMZ	Demilitarized zone
IIML	Indian Institute of Management, Lucknow
MeitY	Ministry of Electronics & Information Technology
MPLS	Multi-Protocol Label Switching
MZ	Militarized Zone
NAC	Network Access Control
OEM	Original Equipment Manufacturer
OS	Operating System
PBG	Performance Bank Guarantee
Pre-Q	Pre-qualification
TQ	Technical Qualification
SI	System Integrator
TP	Third Party
VPN	Virtual Private Network



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Contents

Disclaimer.....	1
Glossary.....	3
1. Purpose of the RFP.....	8
2. Structure of the RFP.....	8
3. RFP Issuing Authority	10
4. Fact Sheet.....	11
5. Tender Schedule	13
6. General Instructions to Bidders	14
6.1. Eligibility to Bid.....	14
6.2. Cost of RFP	15
6.3. Pre-Bid Conference	15
6.4. Bidder Enquiries and Responses.....	15
6.5. Supplementary Information to the RFP/ Corrigendum/ Amendment to the RFP	16
6.6. Proposal Preparation Cost	16
6.7. Project Site Visit	16
6.8. Earnest Money Deposit (EMD) / Bid Security	17
6.9. Acceptance part/ whole bid/ modification – rights thereof.....	18
6.10. Authentication of Bids	18
6.11. Interlineations in Bids	18
6.12. Venue and Deadline for submission of proposals	18
6.13. Late bids	19
6.14. Conditions under which this RFP is issued.....	19
6.15. Rights to the content of the Proposal.....	19
6.16. Modification and Withdrawal of Proposals	20
6.17. Non-Conforming Proposals.....	20



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

6.18.	Disqualification	20
6.19.	Acknowledgement of Understanding of Terms	22
6.20.	Confidentiality.....	22
6.21.	Publicity.....	22
6.22.	Corrupt or Fraudulent Practices.....	22
6.23.	Conflict of Interest	23
6.24.	Subcontracting	23
6.25.	Repeat Orders	23
6.26.	Government Regulations	23
6.27.	Duties and Taxes	23
7.	Bid Submissions Instructions	24
7.1.	e-Tendering method	24
7.2.	Pre-Qualification Bid	26
7.3.	Technical Bid	27
7.4.	Commercial Bid	27
7.5.	Period of Validity of Bid	29
7.6.	Language of Proposals	29
8.	Bid Opening and Evaluation Process.....	29
8.1.	Preliminary Examination.....	30
8.2.	Clarifications	30
8.3.	Address for Correspondence	31
8.4.	Overall Evaluation Process.....	31
9.	Pre-Qualification Proposal	32
9.1.	Pre-Qualification Eligibility Criteria & Compliance Sheet	32
9.2.	Opening of Pre-Qualification Proposal	34
9.3.	Evaluation Process of Pre-Qualification Proposal.....	35



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

10.	Technical Proposal Evaluation	36
10.1.	Technical Evaluation Criteria.....	36
10.2.	Technical Presentation.....	38
10.3.	Evaluation Process of Technical Proposals	39
11.	Commercial Bid Evaluation	40
12.	Correction of Errors	40
13.	Right to Terminate the Process.....	41
14.	Right to ask for Revised Commercial Bid	41
15.	Right to accept any bid/ reject any or all bids	42
16.	Award of Contract.....	42
16.1.	Notification of Award.....	42
16.2.	Contract Finalization and Award.....	42
16.3.	Signing of Contract.....	43
16.4.	Suggestions on the Draft Contract.....	43
16.5.	Failure to agree with the Terms & Conditions of the RFP	43
16.6.	Performance Bank Guarantee.....	44
16.7.	Contract Period	44
17.	Payment Milestones	46
18.	Bid Formats	48
18.1.	Pre-Qualification Bid Formats.....	48
	Format 1 -Covering letter for Pre- Qualification Bid.....	48
	Format 2- Presence Certificate	50
	Format 3- Projects Completion details prescribing nature and size.....	51
	Format 4 – Bidder Profile	52
18.2.	Technical Bid Formats.....	53
	Format 5 - Technical Bid Letter	53



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

Format 6 - Technical Evaluation cum Technical Bid Check List.....	56
Format 7 - Manufacturers'/Producers'/OEM's Authorization Form (On OEM letterhead).....	56
Format 8 - Statement of Deviation from Requirement Specifications	57
Format 9 – Detailed Bill of Quantity	58
Format 10 – Exit Management Plan.....	59
Format 11 – Training Plan	60
Format 12 – Resource Summary.....	61
Format 13 – Undertaking on Conflict of Interest.....	62
Format 14 – IPR/Solution ownership declaration.....	63
Format 15 – Declaration on IPR/Patent rights –The bidder	64
Format 16 – Certificate in compliance to Rule 144 (xi) of GFR 2017	65
18.3. Commercial Bid Formats.....	66
Format 17 – Commercial Bid Letter	66
Format 18 – Total Commercial Quote	70
Annexure I. Format of Covering Letter of proposal in response to RFP Invitation	71
Annexure II. Format for EMD Bid Security	73
Annexure III. Format for Performance Bank Guarantee	75
Annexure IV. Format for Bid Clarification.....	77
Annexure V. Format for Suggestions on Changes to Contract clauses.....	78



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

1. Purpose of the RFP

The purpose of this RFP is to solicit proposals from the bidders for selection of System Integrator (SI) for **Network Upgrade Project for Indian Institute of Management Lucknow (IIML)** through a competitive bidding process. The System Integrator will be responsible for the procurement, supply, design, successful implementation and operations and maintenance of the project. The RFP intends to bring out the details with respect to scope of services that are deemed necessary to share with the interested bidders.

2. Structure of the RFP

Volume I: Functional and Technical Requirements

Volume I of RFP intends to bring out all the details with respect to scope of work, project implementation, timelines, solution, and other requirements that IIML deems necessary to share with the potential bidders. The information set out in this volume has been broadly categorized as Functional, Technical and Operational requirements covering multiple aspects of the requirements.

Volume II: Commercial and Bidding Terms

Volume II of RFP purports to detail out all that may be needed by the potential bidders to understand the commercial terms and bidding process details.

Volume III: Contractual and Legal specifications

Volume III of RFP is essentially devoted to explaining the contractual terms that IIML wishes to specify at this stage. It basically consists of a draft of Master Services Agreement (MSA) that needs to be signed between the IIML and the successful bidder (SI). This MSA includes a separate schedule on Service Level Agreement (SLA).

The bidders are expected to examine all instructions, forms, terms, Project requirements and other information in the RFP documents. Failure to furnish all information required as mentioned in the RFP documents or submission of a proposal not substantially responsive to the RFP documents in every respect will be at the Bidder's risk and may result in rejection of the proposal.

This document is Volume II.



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

3. RFP Issuing Authority

This RFP is issued by Indian Institute for Management (IIML), Lucknow.

Issuing Authority	
RFP Ref. No.	IIML/PUR/NETWORK/28/2021-22
Project Title	Network Infrastructure Upgrade Project
RFP Issuer	The Chief Administrative Officer Indian Institute of Management Lucknow Prabandh Nagar, IIML Road, Lucknow – 226 013
Contact Person	Mr. Vinay Kumar Verma
Phone No.	0522-6696008
Email:	cao@iiml.ac.in



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

4. Fact Sheet

S. No.	Clause	Reference
1.	RFP Schedule	RFP Volume II - Section 5
2.	Website for Download of Tender Document	The tender document can be downloaded from any of the following websites: https://eprocure.gov.in/eprocure/app http://www.iiml.ac.in/
3.	Cost of RFP	RFP Volume II – Section 6.2 RFP document can be downloaded free of cost from the websites mentioned above.
4.	Earnest Money Deposit	RFP Volume II – Section 6.8 Earnest Money Deposit (EMD) of Rs. 30,00,000/- (Rupees Thirty Lakhs only) in the form of Bank Guarantee issued by a nationalized / scheduled bank in India, drawn in favour of “IIML, Lucknow”.
5.	Pre-Bid Conference	RFP Volume II – Section 6.3 Date: As per CPPP and Tender Schedule Venue: IIML, Noida Campus
6.	Pre-Bid Queries	RFP Volume II – Section 6.4 Queries for clarifications (Annexure- IV) on RFP document must reach to IIML in written form by/ before as per schedule provided in section 5.
7.	Pre-Qualification Criteria	RFP Volume II – Section 9.1
8.	Proposal Language	RFP Volume II – Section 7.6
9.	Evaluation Method	Least Cost Selection (LCS)
10.	Technical Evaluation	RFP Volume II – Section 10



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Clause	Reference
11.	Commercial Bid Evaluation	RFP Volume II – Section 11
12.	Taxes	RFP Volume II – 6.27 Taxes must be explicitly mentioned in the provided bid templates.
13.	Bid Validity	RFP Volume II – Section 7.5 Bid must remain valid till 180 days from the Bid Submission Closing date.
14.	Instructions on Submission of Proposals	RFP Volume II – Section 7 E-Tendering only https://eprocure.gov.in/eprocure/app
15.	Scope of Work	RFP Volume I For Detailed Scope of Work, refer RFP Volume I.

1. Proposals, in its complete form in all respects as specified in the RFP, must be submitted on the portal within date & time as specified in the Section 5.
2. IIML may, in exceptional circumstances and at its discretion, extend the deadline for submission of proposals by issuing an addendum, in which case all rights and obligations of IIML and the bidders previously subject to the original deadline will thereafter be subject to the deadline as extended.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

5. Tender Schedule

The due dates governing this RFP including publishing of RFP, seeking clarifications and submission of responses are as given in the table below. The bidders are requested to note that various deadlines and dates specified in the RFP document will be as referred in this table and the dates and timelines given in this table will be considered as final.

NOTE: Schedule to be updated as per final schedule before RFP Publication.

S. No.	Activities	Date & Time for Completion (NEW)
1.	Release of Request for Proposal (RFP)	Mon,01-02-2021
2.	Pre- Bid Conference (Online)	Thu, 04-02-2021 10:00 AM
3.	Last date for Submission of written pre-bid queries by Bidders	Tue, 09-02-2021
4.	IIML Site Visit by Bidders (Optional)	Lucknow:
		• Wed, 03-02-2021 (11:00 AM to 4:00 PM)
		• Mon, 08-02-2021 (11:00 AM to 4:00 PM)
		Noida:
		• Tue, 02-02-2021 (11:00 AM to 4:00 PM) • Sat, 06-02-2021 (11:00 AM to 4:00 PM)
5.	Date of Publishing of Pre-bid queries response and Corrigendum (if required)	Fri, 12-02-2021
6.	Bid Submission End Date	Thu, 04-03-2021 05:00 PM
7.	Date of opening of the Pre-qualification bids	Shall be intimated later
8.	Pre-Qualification Results and Opening of Technical Bid	Shall be intimated later
9.	Technical Presentation by the Bidders	Shall be intimated later
10.	Date of opening the Commercial bids	Shall be intimated later
11.	Contract Finalization and Award of Contract	Shall be intimated later



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

For any clarification, please contact the issuing authority mentioned in Section 3 of RFP Vol II.

6. General Instructions to Bidders

1. This RFP is not an offer by IIML but an invitation to receive proposals only from eligible bidders in respect of the above-mentioned project. The RFP does not commit IIML to enter into a binding agreement in respect of the project with any eligible bidder.
2. The RFP document can be downloaded Free of Cost from the websites mentioned in the fact sheet.
3. The bidders are expected to examine all instructions, forms, terms, project requirements and other information in the RFP documents. Failure to furnish all information required as mentioned in the RFP documents or submission of a proposal not substantially responsive to the RFP documents in every respect will be at the bidder's risk and may result in rejection of the proposal and forfeiture of the bid security.
4. Submission of a bid in response to this invitation shall be deemed to have been done after careful study and examination of this document with full understanding of its terms, conditions, and implications.
5. Failure to furnish all information required by the RFP documents or submission of a proposal not substantially responsive to the RFP documents in every respect will be at the Bidder's risk and may result in rejection of its Proposal.
6. Proposals must be direct, concise, and complete. IIML will evaluate bidder's proposal based on its clarity and directness of its response to the requirements of the project as outlined in this RFP.
7. IIML's decision about the selection of bidders through this RFP shall be final and IIML reserves the right to reject any or all the bids without assigning any reason.

6.1. Eligibility to Bid

1. This invitation for bids is open to all Indian firms who fulfil pre-qualification criteria as specified in this Volume of RFP.
2. Bidders declared by IIML or Government of India to be ineligible to participate for unsatisfactory past performance, corrupt, fraudulent or any other unethical business practices shall not be eligible.
3. Breach of general or specific instructions for bidding, general and special conditions of contract with IIML during the past 5 years may make a firm ineligible to participate in bidding process.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

4. A company shall submit only one response to the RFP.
5. Consortium is not allowed.

6.2. Cost of RFP

The tender document can be downloaded for free from any of the following websites:

- <https://eprocure.gov.in/eprocure/app>
- <http://www.iiml.ac.in/>

6.3. Pre-Bid Conference

IIML will hold a, online Pre-Bid Conference in the date and time specified in Tender Schedule. The purpose of the conference is to provide each Bidder with an opportunity to seek clarifications regarding any aspect of the RFP and the Project.

Link of the online pre-bid conference shall be made available on the IIML website day before the schedule. The representatives of the interested Bidders may attend the pre-bid conference at their own cost.

6.4. Bidder Enquiries and Responses

All queries from the bidders relating to this RFP must be submitted in writing exclusively to the contact person notified by the IIML. Request for clarifications shall be sent by bidders through email (Refer format specified in Annexure IV) on or before the date specified in Tender Schedule.

IIML will endeavor to provide a complete, accurate, and timely response to all questions to all the Bidders. However, the IIML makes no representation or warranty as to the completeness or accuracy of any response, nor does the IIML undertake to answer all the queries that have been posed by the bidders. All responses given by the IIML will be distributed to all the Bidders through e-mail and / or online through e-tendering platform.

All email communications sent by Bidders to the IIML should be sent to the address mentioned in the RFP notification.

Pre-Bid queries submitted by the System Integrators shall only be considered. OEMs may submit their queries through the System Integrators only.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

6.5. Supplementary Information to the RFP/ Corrigendum/ Amendment to the RFP

1. At any time prior to the last date for receipt of bids, IIML may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the RFP document by issuing Corrigendum/Addendum.
2. The Corrigendum (if any)/ Amendment/ Supplementary & clarifications to the queries from all bidders will be published on the websites. Any such corrigendum shall be deemed to be incorporated into this RFP.
3. The Corrigendum/Addendum may also be notified in writing or by email or hosted on the designated web site, which can be accessed by any prospective bidders who have received the RFP document and will be binding on them.
4. In order to afford prospective bidders reasonable time to take the Corrigendum/Addendum into account in preparing their bids IIML may, at its discretion, extend the last date for the receipt of bids.
5. IIML does not take any responsibility for loss of communications through emails. The bidders are expected to watch locations mentioned under the table for clarifications, amendments, modifications to the RFP.

6.6. Proposal Preparation Cost

The bidder shall bear all costs associated with the preparation and submission of the bid, including cost of presentation for the purposes of clarification of the bid. IIML will not be responsible in case for those costs, regardless of the conduct or outcome of the bidding process.

6.7. Project Site Visit

The Bidder may wish to visit and examine project sites and revalidate all the information required for preparing a response to the bid. The cost of such visits to the Sites shall be at the Bidder's expense. The Bidder and any of its personnel or agents will be granted permission by the IIML for the purpose of such visits, but only upon the condition that the Bidder, its personnel, and agents, will indemnify the IIML from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of such inspection, undertaken by the bidder.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

6.8. Earnest Money Deposit (EMD) / Bid Security

All bids submitted in response to this RFP document shall be accompanied by scanned copy of the EMD document in the Pre-Qualification envelop on the e-tendering platform. The bid, however, shall be deemed to be invalid in the event of non-receipt of physical copy on or before Bid submission closing date & time. Earnest Money Deposit (EMD) of **Rs. 30,00,000/- (Rupees Thirty Lakhs only)** in the form of Bank Guarantee issued by a nationalized / scheduled bank in India, drawn in favor of "IIM Lucknow". Refer Annexure II for EMD Bid security format.

The EMD document shall reach to the IIML in physical form in a sealed envelope clearly marking "**EMD for RFP for Network Infrastructure Upgrade Project**" on or before Bid submission closing date & time through registered post/speed post/courier and it should be addressed to:

Name: Mr. Vinay Kumar Verma, Chief Administrative Officer (CAO)

Address: Indian Institute of Management Lucknow

Prabandh Nagar, IIML Road, Lucknow – 226 013

1. EMD / Bid Security shall be valid for a period of 180 days after the bid submission date.
2. EMD /Bid security in any other form will not be accepted other than Bank Guarantee.
3. The EMD / Bid Security amount is interest free and will be refundable to the unsuccessful bidders within 60 days from award of the contract to the successful bidder. The bid submitted without bid security, mentioned above, will be liable for rejection without providing any further opportunity to the bidder concerned.
4. The EMD/ Bid Security of successful bidder would be returned upon submission of Performance Guarantee.
5. The EMD / Bid Security shall be forfeited under the following conditions:
 - a) If the bid is withdrawn during the bid validity period or any extension agreed to by the Bidder thereof.
 - b) If the bid is varied or modified in a manner not acceptable to the IIML after opening of Bid during the validity period or any extension thereof.
 - c) If the Bidder tries to influence the evaluation process.
 - d) If the Bidder withdraws his Bid during evaluation.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- e) If the Bidder does not accept the correction of errors in his bid.
 - f) If the Bidder is successful and fails to sign the Contract within the time stipulated and in accordance with terms and conditions.
 - g) If the Bidder, having been notified of his selection, fails or refuses to submit the required Performance Bank Guarantee within the time stipulated by the Purchaser.
6. As per Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 issued by GoI, Tender sets free of cost and exemption from payment of earnest money to registered MSEs.
7. In exceptional circumstances, at its discretion, IIML may solicit the bidder's consent for an extension of the validity period. The request and the responses thereto shall be made in writing or by fax or email. The bidder shall extend the validity of the EMD/ and the validity of the Bids on request by IIML.

6.9. Acceptance part/ whole bid/ modification – rights thereof

IIML reserves the right to modify the technical specifications/ quantities/ requirements/ tenure mentioned in this RFP including addition/ deletion of any of the item or part thereof after pre-bid meeting and the right to accept or reject wholly or partly bid offer, or, without assigning any reason whatsoever. No correspondence in this regard shall be entertained. IIML also reserves the unconditional right to place order on wholly or partly bid quantity to successful bidder.

6.10. Authentication of Bids

A Proposal should be accompanied by a power-of-attorney in the name of the signatory of the Proposal. The selected bidder shall indicate the authorized signatories who can discuss and correspond with the IIML. The bidder shall provide proof of signature identification for the above purposes as required by IIML.

6.11. Interlineations in Bids

The bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the Bidder, in which case such corrections shall be initialed by the person or persons signing the bid.

6.12. Venue and Deadline for submission of proposals

Proposals, in its complete form in all respects as specified in the RFP, must be submitted on the e-tendering platform on or before Bid Submission Closing Date & Time as mentioned in Tender Schedule.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

The IIML may, in exceptional circumstances and at its discretion, extend the deadline for submission of proposals by issuing an addendum or by intimating all Bidders who have been provided the RFP, in writing or through e-mail, in which case all rights and obligations of the IIML and the Bidders previously subject to the original deadline will thereafter be subject to the deadline as extended.

6.13. Late bids

As per CPPP process, bidders shall not be allowed to submit bids after Bid submission closing date and time as specified in the RFP notification table (including the extended period if any).

6.14. Conditions under which this RFP is issued

1. This RFP is not an offer and is issued with no commitment. IIML reserves the right to withdraw the RFP and change or vary any part thereof at any stage. IIML also reserves the right to disqualify any bidder, should it be so necessary at any stage for any reason whatsoever.
2. Timing and sequence of events resulting from this RFP shall ultimately be determined by IIML.
3. No oral conversations or agreements with any official, agent, or employee of IIML shall affect or modify any terms of this RFP and any alleged oral agreement or arrangement made by a bidder with any IIML, agency, official or employee of IIML shall be superseded by the definitive agreement that results from this RFP process. Oral communications by IIML to bidders shall not be considered binding on IIML, nor shall any written materials have provided by any person other than IIML.
4. Neither the bidder nor any of the bidder's representatives shall have any claims whatsoever against IIML or any of their respective officials, agents, or employees arising out of, or relating to this RFP or these procedures (other than those arising under a definitive service agreement with the bidder) in accordance with the terms thereof.
5. All bidders, until the contract is awarded and the successful bidder, up to one year during the currency of the contract shall not, directly or indirectly, solicit any employee of IIML to leave IIML or any other officials involved in this RFP process in order to accept employment with the organization, or any person acting in concert with the bidder, without prior written approval of IIML.

6.15. Rights to the content of the Proposal

All the bids and accompanying documentation submitted as bids against this RFP will become the property of IIML and will not be returned after opening of the technical proposals. The commercial



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

proposals of technically disqualified bidders would be returned unopened to the bidders. IIML is not restricted in its rights to use or disclose any or all the information contained in the proposal and can do so without compensation to the bidders. IIML shall not be bound by any language in the proposal indicating the confidentiality of the proposal or any other restriction on its use or disclosure. IIML has the right to use the services of external experts to evaluate the proposal by the bidders and share the content of the proposal either partially or completely with the experts for evaluation with adequate protection of the confidentiality information of the bidder.

6.16. Modification and Withdrawal of Proposals

No proposal shall be modified or withdrawn in the intervening period between the deadline for submission of proposals and the expiration of the validity period specified by the Bidder on the proposal form. Entire bid security may be forfeited if any of the bidders modify or withdraw their bids during the validity period.

6.17. Non-Conforming Proposals

A proposal may be construed as a non-conforming proposal and ineligible for consideration:

1. If it does not comply with the requirements of this RFP.
2. Failure to comply with the technical requirements.
3. Failure to meet the minimum Bill of Material mentioned in different sections of RFP Vol I.
4. Failure to acknowledgment the receipt of amendments, are common causes for holding proposals non-conforming.
5. If a proposal appears to be “canned” presentations of promotional materials that do not follow the format requested in this RFP or do not appear to address the particular requirements of the proposed Project, and any such Bidders may also be disqualified.

6.18. Disqualification

The proposal is liable to be disqualified in the following cases:

1. The bid submitted without bid security.
2. Proposal not submitted in accordance with the procedure and formats prescribed in this document or treated as non-conforming proposal.



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

3. During validity of the proposal, or its extended period, if any, the Bidder increases his quoted prices.
4. The bidder qualifies the proposal with his own conditions or assumptions.
5. Proposal is received in incomplete form.
6. Proposal is received after due date and time.
7. Proposal is not accompanied by all the requisite documents.
8. If bidder provides quotation only for a part of the project.
9. Information submitted in technical proposal is found to be misrepresented, incorrect or false, accidentally, unwittingly or otherwise, at any time during the processing of the contract (no matter at what stage) or during the tenure of the contract including the extension period if any.
10. Commercial proposal enclosed with the technical proposal
11. The Technical proposal containing the Commercial information, in either explicit or implicit form.
12. The price information, the pricing policy or pricing mechanisms or any document indicative of the commercial aspects of the proposal are either fully or partially enclosed.
13. Bidder tries to influence the proposal evaluation process by unlawful/corrupt/fraudulent means at any point of time during the bid process
14. In case any one bidder submits multiple proposals or if common interests are found in two or more bidders, the bidders are likely to be disqualified, unless additional proposals/ bidders are withdrawn upon notice immediately.
15. Shortlisted bidder fails to deposit the Performance Bank Guarantee (PBG) or fails to enter into a contract within 15 working days of the date of notice of award of contract or within such extended period, as may be specified by the IIML.
16. Bidders may specifically note that while evaluating the proposals, if it comes to the IIML's knowledge expressly or implied, that some Bidders may have colluded in any manner whatsoever or otherwise joined to form an alliance resulting in delaying the processing of proposal then the bidders so involved are liable to be disqualified for this contract as well as for a further period of three years from participation in any of the RFPs floated by the IIML.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

17. Bidders has been declared ineligible by the Government of India/State/UT Government for corrupt and fraudulent practices.

18. Bidder fails to meet the bidding requirements as indicated in this RFP.

6.19. Acknowledgement of Understanding of Terms

By submitting a proposal, each Bidder shall be deemed to acknowledge that it has carefully read all sections of this RFP, including all forms, schedules, and annexure hereto, and has fully informed itself as to all existing conditions and limitations.

6.20. Confidentiality

Information relating to the examination, clarification, comparison and evaluation of the bids submitted shall not be disclosed to any of the responding firms or their representatives or to any other persons not officially concerned with such process until the selection process is over. The undue use by any responding firm of confidential information related to the process may result in rejection of its bid.

6.21. Publicity

The selected bidders shall not perform any kind of promotion, publicity, or advertising etc. at the IIML and their field offices through any kinds of hoardings, banners, or the like without the prior written consent of the IIML.

6.22. Corrupt or Fraudulent Practices

In the event of the bidder engaging in any corrupt or fraudulent practices during the bidding process, the Purchaser reserves the right to reject such bids at its sole discretion.

For this clause:

“Corrupt Practice” means the offering, giving, receiving, or soliciting of anything of value to influence the action of an official of the Purchaser in the selection process. It also includes bringing undue influence through any quarter or interfering directly or indirectly in the selection process to affect its outcome.

“Fraudulent Practice” means a misrepresentation of facts to influence the evaluation and selection process to the detriment of the Purchaser.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

6.23. Conflict of Interest

Bidder shall furnish an affirmative statement as to the existence of, absence of, or potential for conflict of interest on the part of the bidder due to prior, current, or proposed contracts, engagements, or affiliations with the IIML. Additionally, such disclosure shall address any and all potential elements (time frame for service delivery, resource, financial or other) that would adversely impact the ability of the bidder to complete the requirements as given in the RFP. Participation by bidders with a conflict-of-interest situation will result in the disqualification.

6.24. Subcontracting

The SI is not permitted to subcontract any activities related to Project except the following

1. Civil and Electrical Works mentioned in scope of work in this RFP.
2. Laying out of Passive Networking Components

In the event the SI requires the services of sub-contractors, in the areas other than specified as above, the SI shall obtain the prior written approval and clearance of the IIML for all sub-contractors. The approval of the IIML of a sub-contractor shall not relieve the SI of any of its obligations under the Contract. The terms of any sub-contract shall be subject to and conform to the provisions of the Contract.

6.25. Repeat Orders

IIML reserves the right to increase the quantity up to 50% for the various Project Components of this Project elicited in this RFP without any change in the unit price or other terms and conditions within the agreed delivery schedule till 2 years from the date of contract signing.

6.26. Government Regulations

In order to discharge the obligations in respect of supply of products and services, it is essential that the SI / OEMs confirm that there are no Government restrictions or limitations in the country of the supplier or countries from which subcomponents are being procured and / or for the export of any part of the system being supplied.

6.27. Duties and Taxes

1. If taxes or any other applicable charges are not indicated explicitly, it will be assumed to be bundled within the prices quoted and unbundling of these charges will not be entertained either during evaluation or while signing the agreement.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

2. Bidders are advised to exercise adequate care in quoting the taxes. No excuse for corrections in the quoted figures will be entertained after the proposals are submitted to IIML. All the taxes in the commercial bid should be as per latest GST rules.
3. In case of any revision in the applicable taxes/duties by the Government of India, the revised tax rates shall be considered from the effective date.

7. Bid Submissions Instructions

7.1. e-Tendering method

E-tendering method will be followed:

1. To submit e-tender, bidders must get themselves registered online on the e-procurement portal, Central Public Procurement (CPP) Portal (<https://eprocure.gov.in/eprocure/app>) with valid Digital Signature Certificate (DSC) issued from any agency authorized by Controller of Certifying Authority (CCA), Govt. of India. The online Registration of bidders on the portal will be free of cost and one-time activity only. The registration should be in the name of bidder, whereas DSC holder will be the duly authorized person of the bidder.
2. Bidders already having login ids registered with CPP Portal will be able to participate in the bidding process through the CPP Portal, by logging through the specific login ids.
3. Bidders requested to furnish the required information on their technical and commercial proposals in the formats listed in the RFP. Any deviations in formats, the tender will be liable for rejection.
4. The bidders are required to submit the specific documents under the different headings/sections as indicated in the Technical Proposal submission section of CPP Portal.
5. In case IIML finds that there is some error/omission in the uploaded document, the same will be specified on-line under shortfall documents after opening of Technical Bid. The bidders will get this information in their personalized dashboard under "Upload shortfall document" link. It will be the bidders' responsibility to check the updated status/information on their personalized dashboard after opening of Technical Bid. Non-receipt of e-mail or fax, in this regard, will not be an excuse for non-submission of required document within prescribed time. In the event of Non-compliance of post bid communications within the prescribed time, then the evaluation of the offer shall be made on available document.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

6. PRICE BID: Bidders will quote their prices strictly as per the format given in the tender and the same will be uploaded duly filled in all respect and signed by DSC holder.
7. The Price Bids which are incomplete and not submitted in accordance with instruction shall be rejected.
8. Guidance for participation in e-procurement is given below. However, the given guidelines are only indicative and for on hand reference to the bidders. For more details, training, and demo in connection with registration, obtaining Digital Signature Certificates (DSC) and on-line submission of tender and its modification etc., please visit the website <https://eprocure.gov.in/eprocure/app>.
9. Before participating in e-procurement tender's bidders may please acquaint themselves with the procedure of e-procurement. It will be bidders' responsibility to visit the website for any corrigendum/ amendment/ modification in the tender document uploaded by IIML. IIML will not be responsible any failures or lapses or any misappropriation took place during e-procurement process by the bidders.
10. IIML will not accept delivery of proposal in any manner other than that specified as above. Proposals/bids delivered/submitted in any other manner shall be treated as defective, invalid, and rejected. IIML will not accept delivery of proposal by fax or e-mail. Such proposals shall be rejected.
11. The digital Signature Certificate (DSC) used for signing the bids on the CPP Portal should belong to the authorised signatory or the person holding a GPA to sign the bids.
12. The bidder is required to submit a notarised true copy of the corporate sanctions/approvals indicating that the DSC holder is the authorised signatory or the authorized representative to sign/act/execute documents forming part of this proposal including various RFP documents and binding contract, at the address and time as specified in this RFP.
13. Signature: All the submissions constituting the Proposals of the bidders must be digitally signed. Similarly, all the alterations, additions, or any other amendments made to the Proposal shall be signed digitally. The Proposals must be digitally signed by the authorised representative (the "Authorised Representative") as detailed below:
 - a. by a partner, in case of a partnership firm and/or a limited liability partnership; or
 - b. by a duly authorized person holding the Power of Attorney, in case of a Limited Company or a corporation.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- c. In case the authorized person holds a General Power of Attorney (GPA) to sign the bid documents, a notarized copy of the GPA should be attached with the proposal.
14. All bidders must fill Electronic Forms (if applicable) for each bid-part sincerely and carefully and avoid any discrepancy between information given in the Electronic Forms and the corresponding Main Bid/documents uploaded. If variation is noted between the information contained in the Electronic Forms and Main Bid/documents uploaded, the content of Main Bid/documents shall prevail.
15. Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details. Bidders are advised to take printout of the bid summary and the bid receipt and keep it safe for record purpose
16. The server time (which is displayed on the bidder's dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
17. Note that Prices should not be indicated in the Pre-Qualification Proposal or Technical Proposal but should only be indicated in the Commercial Proposal.
18. Commercial Bid sheets must be uploaded in PDF and Excel Format. In case of any discrepancy in the values provided in PDF and Excel file, the values of PDF file shall prevail.

For more details contact NIC e-procurement helpdesk Central Public Procurement Portal tocppp-doe@nic.in, cppp-nic@nic.in or 24 x 7 Toll Free No.1800 3070 2232

7.2. Pre-Qualification Bid

The Pre-qualification bid shall provide all evidence and references required for the bidders to prove themselves that they qualify to bid as per the pre-qualification criteria mentioned.

The bidders are expected to complete all the details as sought in that section and submit the following documents as a part of the pre-qualification bid response:

1. Covering letter for Pre-qualification bid (Section 18.1 Format 1)
2. Compliance sheet for Prequalification Criteria (Section 9.1)
3. All the requisite documents mentioned in the Compliance Sheet to prove that the bidder meets the Pre- Qualification eligibility criteria.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

4. All the necessary documents as described in Pre-qualification bid formats. Refer Section 18.1 of RFP Vol II.
5. A Board resolution authorising the bidder to sign/ execute the proposal as a binding document and to execute all relevant agreements forming part of the RFP shall be included in this envelope.
6. The Bidder shall submit an affidavit verifying that bidder is not blacklisted by any of the government agencies.

7.3. Technical Bid

The Technical Bid document shall detail all possible information as required by IIML for technical evaluation as prescribed in Section 10.1 of this volume. Hence it is mandatory that the bidders read this section in conjunction with the technical evaluation section to provide information as necessary and adequate to evaluate the proposals.

In addition, the bidders are expected to provide the following information:

- Compliance to the specifications provided at Section 16.3 – Annexure 3 of RFP Volume I.
- All the Formats and necessary supporting documents as described in Technical Bid Formats Section 18.2 of this RFP volume.

7.4. Commercial Bid

1. The Commercial proposal should be submitted as per the formats (Format 17 & 18) provided in Section 18.3.
2. The bidder is expected to price all the items and services required for successful implementation of the project and subsequent operations & maintenance in line with SLA.
3. The Commercial Proposal submitted by the Bidder should be inclusive of all the items in the technical proposal and should incorporate all the clarifications provided by the bidder on the technical proposal during the evaluation of the technical offer.
4. Unless expressly indicated in this RFP, bidder shall not include any technical information in the commercial proposal.
5. A commercial bid with any assumptions or conditions will be disqualified.
6. Prices and Price Information



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- a. The Bidder shall quote a price for all the components, the services of the solution to meet the requirements of IIML as listed in the Volume 1 of RFP. All the prices will be in Indian Rupees.
- b. No adjustment of the price quoted in the Commercial Proposal shall be made on account of any variations in costs of labour and materials, currency exchange fluctuations with international currency or any other cost component affecting the total cost in fulfilling the obligations under the contract.
- c. The price would be inclusive of all taxes, duties, charges, and levies as applicable. All the taxes in the commercial bid should be as per latest GST rules. IIML reserves the right to ask the bidder to submit proof of payment against any of the taxes, duties, levies indicated within specified time frames.
- d. The prices, once offered, must remain fixed and must not be subject to escalation for any reason whatsoever within the period of the validity of the proposal and the contract.
- e. Bidder should provide all prices, quantities in the prescribed formats of commercial bid.
- f. Bidder should not leave any field blank. In case the field is not applicable, Bidder must indicate "0" (zero) in all such fields. If the rate for a line item is left blank it would be considered as zero and no payment would be made to the respective item.
- g. It is mandatory to provide the break-up of all components in the format specified for detailed Bill of Material. The commercial bid should include the unit price and proposed number of units for each component provided in the Bill of Material in the commercial bid. In case of a discrepancy between the Bill of Material mentioned in the technical proposal and the commercial bid, the technical Bill of Material remains valid. In no circumstances shall the commercial bid be allowed to be changed / modified.
- h. The bid amount shall be inclusive of packing, forwarding, transportation, comprehensive insurance, delivery charges and any other charges as applicable.
- i. All costs incurred due to delay of any sort, shall be borne by the bidder.
- j. IIML reserves the right to ask the Bidder to submit proof of payment against any of the taxes, duties, levies indicated within specified time frames.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

7.5. Period of Validity of Bid

1. Bid must remain valid till 180 days from the Bid Submission Closing date. A bid valid for a shorter period shall be rejected by IIML as non-responsive.
2. In exceptional circumstances, IIML may solicit the bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing (or by fax). The bid security validity shall also be suitably extended. A bidder may refuse the request without forfeiting his bid security. A bidder granting the request will not be required nor permitted to modify his bid.

7.6. Language of Proposals

The proposal and all correspondence and documents shall be written in English. All proposals and accompanying documentation will become the property of the IIML and will not be returned.

8. Bid Opening and Evaluation Process

1. The bids shall be opened by a Tender Opening Committee comprising of authorized representatives at IIML as per schedule mentioned in Section 5.
2. Total transparency will be observed while opening the proposals/bids.
3. IIML reserves the rights at all times to postpone or cancel a scheduled bid opening.
4. The bids will be opened, in three sessions, one for Pre- Qualification, second for Technical proposals of all the bidders qualified in prequalification and the third for Commercial of those bidders who are found to be technically qualified.
5. IIML may request the presence of bidders' representatives who may choose to attend the Bid opening sessions on the specified date, time, and address. If present, IIML may request the bidders' representatives to sign a register evidencing their attendance. However, if there is no representative of the bidder, IIML shall go ahead and open the bid of the bidders.
6. In the event of the specified date of bid opening being declared a holiday for IIML, the Bids shall be opened at the same time and location on the next working day.
7. During bid opening, preliminary scrutiny of the bid documents will be made to determine whether they are complete, whether required bid security has been furnished, whether the documents have been properly signed, and whether the bids are in order. Bids not conforming to such preliminary requirements will be prima facie rejected.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

8. The Expert Evaluation Committee of IIML (comprising of CAC and NISG team members) will review the technical bids of the bidders (after prequalification stage) to determine whether the technical bids are substantially responsive. Bids that are not substantially responsive are liable to be disqualified. IIML may seek inputs from their professionals and/ or external experts in the technical and commercial evaluation process.
9. IIML shall assign technical score to the bidders based on the technical evaluation criteria. The bidders with a technical score above the threshold as specified in the technical evaluation criteria shall technically qualify for the commercial evaluation stage.
10. The commercial bids for the technically qualified bidders will then be opened by the Financial Evaluation Committee (comprising of staff from Purchase Department and Administration Department of IIML, and NISG team) and reviewed to determine whether the commercial bids are substantially responsive as per the requirements specified in the RFP.

8.1. Preliminary Examination

IIML will examine the bids to determine whether they are complete, whether required bid security has been furnished, whether the documents have been properly signed, and whether the bids are generally in order.

Bids from agents without proper authorization from the manufacturer shall be treated as non-responsive.

A bid determined as not substantially responsive will be rejected by IIML and may not subsequently be made responsive by the bidder by correction of the non-conformity.

IIML may, if necessary, waive any minor informality or non-conformity or irregularity in a bid, which does not constitute a material deviation, provided such a waiver does not prejudice or affect the relative ranking of any bidder or the Technical Score of the bidder.

8.2. Clarifications

If deemed necessary, IIML may seek clarifications on any aspect from the bidder. However, that would not entitle the bidder to change or cause any change in the substance of the tender submitted or price quoted. IIML may, if so desire, ask the bidder to give a presentation for the purpose of clarification of the tender. All expenses for this purpose, as also for the preparation of documents and other meetings, will be borne by the bidders.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

8.3. Address for Correspondence

The bidder shall designate the official mailing address, place, telephone number, fax number and e-mail address to which all correspondence shall be made by IIML.

IIML will not be responsible for non-receipt of any communication sent by the bidder.

8.4. Overall Evaluation Process

A tiered evaluation procedure will be adopted for evaluation of proposals.

1. Prequalification evaluation is completed first.
2. Technical evaluation of all the bidders who are qualified in the Pre-Qualification evaluation.
3. Evaluation of commercial proposals of the technically qualified bidders.
4. The evaluation on commercial quote shall be only on the total commercial cost inclusive of GST / applicable taxes.

Technical qualified bidder with lowest total commercial quote (Including taxes) will qualify for award of the project by IIML.



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

9. Pre-Qualification Proposal

9.1. Pre-Qualification Eligibility Criteria & Compliance Sheet

S. No.	Eligibility Criteria	Documents to be provided	Complied (Yes/No) Mention Page Reference
1.	The Bidder should have been in operation for a period of at least 5 years as of 31-03-2020, as evidenced by the Certificate of Incorporation and Certificate of Commencement of Business issued by the Registrar of Companies. The company should have an office in India which is operational.	Certificate of incorporation	
2.	The Bidder should have an annual turnover of not less than INR 30 Crores per annum during the last three financial years. This turnover should be on account of IT-infrastructure Projects, Hardware Commissioning and LAN Set Up.	Copy of the audited profit and loss account of the company showing turnover of the company for last three years. Certificate from the Chartered Accountant of the organization and Audited Balance Sheet for the last three year. Income Tax Returns	
3.	The Bidder should have minimum annual turnover in IT Infrastructure, LAN Set Up	Auditor's / Company Secretary Certificate	



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Eligibility Criteria	Documents to be provided	Complied (Yes/No) Mention Page Reference
	and associated monitoring & Security Software related business of Rs.15 Crores for each of the last 3 financial years.		
4.	The Bidder should have positive net worth in last three financial years i.e., (F.Y. 2017-18,2018-2019, 2019-20. respectively)	Auditor's / Company Secretary Certificate mentioning Net-Worth	
5.	The Bidder should have: <ul style="list-style-type: none"> Valid PAN Number Valid GST Number 	Copy of PAN Card Copy of GST Registration Certificate	
6.	The Bidder should not be blacklisted or debarred from participation in any State/Central government/PSU procurement activities in India.	An undertaking to this effect, signed by authorized signatory	
7.	The Bidder should be an established IT System Integrator in India and should have been in the business of System Integration/ Hardware Implementation/ Network Services and associated software /IT Infrastructure, Operation & Maintenance for a period of Five years as on 31.03.2020.	Work Orders confirming year and area of activity. Memorandum and Articles of Associations.	
8.	The Bidder should be an IT-solutions-provider incorporated in India and should have implemented or in the process of	Copy of work order and Completion certificates.	



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Eligibility Criteria	Documents to be provided	Complied (Yes/No) Mention Page Reference
	<p>implementation of similar project in the last five financial years as below:</p> <ul style="list-style-type: none"> • One System Integration project of minimum – INR 24 Crore <p>or</p> <ul style="list-style-type: none"> • Two System Integration projects of minimum – INR 18 Crores each <p>or</p> <ul style="list-style-type: none"> • Three System Integration projects of minimum – INR 12 Crores each <p>Similar Project means setting up Campus area networking, IT infrastructure and related security (NGFW/ equivalent, SSO) & monitoring system software (NMS, WLC, NAC) and its O&M phase.</p>	<p>Proof of Payments received form Clients.</p>	

9.2. Opening of Pre-Qualification Proposal

The envelope containing the Prequalification Proposal, bid security/ EMD will be opened, by a Tender Opening Committee comprising of Officers (the “Committee”) appointed by IIML for bid evaluation, in the presence of Bidders’ representatives (only one) who choose to attend the session on the specified date, time and address.

The bids not accompanied with the requisite Bid Security or whose Bid Security is not in order shall be rejected.

The bids will be passed on to the Committee for evaluation. The Committee may comprise, or receive assistance from, several teams conducting parallel evaluations.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

9.3. Evaluation Process of Pre-Qualification Proposal

The Evaluation process shall involve the following activities:

1. Bidders are required to submit this bid as per the formats specified furnishing all the required information and supporting documents.
2. Clarifications: to facilitate evaluation of responses IIML may at its sole discretion seek clarification from any bidder/(s) regarding its response. Such clarifications shall be provided within the time specified by IIML for this purpose. Any request for clarification and all clarifications shall be in writing.
3. If the respondent does not provide clarifications sought, within the prescribed time IIML may proceed to evaluate the response by construing the particulars requiring clarifications to the best of its understanding and the respondent shall be barred from subsequently questioning such interpretation of IIML.
4. Short listing and Notification: After the evaluation of responses IIML would announce a list of shortlisted prequalified bidders who will be eligible for participation in the technical evaluation. At the same time IIML would notify other bidders that they have not been shortlisted. IIML will not entertain any query or clarification from bidders who fail to qualify.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

10. Technical Proposal Evaluation

10.1. Technical Evaluation Criteria

The following table provides the scoring matrix including the cut-off marks based on which the technical bids shall be evaluated for the Project:

- For each section of the Technical Evaluation Matrix the bidder must score a minimum cut off marks of 60 % apart from scoring a minimum of 80 marks in aggregate.
- In case, the bidder fails to score less minimum cut off marks in any of the sections, the technical proposal of that bidder would be rejected and therefore the bidder's commercial quote shall not be opened.

Section	Criteria	Marks	Compliance Yes/No	Supporting Docs / Basis
S.1	Experience and Credentials	20		
a.	Experience in implementing as System Integrator for e- Governance Projects in State / Central / PSU / Autonomous bodies in the last five financial years (Value of one project - Rs 15 Cr or more). i. One Project – 2 Marks ii. Two Projects - 5 Marks iii. Three Projects or more – 10 Marks	10		'Work Order, PO or Client Certificate
b.	Experience in Setting Up Campus Network* in the last five financial years (Value of one project - Rs 10 Cr or more) i. One Project - 2 Marks ii. Two Projects - 5 Marks iii. Three Projects or more – 10 Marks * Note 1: Setting up of Campus area networking and related security (NGFW/ equivalent, SSO) & monitoring system software (NMS, WLC, NAC) and its O&M phase.	10		'Work Order, PO or Client Certificate specifying order values



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Section	Criteria	Marks	Compliance Yes/No	Supporting Docs / Basis
	* Note 2: Campus includes setting up of Office, Residential and / or Educational campuses.			
S.2	Understanding of Project requirements	20		
a.	Integrated Project Management Plan covering the entire scope of work	8		Bid Response
b.	Project Plan covering areas including but not limited to: <ul style="list-style-type: none"> i. WBS ii. Activities, Timelines, Milestones and Deliverables iii. Site survey iv. Governance and RACI (Responsibility assignment Matrix) 	8		Bid Response
c.	Risk Management Plan specially to manage project timelines and deliverables and business continuity plan.	4		Bid Response
S.3	Bill of Materials proposed for the Project Components	10		Bid Response Format 9
a.	Proposed Bill of Material for Active Components	4		
b.	Proposed Bill of Material for Ticketing Solution	1		
c.	Proposed Bill of Material for Security components	2		
d.	Proposed Bill of Material for Passive Components	1		
e.	Proposed Bill of Material for UPS, Electrical Items, and other Non-IT components	1		



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Section	Criteria	Marks	Compliance Yes/No	Supporting Docs / Basis
f.	Proposed Training methodology	1		
S.4	Proposed Resources	20		Format 12
a.	Project Manager (1)	10		
b.	Network Engineers (9)	10		
S.5	Technical Presentation	15		
a.	The Technical Presentation should cover all the Project Components and the Bidders approach to successfully implement the same for Project duration	15		
S.6	O & M Roadmap for Project Components	15		
a.	Proposed O & M Roadmap for a period of 7 years	15		

10.2. Technical Presentation

- As part of the technical evaluation process, the bidders have to make a presentation to the Expert Evaluation Committee on their technical proposal and the solutions proposed by them.
- The committee may invite each bidder to make a presentation to the IIML at a date, time and venue determined by IIML to make a presentation of their Technical Proposal. The purpose of such presentations would be to allow the bidders to present their methodology, unique capabilities if any, the project structure, the quality of the project team etc.
- The presentation of the Technical Proposal should be made by the proposed project manager of the bidder for this Project of IIML, with some of the key team members to support the project



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

manager as part of the presentation team, instead of the sales representative or the senior executive of the organization.

4. The presentation of the technical proposal must include the demonstration of the proposed IIML solution to highlight the technical requirements of IIML and to validate the specific technical specifications.
5. The bidders are expected to bear the cost of travel or any other associated cost incurred for the purpose of making these presentations.

10.3. Evaluation Process of Technical Proposals

The evaluation of the Technical bids will be carried out in the following manner:

1. The bidders' technical proposal shall be evaluated as per the requirements specified in the RFP and adopting the evaluation criteria spelt out in section on Technical Evaluation Criteria of this RFP Volume II. The Bidders are required to submit all required documentation in support of the evaluation criteria specified as required for technical evaluation.
2. IIML may seek additional information and clarifications from any or all the bidders on the Technical Proposal. Any of the additional information or clarifications submitted by the bidder on the technical proposal should not have any commercial implications.
3. Proposal Presentations: The Expert Evaluation committee will invite each bidder to make a presentation to IIML at a date, time and venue decided by IIML and to be communicated to the bidders. The purpose of such presentations would be to allow the bidders to present their proposed solutions to the committee and orchestrate the key points in their proposals.
4. The committee may seek oral clarifications from the bidders. The primary function of clarifications in the evaluation process is to clarify ambiguities and uncertainties arising out of the evaluation of the bid documents. Oral clarifications provide the opportunity for the committee to state its requirements clearly and for the bidder to more clearly state its proposal. The committee may seek inputs from their professional and technical experts in the evaluation process.
5. The Technical Bids of only the pre-qualified bidders will be evaluated.

Following will be the technical evaluation methodology:

1. Each Technical Bid will be assigned a technical score out of a maximum of 100 points.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

2. Only the bidders, who score above the minimum cut-off score in each of the sections AND score a total Technical score of 80 (Eighty) or more, will qualify for the evaluation of their commercial bids.
3. The Expert Evaluation committee shall inform to all the bidders the results of the technical evaluation through a written communication. The technical scores of the bidders will be announced prior to the opening of the commercial bids.

11. Commercial Bid Evaluation

The Commercial Bids of only the technically qualified bidders will be opened for evaluation by the Financial Evaluation Committee.

Least Cost Selection (LCS): Technically qualified bidder with lowest Total Commercial Quote (Commercial Bid Format 18) will qualify for award of the project by IIML.

12. Correction of Errors

1. Proposals will be checked by the Financial Evaluation committee for any arithmetic errors during the evaluation of the commercial Proposal. Errors will be corrected as follows:
 - a. Where there is a discrepancy between the unit rate and the line-item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern, or between sub totals and total price, the unit or sub total price shall prevail, and the total price shall be corrected.
 - b. Where there is a discrepancy between the amounts in figures and in words, the amount in figures will govern; and
 - c. Where there is discrepancy between the Commercial Bid Summary sheet on the e-procurement platform and the Total Commercial Quote submitted in Format 18, the values of the e-platform shall govern.
 - d. Any error in applying GST Tax rate by the bidder in the Commercial bid shall be taken into account and the bidder shall not be permitted to change the GST Tax rate.
2. The amount stated in the Commercial proposal will be adjusted in accordance with the above procedure for the correction of errors and shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount of Commercial Proposal, its Proposal will be



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

rejected, and Bid Security will be forfeited. The Bidder will be liable for other appropriate action as decided by committee.

3. If the price for any of the line items in the BOQ is not explicitly mentioned or mentioned as zero, it is assumed that the price for that particular element is absorbed in some other service element for which a price has been quoted, or the cost of the element is genuinely zero. In either case IIML has the right to procure additional components of the particular item quoted as zero, at no additional price and at the quoted price i.e. at zero.
4. If prices of some of the line items are bundled together in the price bid, and IIML feels that it needs the prices of the individual line items and asks the bidder to unbundle them, the bidders are required to provide the breakup of the prices. In such cases the summation of the unbundled prices must be same as the price of the particular set of elements as provided in the commercial bid.
5. The amount stated in the Commercial proposal will be adjusted in accordance with the above procedure for the correction of errors and shall be considered as binding upon the Bidder.
6. If the Bidder does not accept the corrected amount of Commercial Proposal, its Proposal will be rejected (and Bid Security forfeited) and the Bidder will be liable for other appropriate action as decided by committee.

13. Right to Terminate the Process

IIML makes no commitments, explicit or implicit, that this process will result in a business transaction with anyone.

This RFP does not constitute an offer by IIML. The bidder's participation in this process may result in IIML selecting the bidder to engage in further discussions and negotiations towards execution of a contract. The commencement of such negotiations does not, however, signify a commitment by IIML to execute a contract or to continue negotiations. IIML reserves the right to terminate the process at any stage of this RFP.

14. Right to ask for Revised Commercial Bid

After the Technical Evaluation and before opening of the Commercial Bid, IIML reserves the right to make changes to the specifications and Bill of Material. In this case, IIML shall ask for revised



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

commercial Bids only for the revised scope from the Bidders that have been qualified in the technical evaluation.

15. Right to accept any bid/ reject any or all bids

IIML reserves the right to accept or reject any bid, and to annul the tender process and reject all bids at any time prior to award of contract, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders of the grounds for IIML's action.

16. Award of Contract

16.1. Notification of Award

Prior to the expiry of the period of bid validity, IIML will notify the successful bidder in writing by registered letter or fax or by email, that his bid has been accepted. The receipt of acceptance should be sent by the bidder in writing through registered post/in-person.

The notification of award will constitute the formation of the contract. Upon furnishing of the performance bank guarantee by the successful bidder, IIML will promptly notify each unsuccessful bidder and will discharge the bid security.

16.2. Contract Finalization and Award

The IIML shall reserve the right to negotiate with the bidder(s) whose proposal has been ranked best value (L1) bid on the basis of Technical and Commercial Evaluation to the proposed Project. If it is unable to finalize the contract with the bidder ranked first due to any reason, IIML may proceed to and negotiate with the next ranked bidder, and so on as per General Financial Rules (GFR) until a contract is awarded. IIML reserves the right to present a contract to the bidder selected for negotiations. A contract will be awarded to the responsible, responsive bidder whose proposal conforms to the RFP and is, in the opinion of the IIML, the most advantageous and represents the best value to the proposed project, price and other factors considered. Evaluations will be based on the proposals, and any additional information requested by IIML. Proposed project will involve the payment for the contract based on not only successful delivery of the solution but also on the success of the project after "Go-live".



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

16.3. Signing of Contract

At the same time as IIML notifies the successful bidder that its proposal has been accepted, IIML shall enter into a separate contract, incorporating all agreements (to be discussed and agreed upon separately) between IIML and the successful bidder. The Model agreement (Draft MSA) is provided in RFP Volume III.

The successful bidder will also sign a Service Level Agreement (SLA) with IIML covering all the required services.

IIML shall have the right to annul the award in case there is a delay of more than 30 days in signing of contract, for reasons attributable to the successful bidder.

16.4. Suggestions on the Draft Contract

1. A draft contract including the standard terms and all the other terms specific to the implementation of the solution is circulated as Volume III of this RFP. It is expected that the bidder will be able to execute this contract without any modifications in case they are selected for doing so.
2. However, the bidder is requested to indicate as per the format specified in the Annexure V on Suggestions on Changes to Contract clauses, the changes the bidder desires to have and the reason for the same. This is only a solicitation of suggestions for change.
3. However, it is neither guaranteed that these requests for changes will be accepted in the final contract nor this process should be construed as any commitment from IIML to consider those suggestions.
4. The bidder should not suggest any change that has financial or commercial implications during the execution of the contract and is against the basic spirit of procuring the services for the implementation of the project
5. The bidder should not base the commercial quote on the assumptions that the suggestions for changes to the draft contract will be accepted by IIML.

16.5. Failure to agree with the Terms & Conditions of the RFP

Failure of the successful bidder to agree with the Terms & Conditions of the RFP shall constitute sufficient grounds for the annulment of the award, in which event IIML may award the contract to the next best value bidder or call for new proposals or invoke the PBG.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

16.6. Performance Bank Guarantee

The successful bidder shall at his own expense deposit with IIML, within fifteen (15) working days of the date of notice of award of the contract, an unconditional and irrevocable Performance Bank Guarantee from a scheduled bank acceptable to, payable on demand, for the due performance and fulfilment of the contract by the bidder. Refer Annexure III for Performance Bank Guarantee format.

1. Performance Bank Guarantee will be 10% of Total Commercial Quote (Total Order Value) of the successful Bidder.
2. If the bidder delays Contract Performance Guarantee Bond beyond 15 working days, IIML will penalize the bidder by charging 1% of the quoted value per week of delay.
3. All charges and expenses whatsoever such as premium; commission etc. with respect to the Performance Bank Guarantee shall be borne by the bidder.
4. Performance Bank Guarantee shall be valid for 60 days beyond the contract period.
5. Performance Bank Guarantee may be discharged/ returned by IIML upon being satisfied that there has been due performance of the obligations of the bidder under the contract. However, no interest shall be payable on the Performance Bank Guarantee.
6. In the event of the bidder being unable to service the contract for whatever reason, IIML would invoke the Performance Bank Guarantee. Notwithstanding and without prejudice to any rights whatsoever of IIML under the contract in the matter, the proceeds of the Performance Bank Guarantee shall be payable to IIML as compensation for the pre-estimated, pre-determined and pre-agreed loss resulting from the bidder's failure to perform/comply its obligations under the contract.
7. IIML shall notify the bidder in writing of the exercise of its right to receive such compensation within a reasonable time. IIML shall also be entitled to make recoveries from the bidder's bills, performance security deposit, or from any other amount due to him, an equivalent value of any payment made to him due to inadvertence, error, collusion, misconstruction or misstatement.

16.7. Contract Period

The period of agreement shall start with the date of signing of contract and ends with the date of completion of Seven (7) years of support & maintenance after effective 'Go-Live' date (as described in Section 8.19 of RFP Volume I).



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

17. Payment Milestones

S. No.	Milestone	Description of Milestone	Payment %
1)	M1	<ul style="list-style-type: none"> Submission and approval of the deliverable no's D1, D2 & D3 as per RFP Volume I. 	<ul style="list-style-type: none"> 5% of Format 18: C1+C2+C3+C4+C5+C6
2)	M2	<ul style="list-style-type: none"> Completion of Procurement, Supply, Installation and Configuration of all the items as per Bill of material and Submission & approval of deliverables: D4, D5 and D6 as per RFP Volume I. 	<ul style="list-style-type: none"> 45% of Format 18: C1+C2+C3+C4+C5+C6
3)	M3	<ul style="list-style-type: none"> On the event of Project "Go-Live" as per RFP Volume I. Submission & approval of deliverables: D7 as per RFP Volume I. 	<ul style="list-style-type: none"> 10% of Format 18: C1+C2+C3+C4+C5+C6 and 100% of Format 18: C7
4)	Remaining 40% of Format 18: C1+C2+C3+C4+C5+C6 after Go-Live during O & M Phase in 28 Equated Quarterly Instalments		
5)	M4	On successful completion of onsite training as per Section 15 of RFP Volume I.	100% of Format 18: C8
6)	M5	Onsite Deployment of Support and Maintenance Team as per Section 13 of RFP Volume I.	<p>100% of Format 18: C9 during entire O&M phase, payable at the end of every quarter based on the actual resources deployed in that Quarter.</p> <p>Penalty due to SLAs shall be adjusted.</p>

Liquidated damages clauses as per the relevant conditions of the draft Agreement provided in Volume 3 of this RFP and conditions will be applicable to payments of this section.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

Note:

1. All the payments will be based on the completion of specific project milestones, the deliverables associated with the milestones and acceptance of the deliverables.
2. The milestone completion, especially those which are linked to payment will be based on the acceptance of the deliverables associated with that milestone, by the steering committee of IIML.
3. As per CVC guidelines since at no point during the project phase there can be an interest free advance lying with the contracted party, IIML will strictly enforce that the actual payment will be only for the work completed/delivered.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

18. Bid Formats

18.1. Pre-Qualification Bid Formats

Format 1 -Covering letter for Pre- Qualification Bid

(To be submitted on the Letterhead of the responding firm)

{Date}

To

The Chief Administrative Officer (CAO),

Indian Institute of Management Lucknow

Subject: Submission of Pre- Qualification Bid

Reference:

Sir/ Madam,

In response to the advertisement, dated << >> issued by << Officer Designation>, on behalf of the IIML, we offer our Prequalification bid to participate in the bidding process for selection of the 'Network Upgrade Project for Indian Institute of Management Lucknow (IIML) .

Having examined the RFP Documents, Service Level Agreement, etc. including addendum/ Amendments to the above, for the execution of the above Contract, we the undersigned offer to design, develop, implement, and operate and maintain the whole of the said Works for the Term of the Services Agreement in accordance with the Services Level Agreement and in conformity with the documents, Service Level Agreement, etc. comprising the all the volumes RFP.

In the capacity of the Applicant for the Project, we declare that we have requisite technical competence and operational & maintenance experience in managing large e-Governance projects and are interested in the Project, should the IIML select us for this purpose.

We are enclosing Power(s) of Attorney authorizing the person who is signing the bid.

We have enclosed a Bid Security in the form of Demand Draft / Banker Cheque drawn in favour of IIM Lucknow, for a value of Rs-30,00,000/- (Indian Rupees Thirty Lakhs Only) issued by a Nationalised



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

Bank/Commercial Bank. This Bid Security is liable to be forfeited in accordance with the provisions of section on EMD/Bid Security of this document.

If selected, we understand that it would be based on the organizational, technical, financial capabilities and experience of the consortium taken together as specified in the Request for Proposal document. We understand that the basis for our qualification will be our Prequalification Bid, and that any circumstance affecting our continued eligibility under the RFP, or any circumstance which would lead or have led to our disqualification under the RFP, shall result in our disqualification under this process.

We agree to abide by this bid for << enter bid validity period mentioned in the fact sheet >> from the last day of submission of bid and the same shall remain binding upon us and may be accepted at any time before the expiration of that period. If requested to extend the period of validity for a specified additional period, we understand that no change in the bid will be allowed for such extension and in case, we extend the validity of our bid, we will extend validity of Bid Security also.

We declare that we have disclosed all material information, facts, and circumstances to the IIML, which would be relevant to and have a bearing on the evaluation of our Prequalification Bid and selection.

We acknowledge and understand that if the discovery of anything contrary to our above declarations; IIML is empowered to forthwith disqualify us and our Prequalification Bid from further participation in the process.

Yours faithfully,

Authorized Signatory

Name & Title of Signatory

1. Strike out as applicable
2. Power of attorney to be enclosed



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Format 2- Presence Certificate

(On Applicant's Statutory Auditor's letterhead)

Date:

This is to certify that we M/s----- are the statutory Auditors of M/s----- and that M/s----- has been actively involved in the area System Integration/ Hardware implementation / Software development/ Network Services/ Security Components and associated Software / IT infrastructure, Operation & Maintenance in India.

Authorized Signatory

Name:

Designation:

Stamp of the Auditing Firm



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Format 3- Projects Completion details prescribing nature and size

(Please fill one separate form for each project according to pre-qualification criteria.)

Project Name:		
1.	Implementation Agency	
2.	Customer's Name	
3.	Scope of the Project	Provide scope of the project, highlight Key Result Areas expected and achieved
4.	Value of Project	
5.	Did the project involve System Integration/ Hardware implementation / Software development/ Network Services and associated Software / IT infrastructure, Operation & Maintenance	Yes/No
6.	Completion certificate	Yes/No
7.	Satisfactory Work In Progress (WIP) certificate in case the project is not complete	Yes/No
8.	Customer Contact Person's detail	
a.	Name	
b.	Designation	
c.	Email	
d.	Phone	
e.	Fax	
f.	Mailing address	

Attached Documents:

Completion certificate/ Satisfactory WIP certificate for the projects mentioned are to be attached for referenced projects (Provide attachment reference number)



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Format 4 – Bidder Profile

Bidder Profile	
1.	Name & Address of The Bidder
2.	Location of Corporate Head Quarters
3.	Details of Contact person (Name, designation, address etc.) Telephone Number Fax Number e-mail
4.	Is the firm a registered company? If yes, submit documentary proof. Year and Place of the establishment of the Company
5.	Number of Years of operation as system integrator. Please provide the date of first completed assignment along with necessary proof.
6.	Is the firm registered with GST? If Yes, submit valid GST registration certificate.
7.	List of Major Clients



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

18.2. Technical Bid Formats

The Bidders are required to submit a Technical Bid in response to this RFP. This section provides the outline, content, and the formats that the Bidders are required to follow in the preparation of their Technical Bids.

Format 5 - Technical Bid Letter

(To be submitted on the Letterhead of the responding firm)

{Date}

To

The Chief Administrative Officer (CAO),

Indian Institute of Management Lucknow

To,

Subject: Submission of Technical Bid

Reference: RFP No.....

Sir/ Madam

Subject: Project Name ""

Reference: RFP No: <RFP REFERENCE NUMBER> Dated <DD/MM/YYYY>

Having examined the RFP, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to provide the professional services as required and outlined in the RFP for the Network Infrastructure Upgrade Project for IIML. To meet such requirements and provide such services as required are set out in the RFP.

We attach hereto the technical response as required by the RFP, which constitutes our proposal.

We undertake, if our proposal is accepted, to adhere to the implementation plan (Project schedule for providing Professional Services in Network Infrastructure Upgrade Project put forward in RFP or such adjusted plan as may subsequently be mutually agreed between us and the IIML For its appointed representatives.



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

If our proposal is accepted, we will obtain a performance bank guarantee in the format given in the RFP document issued by a nationalized / scheduled authorised to do business with Government) bank in India, acceptable to the IIML, for the amount 10% of the Contract value for the due performance of the contract.

We agree for unconditional acceptance of all the terms and conditions set out in the RFP document and also agree to abide by this RFP response for a period of six months from the date fixed for bid opening and it shall remain binding upon us with full force and virtue, until within this period a formal contract is prepared and executed, this RFP response, together with your written acceptance thereof in your notification of award, shall constitute a binding contract between us and the IIML.

We confirm that the information contained in this proposal or any part thereof, including its exhibits, schedules, and other documents and instruments delivered or to be delivered to the IIML is true, accurate, and complete. This proposal includes all information necessary to ensure that the statements therein do not in whole or in part mislead the IIML as to any material fact.

We agree that you are not bound to accept any RFP response you may receive. We also agree that you reserve the right in absolute sense to reject all or any of the products/ services specified in the RFP response.

It is hereby confirmed that I/We are entitled to act on behalf of our company/ corporation/ firm/ organization and empowered to sign this document as well as such other documents, which may be required in this connection.

Dated this Day of 2021

(Signature) (In the capacity of)

(Name)

Duly authorized to sign the RFP Response for and on behalf of:

(Name and Address of Company) Seal/Stamp of bidder

Witness Signature:

Witness Name:



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Witness Address:

CERTIFICATE FOR AUTHORISED SIGNATORIES

I,....., the Company Secretary of, certify that
..... who signed the above Bid is authorized to do so and bind
the company by authority of its board/ governing body.

Date:

Signature:

(Company Seal)

(Name)



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Format 6 - Technical Evaluation cum Technical Bid Check List

Compliance sheet provided at Section 10.1 must be used for providing necessary details pertaining to Technical evaluation.

Format 7 - Manufacturers'/Producers'/OEM's Authorization Form (On OEM letterhead)

Date: dd/mm/yyyy

To

The Chief Administrative Officer (CAO),

Indian Institute of Management Lucknow

Reference: Supply of equipment / software for "Project ".

Dear Sir,

We _____, (name and address of the manufacturer) who are established and reputed manufacturers of _____ having factories at _____ (addresses of manufacturing / development locations) do hereby authorize M/s _____ (name and address of the bidder) to bid, negotiate and conclude the contract with you against the above mentioned RFP for the above equipment / software manufactured / developed by us.

We hereby undertake to support above mentioned equipment / software for the duration of project from the date of final acceptance of the system by IIML and Go-live.

Yours faithfully,

For and on behalf of M/s _____ (Name of the manufacturer)	
Signature	
Name	
Designation	
Address	
Date	
Seal	

Note: This letter of authority should be on the letterhead of the concerned manufacturer and should be signed by a person competent and having the power of attorney to bind the manufacturer.



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Format 8 - Statement of Deviation from Requirement Specifications

Date: dd/mm/yyyy

To

The Chief Administrative Officer (CAO),

Indian Institute of Management Lucknow

Dear Sir,

Reference: RFP Number Dated

There are no technical deviations (null deviations) from the requirement specifications of tendered items and schedule of requirements. The entire work shall be performed as per your specifications and documents. Following is the exhaustive list of technical deviations and variations from the requirement specifications of tendered items and schedule of requirements. Except for these deviations and variations, the entire work shall be performed as per your specifications and documents.

I / We understand and accept that Department reserves the right to reject the deviations and also reserves the right to disqualify the bidder for these deviations.

S No	Volume No of RFP	Section No	Page No.	Statement of deviations and variations
1.				
2.				
3.				
4.				

Authorized Signatory

Name: Designation:



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Format 9. – Detailed Bill of Quantity

for all project components with Year of Manufacture, release Year and OEM details.

Name of Product / Equipment	Quantity	OEM Details	Country	Release / Launch Year	Year of Manufacturing



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Format 10 – Exit Management Plan

Bidder should provide clear elicitation of Exit Management Plan to transition / handover the IT Project to the IIML or the replacement SI.



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Format 11 – Training Plan

Bidder should provide Training Plan as part of their technical proposal to provide to the officials of IIML in response to the requirements as elicited in Section 15 of RFP Vol I.



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Format 12 – Resource Summary

Proposed Position		Candidate
Candidate information	Name of candidate	Date of birth / Age
	Professional qualifications	
Present employment	Name of Employer	
	Address of Employer	
	Telephone	Contact (manager / personnel officer)
	Fax	Telex
	Job title of candidate	Years with present Employer

Summarize professional experience in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

From	To	Company/Project/ Position/Relevant technical and management experience for the proposed position



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Format 13 – Undertaking on Conflict of Interest

(To be submitted on the Letterhead of the Bidder/ SI)

To

The Chief Administrative Officer (CAO),

Indian Institute of Management Lucknow

Dear Sir,

Subject: Undertaking on Conflict of Interest

Reference: RFP No. <RFP REFERENCE NUMBER> Dated <DD/MM/YYYY>

I/We as System Integrator (SI) do hereby undertake that there is, absence of, actual or potential conflict of interest on the part of the SI or any prospective subcontractor due to prior, current, or proposed contracts, engagements, or affiliations with IIML.

I/We also confirm that there are no potential elements (time frame for service delivery, resource, financial or other) that would adversely impact the ability of the SI to complete the requirements as given in the RFP.

We undertake and agree to indemnify and hold IIML harmless against all claims, losses, damages, costs, expenses, proceeding fees of legal advisors (on a reimbursement basis) and fees of other professionals incurred (in the case of legal fees & fees of professionals, reasonably) by IIML and/or its representatives, if any such conflict arises later.

Yours faithfully,

Authorized Signatory

Designation



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Format 14 – IPR/Solution ownership declaration

(To be submitted on the Letterhead of Solution component / equipment's OEM)

(Place) (Date)

To

The Chief Administrative Officer (CAO),

Indian Institute of Management Lucknow

Sub: Undertaking on intellectual property rights for the solution component / equipment's (name of the solution / equipment's) proposed to be supplied to IIML.

I/We do hereby undertake that we are the rightful owners of the solution component / equipment's (name of the solution/ equipment's) being provided by us and is not infringing on any patent or other intellectual property rights as per the applicable laws of relevant jurisdictions having requisite competence.

I/We also confirm that there shall be no infringement of any patent or other intellectual property rights as per the applicable laws of relevant jurisdictions having requisite competence, in respect of the solution or equipment's (name of the solution / equipment's) or any part thereof to be supplied by us. We shall indemnify IIML against all cost/claims/legal claims/liabilities arising from third party claim in this regard at any time on account of the infringement or unauthorized use of patent or any other intellectual property rights of any such parties, whether such claims arise in respect of manufacture or use.

Without prejudice to the aforesaid indemnity, we shall be responsible for the completion of the supplies of the solution component / equipment's (name of the solution / equipment's) including upgrades as and when they are made available and uninterrupted use of the software solution and/or system or any part thereof to IIML and persons authorized by IIML, irrespective of the fact of claims of infringement of any or all the rights mentioned above.

If at a later date it is found that it does infringe on patent or any other intellectual property rights, I/We absolve and indemnify IIML of any legal action.

Yours faithfully,

Authorized Signatory



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Designation

Format 15 – Declaration on IPR/Patent rights –The bidder

(To be submitted on the Letterhead of the Bidder)

(Place) (Date)

To

The Chief Administrative Officer (CAO),

Indian Institute of Management Lucknow

Sir,

Sub: Undertaking on intellectual property rights for the project of IIML.

I/We do hereby undertake that none of the deliverables being provided by us is infringing on any intellectual and industrial property rights as per the applicable laws of relevant jurisdictions having requisite competence.

I/We also confirm that there shall be no infringement of any intellectual and industrial property rights as per the applicable laws of relevant jurisdictions having requisite competence, in respect services/tools or any part thereof to be supplied by us. We shall indemnify IIML against all cost/claims/legal claims/liabilities arising from third party claim in this regard at any time on account of the infringement or unauthorized use of any intellectual and industrial property rights of any such parties, whether such claims arise in respect of manufacture or use. Without prejudice to the aforesaid indemnity, we shall be responsible for the completion of the delivery of the project to IIML, irrespective of the fact of claims of infringement of any or all the rights mentioned above.

If at a later date it is found that it does infringe on any intellectual and industrial property rights, I/We absolve and indemnify IIML of any legal action.

Yours faithfully,

Authorized Signatory

Designation



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Format 16 – Certificate in compliance to Rule 144 (xi) of GFR 2017

(To be submitted on the Letterhead of the Bidder)

(Place) (Date)

To

The Chief Administrative Officer (CAO),

Indian Institute of Management Lucknow

Sir,

Sub: Certificate in compliance to Rule 144 (xi) of GFR 2017 for the project of IIML

I/We do hereby confirm that I/ We have read the order no. F6-18/2019/PPD regarding the insertion of Rule 144 (xi) in GFR, 2017 dated 23 July 2020 from Ministry of Finance, Govt. of India.

I/We also confirm that I/We have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I/We here by certify that this bidder (**Bidder Name**) is not from such a country and is eligible to be considered.”

Yours faithfully,

Authorized Signatory

Designation



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

18.3. Commercial Bid Formats

Format 17 – Commercial Bid Letter

(To be submitted on the Letterhead of the responding firm)

{Date}

To

The Chief Administrative Officer (CAO),
Indian Institute of Management Lucknow

Sir/ Madam,

Sub: Network Infrastructure Upgrade Project of IIML

Reference: RFP No. <RFP REFERENCE NUMBER> Dated <DD/MM/YYYY>

We, the undersigned Bidder, having read and examined in detail all the RFP documents in respect of Appointment of SI for “Project Name “its Operations and Maintenance thereof.

Do hereby propose to provide services as specified in the RFP documents number <RFP REFERENCE NUMBER> Dated <DD/MM/YYYY>

1. PRICE AND VALIDITY

- All the prices mentioned in our RFP are in accordance with the terms as specified in the RFP documents. All the prices and other terms and conditions of this RFP are valid for a period of << enter bid validity period mentioned in the fact sheet>> calendar days from the last date of submission of bids as given in this RFP.
- We hereby confirm that prices submitted by us include all taxes. However, all the taxes are quoted separately under relevant sections.
- We have studied the clause relating to Indian Income Tax and hereby declare that if any income tax, surcharge on Income Tax, Professional and any other corporate Tax in altercated under the law, we shall pay the same.

2. UNIT RATES



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

We have indicated in the relevant schedules enclosed, the unit rates for the purpose of on account of payment as well as for price adjustment in case of any increase to / decrease from the scope of work under the contract.

3. Bid Security

We have enclosed Bid Security in the form of a Demand Draft drawn in favour of the IIML, New Delhi for a value of Rs Rs-30,00,000/- (Indian Rupees Thirty Lakhs Only) or in the form of a BG for the same amount issued by a Nationalised/Commercialized Bank. This Bid Security is liable to be forfeited in accordance with the provisions of this RFP.

4. DEVIATIONS

We declare that all the services shall be performed strictly in accordance with the RFP documents except for the variations and deviations, all of which have been detailed out exhaustively in the following statement, irrespective of whatever has been stated to the contrary anywhere else in our bid.

Further we agree that additional conditions, if any, found in the RFP documents, other than those stated in deviation schedule, shall not be given effect to.

5. RFP PRICING

We further confirm that the prices stated in our bid are in accordance with your Instruction to Bidders included in RFP documents.

6. QUALIFYING DATA

We confirm having submitted the information as required by you in your Instruction to Bidders. In case you require any other further information/documentary proof in this regard before evaluation of our RFP, we agree to furnish the same in time to your satisfaction.

7. BID PRICE

We declare that our Bid Price is for the entire scope of the work as specified in the Schedule of Requirements and RFP documents. These prices are indicated in the formats given in section 18 of this Document and attached with our RFP as part of the RFP.

8. Performance Bank Guarantee



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

We hereby declare that in case the contract is awarded to us, we shall submit the contract performance guarantee bond in the form prescribed in this volume.

We hereby declare that our RFP is made in good faith, without collusion or fraud and the information contained in the RFP is true and correct to the best of our knowledge and belief.

We understand that our RFP is binding on us and that you are not bound to accept proposal you receive.

We confirm that no Technical deviations are attached here with this commercial offer.

Thanking you,

Yours faithfully,

(Signature of the Bidder)

Printed Name

Designation

Seal.

Date:

Place:

Business Address:

General Instructions

- i. Bidder should provide all prices as per the prescribed format under this section. Bidder should not leave any field blank. In case the field is not applicable, Bidder must indicate "0" (Zero) in all such fields.



Request for Proposal (Volume II) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- ii. Bidder should ensure that the prices of all the items listed in BOM provided in RFP Volume I, are declared in the commercial bid format. Bidder can add additional lines in commercial bid format in case of any additional or missing line item.
- iii. All the prices (even for taxes) are to be entered in Indian Rupees ONLY (%age values are not allowed)
- iv. It is mandatory to provide breakup of all Taxes, Duties and Levies wherever applicable and/or payable.
- v. IIML, reserves the right to ask the Bidder to submit proof of payment against any of the taxes, duties, levies indicated.
- vi. IIML shall take into account all Taxes, Duties & Levies for the purpose of Evaluation
- vii. The Bidder needs to account for all Out-of-Pocket expenses including Boarding, Lodging, and other related items.
- viii. The Unit Rate as mentioned in the following formats shall be used for the purpose of 'Repeat Order' for respective items, if any. However, based on the market trends, IIML, retains the right to negotiate this rate for future requirements.
- ix. Bidder shall be bound to give same or more % discount on the list price as mentioned in commercial quote on the future purchases by IIML. SI shall ensure that the future products supplied are of latest specifications as per the OEM roadmap.



**Request for Proposal (Volume II) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Format 18 – Total Commercial Quote

S. No	Project Components	Amount in figures (Excluding of all taxes & duties)	Amount in Words (Inclusive of all taxes & duties)
C1	Active Network Components (as per BOM Inclusive of 7 Years AMC/ATS cost)		
C2	Passive Network Components (as per BOM Inclusive of 7 Years AMC/ATS cost)		
C3	Security Components (as per BOM Inclusive of 7 Years AMC/ATS cost)		
C4	UPS & Electrical Components (as per BOM Inclusive of 7 Years AMC/ATS cost)		
C5	Non-IT Components (as per BOM Inclusive of 7 Years AMC/ATS cost)		
C6	Ticketing Solution (as per BOM Inclusive of 7 Years AMC/ATS cost)		
C7	Third Party Audit and Pre & Post Site Surveys		
C8	Onsite Training		
C9	Cost of Onsite Team Resources		
	Total Cost in figures		
	Total Cost in Words		

Annexure I. Format of Covering Letter of proposal in response to RFP Invitation

(To be submitted on the Letterhead of the responding firm)

{Date}

To

The Chief Administrative Officer (CAO),

Indian Institute of Management Lucknow

Subject: Submission of proposal in response to the RFP for Network Infrastructure Upgrade Project for IIML

Ref.: RFP Nodated

Dear Sir,

Having examined the RFP document, we, the undersigned, herewith submit our proposal in response to your RFP Nodated..... for RFP for Network Infrastructure Upgrade Project for IIML

- a. We have read and understood the provisions of the RFP document and confirm that these are acceptable to us. We conform that only the terms and conditions in the RFP shall apply; we further declare that additional conditions, variations, deviations, if any, found in our bid shall be without any effect whatsoever.
- b. We hereby declare that we satisfy all the eligibility criteria as specified in this RFP and agree to abide by all the terms and conditions specified therein.
- c. We agree to abide by this bid, consisting of this letter, the detailed response to the RFP and all attachments, and validity of the bid shall be for a period of << enter bid validity period mentioned in the fact sheet>> days from the closing date fixed for submission of bids as stipulated in the RFP document.
- d. The Earnest Money Deposit (EMD) of Rs-30,00,000/- (Indian Rupees Thirty Lakhs Only) submitted by us in the form of Demand Draft or Banker Cheque may be forfeited under any of the circumstances as specified under sub-section on EMD of this RFP.
- e. We hereby declare that we are not involved in any litigation that may have an impact of affecting or compromising the delivery of services as required under this assignment and we are not under a declaration of ineligibility for corrupt or fraudulent practices.

- f. We confirm that we have not been blacklisted by any department / society/ body/ organization of central/ state government.
- g. We hereby declare that all the information and statements made in this bid are true and accept that any misrepresentation/wrong information contained in it or /suppression of material or relevant facts/figures may lead to our disqualification
- h. We understand that you are not bound to shortlist / accept any proposal you receive.

Our correspondence details with regards to this bid are:

S. No.	Information	Details
1.	Name of responding firm:	
2.	Address of responding firm:	
3.	Name, Designation and Address of the contact person to whom all references shall be made regarding this RFP:	
4.	Telephone no. of contact person:	
5.	Mobile no. of contact person:	
6.	Fax no. of contact person:	
7.	E-mail address of contact person:	
8.	Website URL of the responding firm	

We hereby declare that our bid submitted in response to this RFP is made in good faith and the information contained is true and correct to the best of our knowledge and belief.

Yours faithfully,

[FIRM'S NAME]

Authorized Signature [In full and initials]

Date:

Place

Name and Title of Signatory:

Address of Firm:

Seal of the Firm:

Annexure II. Format for EMD Bid Security

This Deed of Guarantee is made on this _____ day of _____, 2021 at _____, by _____, constituted under _____ and having its Head Office/Registered office at _____ and inter alia a branch office at _____ (hereinafter referred to as “the Bank” or “the Guarantor”, which expression shall unless it be repugnant to the subject or context hereof be deemed to include its successors and assigns) in favour of IIM, Lucknow.

WHEREAS, the IIML undertook the process of competitive bidding in order to select the most desirable firm/company to execute the works, for which purpose Department issued a Request for Proposal dated _____, 2021 (“RFP”) inviting Proposals from various bidders to execute the Scope of Work specified therein (Works);

WHEREAS, [name of bidder] (hereinafter called the “bidder”.) has submitted its Proposal dated [date] for the execution of the Works (hereinafter called “the Proposal”).

In the event of any breach or non-performance of any of the following terms and conditions contained in the RFP:

1. if the Bidder withdraws its Proposal during the period of Proposal validity specified in the Request for Proposal; or
2. if the Bidder refuses to accept the correction of errors in its Proposal; or
3. if the Bidder, having been notified of the acceptance of its Proposal by the Department during the period of Proposal validity;
 - a. fails or refuses to execute the Master Service Agreement in accordance with the terms and conditions of this Request for Proposal; or
 - b. fails or refuses to furnish the Performance Security, in accordance with the terms and conditions of this Request for Proposal; or
 - c. fails to comply with the Condition(s)/ Precedent as defined in the Request for Proposal document.

The Guarantor agrees absolutely, irrevocably and unconditionally guarantees and undertakes to pay to IIML a sum of INR (In words and figure); without any protest or demur and upon receipt of first written demand from IIML without having to substantiate its demand, provided that in its demand the IIML will note that the amount claimed by IIML is due to IIML owing to the occurrence of any one or more of the conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force for six (6) months from that date of submission of the bid extendable up to submission of performance security as stated in the instructions to bidders. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

The jurisdiction in relation to this Guarantee shall be the Courts at Delhi and Indian Law shall be applicable.

IN WITNESS WHEREOF the Guarantor has executed this Guarantee on this _____ day of _____ and 2021 first herein above written.

Signed and delivered by the

above named _____ Bank by its Authorized Signatory as authorized by

Board Resolution passed on _____/

Power of attorney dated [].

Authorized Signatory

Name :

Designation:

In the presence of

Annexure III. Format for Performance Bank Guarantee

[Date]

From:

Bank _____

To,

The Chief Administrative Officer (CAO),

Indian Institute of Management Lucknow

Dear Sir,

1. Whereas IIML has issued the notice of award _____ dated _____ (hereinafter referred to as the said Letter of Award or LoA) to M/s _____, hereinafter referred to as the "SI" and the SI has undertaken to produce a Performance bank guarantee for 10 % of total Contract value amounting to _____ to secure its obligations to the IIML. We the _____ bank hereby expressly, irrevocably and unreservedly undertake and guarantee as principal obligors on behalf of the SI that, in the event that you declare to us that the services have not been rendered according to the Contractual obligations under the contract between IIML and SI (hereinafter referred to as the said Contract), we will pay you forthwith on demand and without demur, all and any sum up to a maximum of Rupees _____ (Rupees _____ only). Your written demand shall be conclusive evidence to us that such repayment is due under the terms of the said contract. We undertake to effect payment forthwith upon receipt of such written demand.
2. We shall not be discharged or released from this undertaking and guarantee by any arrangements, variations made between you and the SI, indulgence to the SI by you, or by any alterations in the obligations of the SI or by any forbearance whether as to payment, time performance or otherwise. Notwithstanding anything to the contrary, as contained in the said contract, we agree that your decision as to whether our constituent has made any such default(s) / breach (es), as aforesaid and the amount or amounts to which you are entitled by reasons thereof, , will be valid, binding and conclusive on us and we shall not be entitled to ask you to establish your claim or claims under this Performance Bank Guarantee, but will pay the same forthwith on your demand without any protest or demur.
3. In no case shall the amount of this guarantee be increased.
4. This guarantee shall remain valid till 90 days beyond duration of the contract.

5. Unless a demand or claim under this guarantee is made on us in writing or on before the aforesaid expiry date as provided in the above referred contract or unless this guarantee is extended by us, all your rights under this guarantee shall be forfeited and we shall be discharged from the liabilities hereunder. This Performance Bank Guarantee shall be in addition to and not in substitution or in derogation of any other security held by you to secure the performance of the obligations of our constituent under the Contract.
6. This guarantee shall be a continuing guarantee and shall not be discharged by and change in the constitution of the Bank or in the constitution of M/s_____.
7. Notwithstanding anything contained hereinabove:
- a) Our liability under this Bank Guarantee shall not exceed and is restricted to Rs._____(Rupees_____ only)
- b) This Guarantee shall remain in force up to and including _____ .
- c) Unless the demand/claim under this guarantee is served upon us in writing before _____ all the rights of IIML under this guarantee shall stand automatically forfeited and we shall be relieved and discharged from all liabilities mentioned hereinabove.

Yours faithfully,

for _____ Bank

(Authorised Attorney)

Place : _____

Date : _____

Annexure IV. Format for Bid Clarification

Bidders requiring specific points of clarification may communicate with IIML during the specified period using the following format. The bidders are requested to submit a copy in word format along with the pdf format.

Bid clarifications shall be accepted by bidders only.

<<Name & Address>>				
BIDDER'S REQUEST FOR CLARIFICATION				
S. No	Bidding Document Reference(s)(section number/ page)	Content of RFP requiring Clarification	Points of clarification required	Type of clarification (Compliance, Suggestion)
1.				
2.				

It is mandatory to state 'Type of clarification'.

Annexure V. Format for Suggestions on Changes to Contract clauses

S. No.	Referenced Section/Clause/S. No. of RFP Volume III	Suggestion

*** END ***



**Indian Institute of Management (IIM)
Lucknow**

**Request For Proposal
(Volume III)**

for

**Network Infrastructure Upgrade
Project**

RFP Reference No: IIML/PUR/NETWORK/28/2021-22



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

Disclaimer

The information contained in this Request for Proposal document (“RFP”) or subsequently provided to Bidders, whether in documentary or any other form by or on behalf of Indian Institute of Management Lucknow (IIML), or any of its employees or advisors, is provided to Bidders on the Terms and Conditions set out in this RFP and such other terms and conditions subject to which such information is provided.

This RFP is not an agreement and is neither an offer nor an invitation by IIML to the prospective Bidders or any other person. The purpose of this RFP is to provide interested parties with information that may be useful to them in the formulation of their Proposals pursuant to this RFP.

This RFP may not be appropriate for all companies, and it is not possible for IIML, its employees, or advisers to consider the objectives, technical expertise and particular needs of each party who reads or uses this RFP. The assumptions, assessments, statements, and information contained in this RFP, may not be complete, accurate, adequate, or correct. Each bidder should therefore conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments and information contained in this RFP and obtain independent advice from appropriate sources.

Information provided in this RFP to the Bidders is on a wide range of matters, some of which depend upon interpretation of facts. The information given is not an exhaustive account of requirements and should not be regarded as a complete or authoritative statement of facts. The specifications laid out in this RFP are indicated as the minimum requirements whereas the bidders are expected to focus on the objectives of the project and formulate their solution offerings in a manner that enables achieving those objectives in letter as well as spirit.

IIML accepts no responsibility for the accuracy or otherwise for any interpretation or opinion expressed herein. IIML, its employees and advisers make no representation or warranty and shall have no liability to any person including any Bidder under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFP or otherwise, including the accuracy, adequacy, correctness, reliability or completeness of the RFP and any assessment, assumption, statement or information contained therein or deemed to form part of this RFP or arising in any way in this Selection Process.

IIML also accepts no liability of any nature whether resulting from negligence or otherwise however caused arising from reliance of any Bidder upon the statements contained in this RFP.

IIML may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumption contained in this RFP.



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

The issue of this RFP does not imply that IIML is bound to select a Bidder or to appoint the Selected Bidder, as the case may be. IIML reserves the right to reject all or any of the Proposals without assigning any reasons whatsoever.

The Bidder shall bear all its costs associated with or relating to the preparation and submission of its Proposal including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by IIML or any other costs incurred in connection with or relating to its Proposal. All such costs and expenses will remain with the Bidder and IIML shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a Bidder in preparation or submission of the Proposal, regardless of the conduct or outcome of the Selection Process.



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Table of Contents

DISCLAIMER	1
MASTER SERVICE AGREEMENT	7
1. ARTICLE 1: DEFINITIONS AND INTERPRETATIONS	8
1.1. DEFINITIONS	8
1.2. INTERPRETATIONS	12
1.3. STRUCTURE	13
2. ARTICLE 2: CONDITIONS PRECEDENTS	14
2.1. CONDITIONS PRECEDENT FOR THE PROJECT IMPLEMENTATION STAGE	14
2.2. CONDITIONS PRECEDENT FOR THE PROJECT OPERATIONS AND MAINTENANCE STAGE	14
2.3. NON-FULFILMENT OF CONDITIONS PRECEDENT	15
3. ARTICLE 3: SCOPE OF CONTRACT	15
3.1. COMMENCEMENT AND DURATION OF THIS MSA	16
3.2. SCOPE AND PROVISIONS OF SERVICES	16
3.3. COMMENCEMENT AND DURATION OF SLAS	16
3.4. APPROVALS AND REQUIRED CONSENTS	17
4. ARTICLE 4: USE AND ACQUISITION OF ASSETS	17
4.1. ACQUISITION OF LISTED ASSETS	17
4.2. USE OF PROJECT ASSETS	17
4.3. ACCESS OF IIML PROJECT LOCATIONS TO THE SI	19
5. ARTICLE 5: MANAGEMENT PHASE	19
5.1. GOVERNANCE	19
5.2. USE OF SERVICES / PRODUCTS	20
5.3. CHANGES	20
5.4. SECURITY AND SAFETY	20
6. ARTICLE 6: FINANCIAL TERMS & TIMELINES	20
6.1. PERFORMANCE BANK GUARANTEE	20
6.2. TERMS OF PAYMENT AND PENALTIES	21



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

6.3.	INVOICING AND SETTLEMENT	22
6.4.	TAXES	22
6.5.	LIQUIDATED DAMAGES.....	22
7.	ARTICLE 7: TERMINATION.....	23
7.1.	TERMINATION OF THIS MSA AND SLA	23
7.2.	TERMINATION ON OTHER GROUNDS.....	23
7.3.	EFFECTS OF TERMINATION.....	24
7.4.	FRAUD BY SI'S PERSONNEL.....	24
8.	ARTICLE 8: PROTECTION AND LIMITATIONS	24
8.1.	WARRANTIES	24
9.	ARTICLE 9: THIRD PARTY CLAIMS.....	27
9.1.	LIMITATION OF LIABILITY	29
10.	ARTICLE 10: FORCE MAJEURE	29
11.	ARTICLE 11: DATA PROTECTION AND CONFIDENTIALITY	31
11.1.	CONFIDENTIALITY	31
12.	ARTICLE 12 AUDIT, ACCESS AND REPORTING	32
13.	ARTICLE 13 INTELLECTUAL PROPERTY	32
13.1.	INTELLECTUAL PROPERTY OF IIML	32
13.2.	INTELLECTUAL PROPERTY RIGHTS WITH RESPECT TO THIRD PARTY	33
13.3.	INTELLECTUAL PROPERTY RIGHTS WITH RESPECT TO DELIVERABLES.....	33
13.4.	INTELLECTUAL PROPERTY RIGHTS ON TERMINATION:.....	34
14.	ARTICLE 14: MISCELLANEOUS.....	34
14.1.	PERSONNEL.....	34
14.2.	SUB-CONTRACTORS	35
14.3.	ASSIGNMENT.....	36
14.4.	TRADEMARKS, PUBLICITY	36
14.5.	NOTICES.....	36
14.6.	VARIATIONS AND FURTHER ASSURANCE	37



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

14.7.	SEVERABILITY AND WAIVER.....	37
14.8.	COMPLIANCE WITH LAWS AND REGULATIONS	38
14.9.	PROFESSIONAL FEES.....	38
14.10.	INSURANCE.....	38
14.11.	ETHICS.....	38
14.12.	STRATEGIC CONTROL	39
14.13.	ENTIRE AGREEMENT	39
14.14.	SURVIVABILITY.....	39
14.15.	AMENDMENT.....	39
14.16.	EXIT MANAGEMENT PLAN	40
14.17.	DISPUTE RESOLUTION	40
15.	SERVICE LEVEL AGREEMENT	42
15.1.	DEFINITIONS AND INTERPRETATION	43
15.2.	DEFINITIONS	43
15.3.	INTERPRETATION.....	45
15.4.	MEASUREMENTS AND ARITHMETIC CONVENTIONS	46
15.5.	AMBIGUITIES WITHIN AGREEMENT	46
15.6.	PRIORITY OF AGREEMENTS	46
15.7.	STRUCTURE.....	46
15.8.	OBJECTIVES OF SLA	46
15.9.	SCOPE OF THE SLA	47
15.10.	COMMENCEMENT AND DURATION OF SLA	48
15.11.	EXCLUSIONS TO THE AGREEMENT.....	48
15.12.	TERMS OF PAYMENT AND PENALTIES	48
15.13.	UPDATING THE SERVICE LEVEL AGREEMENT	48
15.14.	DOCUMENT HISTORY.....	49
15.15.	SCOPE OF SERVICES.....	49
15.16.	RESPONSIBILITIES AND OBLIGATIONS	50



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

15.17.	PERFORMANCE REVIEW	50
15.18.	INDEMNITIES.....	50
15.19.	DISPUTE RESOLUTION	50
15.20.	MAXIMUM CAP ON SLA PENALTIES	50
15.21.	MISCELLANEOUS.....	50
ANNEXURE A - SERVICE LEVELS		55
SCHEDULE I: CHANGE CONTROL SCHEDULE		61
SCHEDULE II: EXIT MANAGEMENT SCHEDULE		65
SCHEDULE III: AUDIT, ACCESS AND REPORTING		69
SCHEDULE IV: GOVERNANCE SCHEDULE		71
SCHEDULE V: INVOICING AND SETTLEMENT SCHEDULE		73
SCHEDULE VI: TERMS OF PAYMENT SCHEDULE		74
SCHEDULE VII: STRATEGIC CONTROL SCHEDULE		75
ANNEXURE I: SCOPE OF WORK FOR SI		76
ANNEXURE II: NON-DISCLOSURE AGREEMENT.....		76



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

MASTER SERVICE AGREEMENT

Indian Institute of Management Lucknow, Government of India, intends to sign **Agreement** with the successful bidder for the *Network Infrastructure Upgrade Project*. Given below is a draft of the MSA.

Master Services Agreement (MSA)

THIS MASTER SERVICE AGREEMENT is made this ___ day of _____, 2021, by and between:

----- having its office at -----
----- India hereinafter referred to as 'Purchaser' / 'Purchaser' or 'IIML', which expression shall, unless the context otherwise requires, include its permitted successors and assigns).

AND

_____, a Company incorporated under the Companies Act, 1956, having its registered office at _____ (hereinafter referred to as 'the Implementation Agency/IA/SI' which expression shall, unless the context otherwise requires, include its permitted successors and assigns).

Each of the parties mentioned above are collectively referred to as the 'Parties' and individually as a 'Party'.

WHEREAS

- a) IIML intends to enable and augment successfully the implementation, operations, and maintenance of the *Network Infrastructure Upgrade Project* with the ultimate objective of providing the envisioned services to the stakeholders
- b) IIML undertook selection of a suitable System Integrator (SI) through a competitive bidding process for implementing the Project and in this behalf issued Request for Proposal (RFP) dated _____ and issued to the qualified bidders;
- c) The SI has been selected as the successful bidder to undertake the successful implementation the various Project Components of *Network Infrastructure Upgrade Project*.
- d) IIML intends to grant to the SI the right to undertake and implement the *Network Infrastructure Upgrade Project* on the terms and conditions set forth below for a period which starts from the date of contract and extends to the period which involves implementation phase till successful commissioning of the Project Components and Seven (7) years of Operation and maintenance from the date of successful commissioning of the Project.



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

- e) The SI in pursuance of its bid undertakes to implement the Network Infrastructure Upgrade Project during the term. As part of the acceptance inter alia, the SI shall furnish the Performance Guarantee as defined in this Agreement.
- f) Now therefore, in view of the mutual promises and consideration set out herein, the IIML and the SI (each individually a “Party” hereto and collectively the “Parties”) have agreed to enter into this Master Services Agreement (“MSA”) to govern the way in which SI will build and maintain the facilities specified under this Agreement and the Service Level Agreement (“SLA”) in accordance with roles and responsibilities of the IIML and the SI as set forth in Volume I of the RFP.

1. ARTICLE 1: Definitions and Interpretations

1.1. Definitions

In this Agreement, unless the context requires otherwise:

S. No.	Term	Definition
1.	Adverse Effect	means material adverse effect on (a) the ability of the SI to exercise any of its rights or perform/discharge any of its duties/obligations under and in accordance with the provisions of this Agreement and/or (b) the legal validity, binding nature or enforceability of this Agreement
2.	Agreement	means this MSA along with all other documents signed between the Parties pursuant to the Project including and not limited to the RFP, SLA, NDA and Work Order together with all of their Schedules, Annexures and Specifications of the RFP.
3.	Applicable Law(s)	means any statute, law, ordinance, notification, rule, regulation, judgment, order, decree, bye-law, approval, directive, guideline, policy, requirement or other governmental restriction or any similar form of decision applicable to the relevant party and as may be in effect on the date of the execution of this Agreement and during the subsistence thereof, applicable to the Project.
4.	Confidential Information	means all information including IIML Data (whether in written, oral, electronic or other format) which relates to the technical, financial and business affairs, products, developments, operations, processes, data, trade secrets, design rights, know-



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Term	Definition
		how and personnel of each Party and its affiliates which is disclosed to or otherwise learned by the other Party (whether a Party to this MSA or a SLA) in the course of or in connection with this MSA (including without limitation such information received during negotiations, location visits and meetings in connection with this MSA or SLA)
5.	Deliverables	means the products, infrastructure and services agreed to be delivered by the SI in pursuance of the agreement as defined more elaborately in Volume I of the RFP
6.	Data Centre/DC	Means the Data Centre where data, software, computer systems and associated components, such as telecommunication and storage systems, redundant or backup power supplies, redundant data communications, environment controls and security devices are housed and operated. It also includes Back Up Site where data back would be taken
7.	Effective Date of Agreement/ Effective Date	means the date on which this MSA is signed by both the Parties
8.	Effective Date of Project Commencement	means the date on which the Conditions Precedent have been satisfied by the SI or waived by IIML. For calculation of any of obligations under all project schedules/delays etc., which has or is likely to have a material Adverse Effect on date, the date of signing this MSA will be taken into account as the date of commencement of the Project.
9.	Go-Live	The deliverables D1 to D9 as specified in Vol-1 of the RFP are delivered and are accepted by IIML. All the hardware and software of the project as per the RFP and the proposal of the SI, are installed, Configured, commissioned, tested, and are accepted by IIML. The team of manpower as per the RFP is deployed & accepted at IIML locations by IIML.



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Term	Definition
		<p>The standard operating procedures are formulated and put into practice.</p> <p>The third-party audit is completed and accepted by IIML.</p> <p>All the outstanding issues are identified and critical to Go-Live issues are resolved, however, IIML in consultation with SI identify the issues which are not critical for Go-Live and these issues will be resolved during operation and maintenance phase.</p>
10.	IIML Data	means all proprietary data of IIML, existing or generated out of operations and transactions, documents and related information including but not restricted to Institute data which the SI obtains, possesses, or processes in the context of providing the Services to the stakeholders pursuant to this MSA and the SLA
11.	Intellectual Property Rights	means and includes all rights in the Project Components
12.	Material Breach	means a breach by either Party of any of its obligations under this MSA or the SLA which has or is likely to have a Material Adverse Effect on the Project and such Party shall have failed to cure
13.	Network Infrastructure Upgrade Project	Means Network Infrastructure Upgrade Project including all the project components, artifacts, and accompaniments. Project shall be implemented as per the terms laid down in the RFP and services shall be provisioned in conformance to the SLA.
14.	Parties	means IIML and SI for the purposes of this MSA, SLA & NDA
15.	Performance Guarantee	Means the guarantee provided by a Nationalized Bank / Scheduled bank on behalf of the SI for an amount and validity period as mentioned in Volume II of the RFP.
16.	Work Order	Means a written document in the form of a letter of engagement issued to the SI by IIML or any other written document approved from time to time by IIML to evidence the Parties' intention to engage SI to provide Services to IIML under the SLA in accordance with this MSA and to describe the services to be performed including a Statement of Work.



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Term	Definition
17.	Project Implementation	Means Project Implementation as per the scope of work of SI specified in Volume I of the RFP.
18.	Proprietary information	Means processes, methodologies, and technical and business information, including drawings, designs, formulae, flow charts, data and computer programs already owned by, or granted by Third Parties to, a Party hereto prior to its being made available under this MSA or the SLA.
19.	Proprietary Information of IIML	means Proprietary Information of IIML provided to the SI for providing Services and includes all the modifications, enhancements, and other derivative works of such IIML's Proprietary Information arising as a result of Services rendered by the SI.
20.	Replacement SI	means any third party that IIML appoints to replace SI either upon expiry of the Term or on the termination of the MSA or the SLA or any part thereof
21.	Required Consents	Means the consents, waivers, clearances, and licenses to use IIML's Intellectual Property Rights, rights and other authorizations as may be required to be obtained for the software and other items that IIML are required to make available to SI pursuant to this MSA or the SLA
22.	RFP	Means the documents containing the Technical, Functional, Operational, Commercial and Legal Specifications for the implementation of the Project, issued in 3 volumes (referred to as Volume I, Volume II and Volume III) and includes the clarifications, explanations and amendments issued by IIML from time to time.
23.	Service	The entire services which the bidder is required to provide to IIML under the contract. Services includes successful implementation, operation, and maintenance of all the Project Components and the accompaniments



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Term	Definition
24.	Service Level	Means the level of service and other performance criteria which will apply to the Services as set out in Service Level Agreement.
25.	Service Level Agreement (SLA)	Means the Performance and Maintenance SLA, executed by and between IIML and SI as per the details set out in "Service Level Agreement" of this RFP.
26.	Stakeholders	Means the IIML or its nominated agencies, Government Employees, Project Management Unit, Other government Departments & Users of the system.
27.	Term	Means the duration of this MSA and SLA
28.	Third Party Systems	means Systems (or any part thereof) in which the Intellectual Property Rights are owned by a third party and to which SI has been granted a license to use and which are used in the provision of Services

1.2. Interpretations

1. References to any statute or statutory provision include a reference to that statute or statutory provision as from time to time amended, extended, re-enacted, or consolidated and to all statutory instruments made pursuant to it.
2. Words denoting the singular shall include the plural and vice versa and words denoting persons shall include firms and corporations and vice versa.
3. Unless otherwise expressly stated, the words "herein", "hereof", "hereunder" and similar words refer to this MSA as a whole and not to any Article, Schedule. The term Articles refers to Articles of this MSA. The words "include" and "including" shall not be construed as terms of limitation. The words "day" and "month" mean "calendar day" and "calendar month" unless otherwise stated. Where, because of a difference in time zone, the calendar day or calendar month in one Country differs from another Country, then the calendar day or calendar month shall be deemed to be the calendar day or calendar month applicable to India. The words "writing" and "written" mean "in documented form", whether electronic or hard copy, unless otherwise stated. Any reference to attorneys' fees shall include fees of the professional assistants of such attorneys.



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

3.1. Commencement and duration of this MSA

This MSA shall come into effect on _____, 2021 (hereinafter the “Effective Date”) and shall continue till the completion of Seven (7) years of Operations and Maintenance of the Network Infrastructure Upgrade Project post the go-Live of Network Infrastructure Upgrade Project.

3.2. Scope and provisions of Services

1. The provision of Services to the Stakeholders with certainty and speed with timely deliveries is the essence of the Agreement between the Parties.
2. The SI represents that it is a competent provider of a variety of information technology and System Integration and IT management services. The SI will keep abreast of the relevant technical, managerial, and operational requirements applicable to the provisions of the Services and best practices in this area and will share its knowledge with IIML regarding matters which would assist IIML in its use of the Services, provided that the SI shall not be obligated to share other client information or the Confidential Information of the SI not relevant to this MSA or the SLA.
3. The SI shall enter into a Service Level Agreement with IIML and shall be able to perform the services pursuant to the Service Level Agreement and in accordance with the MSA.
4. The SI shall perform the Services (a) in a good professional manner commensurate with professional industry and technical standards which are generally in effect for international projects and innovations pursuant thereon like those contemplated by the MSA or by the SLA, (b) so as to comply with the applicable Service Levels if any in accordance with the terms of the SLA under this MSA and (c) in a manner adaptable to the common operating environment.
5. Each party shall ensure that the range of the Services under the SLA shall not be varied, reduced, or increased except by the prior written agreement between IIML and SI in accordance with the Change Control Schedule (Schedule I). Save for the express terms of the Payment Schedule (Schedule VI), IIML and its users shall be obliged to purchase any particular category of Services that may become necessary as per the Change Control Schedule (Schedule I), without the need to go for a separate procurement process.
6. In providing the Services, the SI will ensure that no unnecessary disruption is caused to IIML’s normal business operations.
7. No Party to this MSA or to the SLA will at any time perform, or omit to perform, any act which they are aware, at the time of performance, will place the other Party in default under any insurance policy, mortgage or lease governing activities at any location provided by the IIML.

3.3. Commencement and duration of SLAs

1. The Operation and Maintenance of SLA will commence from the date of complete go-Live of the project and shall run for a period of 7 years unless terminated as provided herein.



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

2. The SLA shall commence on the date on which it is fully executed by the IIML and the SI and shall, unless terminated earlier in accordance with its terms or unless otherwise agreed by the Parties, expire on the date on which this MSA expires or terminates for any reason.

3.4. Approvals and required consents

1. The Parties shall cooperate to procure, maintain, and observe all relevant and customary regulatory and governmental licenses, clearances, and applicable approvals (hereinafter the "Approvals") necessary for the SI to provide the Services. The costs of such Approvals shall be borne by the Party normally responsible for such costs according to local custom and practice in the locations where the Services are to be provided.
2. Both parties will give each other all co-operation and information reasonably required to meet their respective obligations under this MSA.
3. The IIML shall assist SI in obtaining the Approvals/required consents. In the event that any Approvals/required consents is not obtained, the SI and the IIML will co-operate with each other in achieving a reasonable alternative arrangement as soon as reasonably practicable for IIML to continue to process its work with as minimal interruption to its business operations as is commercially reasonable until such Required Consent is obtained, provided that the SI shall not be relieved of its obligations to provide the Services and to achieve the Service Levels until the Required Consents are obtained if and to the extent that the SI's obligations are dependent upon such Required Consents.

4. ARTICLE 4: Use and Acquisition of Assets

4.1. Acquisition of Listed Assets

1. The SI shall conduct proper testing and analysis of the proposed Listed Assets as mentioned in definition of this MSA to ensure that they fulfil the requirements of the Project, pursuant to the MSA or to the SLA.
2. The SI shall submit the testing results, its analysis, and its own recommendation about the Listed Assets to IIML for approval.
3. The SI shall ensure that all the Listed Assets comply with all the requirements pursuant to the MSA or to the SLA.

4.2. Use of Project Assets

During the Term, the SI shall:

1. take all reasonable and proper care of the Project Assets in proportion to their use and control of such Project Assets which will include all upgradation and improvements to meet the current needs of the Network Infrastructure Upgrade Project; and



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

2. Keep all the tangible Assets in as good and serviceable condition and/or the intangible Assets suitably upgraded subject to the relevant standards as stated in Volume I of the RFP as at the date the SI takes control of and/ or first uses the Assets and during the entire Term of the Agreement; Pursuant to technological obsolescence, upgradation will also be required to be done by SI; and
3. ensure that any instructions or manuals supplied and provided by the manufacturer of the Project Assets for their use to the SI will be followed by the SI and any person(s) who will be responsible for the use of the Project Assets; and
4. take such steps as may be properly recommended by the manufacturer of the Project Assets and notified to the SI or as may, in the reasonable opinion of the SI, be necessary to use them in a safe manner; and
5. to the extent that the Project Assets are under the control of the SI, keep the Project Assets suitably housed and in conformity with any statutory requirements from time to time applicable to them; and
6. Obtain prior permission from IIML and any persons duly authorized by them to enter any premises on which the Project Assets are for the time being sited so as to inspect the same, subject to any reasonable third-party requirements; and
7. not knowingly or negligently use or permit any of the Project Assets to be used in contravention of any statutory provisions or regulation or to any law of land; and
8. not sell, offer for sale, assign, mortgage, encumbrance, pledge, hypothecate, sub-let or lend out any of the IIML and Project Assets; and
9. use the Project Assets only in accordance with the terms hereof and those contained in the Agreement; and
10. obtain and/or maintain standard forms of comprehensive insurance including liability insurance, system and facility insurance and any other insurance for the personnel, assets, data, software, etc. to be used for the Project; and
11. to ensure the integration of the software with hardware to be installed and the current Project Assets in order to ensure the smooth operations of the entire solution architecture to provide efficient services to all the Stakeholders of IIML in an efficient and speedy manner; and
12. to provide a well-prepared documentation for Users in form of a user's manual, a clear plan for training, educating and hand holding the users and shall form part of both Project Implementation Phase and Operations and Maintenance Phase until bringing up to speed; and



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

13. train the team identified by IIML, which will be in place during know-how transfer and it will be responsible for trouble shooting all post implementation and maintenance activities; and
14. transfer the ownership of the Project Assets (not already with IIML) which shall include the hardware and system software for Network Infrastructure Upgrade Project to IIML and the non-IT infrastructure deployed at IIML at the appropriate time, in accordance with the terms of the Agreement.
15. Ensure complete compliance to IIML's Fair Usage policy while using any of the IIML resources during the entire project duration.
16. a sign off from IIML at each stage is essential to close for each of the above considerations.

4.3. Access of IIML Project Locations to the SI

1. For so long as the SI provides services to the IIML from any project location on a non-permanent basis and to the extent necessary for the SI to provide the facilities management services and at no cost to the SI, IIML shall, subject to compliance by the SI with any safety and security guidelines which may be provided by IIML and notified to the SI in writing, provide the SI with:
 - a) Reasonable access to Project Location 24 (twenty-four) hours a day, 7 (seven) days a week; and
 - b) Workspace for the SI project team, access to office equipment as mutually agreed and other related support services in such location and at such other Project location, if any, as may be reasonably necessary for the SI to perform its obligations hereunder and under the SLA.
2. Locations and items shall be made available to the SI on an "as is, where is" basis by the IIML. The SI agrees to ensure that its employees, representatives, agents, and contractors do not use the location, services and items referred in this RFP:
 - a) for the transmission or receipt of any material which is defamatory, offensive, or abusive or of an obscene or menacing character; or
 - b) in a manner which constitutes a violation or infringement of the rights of any person, firm, or company (including but not limited to rights of copyright or confidentiality).

5. Article 5: Management Phase

5.1. Governance

The review and management process of this MSA or the SLA shall be carried out in accordance with the Governance Schedule IV and SLA for Onsite Resources.



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

nationalized bank/ Scheduled Commercial Bank acceptable to, payable on demand, for the due performance and fulfillment of the contract by the SI.

1. Performance Bank Guarantee will be 10% of Total Commercial Quote (Total Order Value) of the SI.
2. All charges and expenses whatsoever such as premium; commission etc. with respect to the Performance Bank Guarantee shall be borne by the SI.
3. Performance Bank Guarantee shall be valid for 6 months beyond the contract period
4. Performance Bank Guarantee may be discharged/ returned by IIML upon being satisfied that there has been due performance of the obligations of the SI under the contract. However, no interest shall be payable on the Performance Bank Guarantee.
5. In the event of the SI being unable to service the contract for whatever reason, IIML would revoke the Performance Bank Guarantee. Notwithstanding and without prejudice to any rights whatsoever of IIML under the contract in the matter, the proceeds of the Performance Bank Guarantee shall be payable to IIML as compensation for the pre-estimated, pre-determined and pre-agreed loss resulting from SI's failure to perform/comply its obligations under the contract.
6. IIML shall notify the SI in writing of the exercise of its right to receive such compensation within a reasonable time. IIML shall also be entitled to make recoveries from the SI's bills, performance security deposit, or from any other amount due to him, an equivalent value of any payment made to him due to inadvertence, error, collusion, misconstruction, or misstatement.

6.2. Terms of Payment and Penalties

1. The total order value shall be Rs. _____ (_____) which is inclusive of taxes and duties. This total order value is for the purpose of providing the services as stated in RFP Vol 1.
2. In consideration of the Services and subject to the provisions of this MSA and of the SLA, the IIML shall pay the SI for the Services rendered in pursuance of this agreement, in accordance with the Payment Terms mentioned in Volume II of the RFP.
3. All payments are subject to the application of necessary penalties as required under the SLA. It is clarified here that IIML will pay in accordance with the Payment Terms and IIML can also calculate a financial sum and debit the same against the terms of payment as defined in the Payment Terms because of the failure of the SI to meet the Service Levels.



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

4. Except as otherwise provided for herein or as agreed between the Parties in writing, IIML shall not be required to make any payments in respect of the Services (or, without limitation to the foregoing, in respect of the SI performance of any obligations under this MSA or the SLA) other than those covered by the terms of payment as subjected in the Payment Terms. For the avoidance of doubt the Payments shall be deemed to include all ancillary and incidental costs and charges arising in the course of delivery of the Services including consultancy charges, infrastructure costs, project costs, implementation and management charges and all other related costs including taxes which are addressed in commercial sheet provided in Vol II of this RFP.

6.3. Invoicing and settlement

The provisions of the Invoicing & Settlement Schedule (Schedule V of this MSA) shall apply

6.4. Taxes

1. IIML shall be responsible for withholding taxes from the amounts due and payable to the SI wherever applicable. The SI shall pay for all other taxes in connection with this MSA, SLA, SOWs including, but not limited to, property, sales, use, excise, value-added, goods and services, consumption and other similar taxes or duties. IIML shall provide SI with the original tax receipt of any withholding taxes paid by IIML on payments under this MSA or under the SLA. The SI agrees to reimburse and hold IIML harmless from any deficiency (including penalties and interest) relating to taxes that are its responsibility under this paragraph. For purposes of this MSA and SLA, taxes shall include taxes incurred on transactions between and among IIML, the SI and third-party subcontractors.
2. In the event of any increase or decrease of the rate of taxes due to any statutory notification/s during the Term of the MSA or of the SLA, statutory taxes & duties prevailing at the time of making payment shall be applicable.
3. The Parties shall cooperate to enable each Party to accurately determine its own tax liability and to minimize such liability to the extent legally permissible. In connection therewith, the Parties shall provide each other with (i) any resale certificates, (ii) any relevant information regarding out-of-IIML or use of materials, equipment, or services and (iii) any direct pay permits, exemption certificates or information reasonably requested by the other Party.

6.5. Liquidated Damages

Time is the essence of the Agreement and the delivery dates are binding on the SI. In the event of delay or any gross negligence in implementation of the project before Go-Live, for causes solely attributable to the SI, in meeting the deliverables, the Purchaser shall be entitled at its option to recover from the SI as agreed, liquidated damages, a sum of 0.5% of the value of the deliverable which suffered delay or gross negligence for each completed week or part thereof subject to a limit of 10%



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

of the total contract value. This right to claim any liquidated damages shall be without prejudice to other rights and remedies available to Purchaser under the contract and law.

7. ARTICLE 7: Termination

7.1. Termination of this MSA and SLA

1. In the event that, either Party believes that the other is in Material Breach of its obligations under this MSA or the SLA, such aggrieved Party may terminate this MSA upon serving a written 30 (thirty) days' notice to the other Party. Any notice served pursuant to this Article 7 shall give reasonable details of the Material Breach, which could include the following events and the termination will become effective:
 - a. If there is any Material Breach(s) which translates into default in providing the Services by the SI pursuant to the MSA, continuously for more than one week, then IIML will serve a 30 (thirty) days' notice to SI for curing this Material Breach. In case the Material Breach continues, after the notice period, IIML will have the option to terminate in whole or any part of the MSA or the SLA.
 - b. The right of the IIML to terminate the MSA pursuant to this Article 7 shall be without prejudice to any other rights and remedies available to the IIML including without limitation invoking the Performance Guarantee.

7.2. Termination on other grounds

1. Without prejudice to any other rights and remedies available to the IIML, the IIML may serve written notice to the SI at any time to terminate this MSA with immediate effect in the following events:
 - a. In the event of Change of Control of the SI.
 - b. In the event the SI has merged, amalgamated such that the net worth of the surviving entity is less than that of SI prior to such merger or amalgamation.
 - c. In the event of a reasonable apprehension of bankruptcy of the SI:
 - i. SI shall in the event of an apprehension of bankruptcy immediately inform the IIML well in advance (at least 3 (three) months) about such a development;
 - ii. Conversely if the IIML apprehends a similar event regarding the SI, it can exercise the right of termination in the manner stated hereinabove.

It is clarified that in case of events set out in Article 7 the IIML may, as instead of terminating the MSA, at its sole discretion, require a full Performance Guarantee of the obligations of the SI by a guarantor acceptable to the IIML. If such a guarantee cannot be procured within 30



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

(thirty) days of the IIML's demand therefore, the IIML shall terminate this MSA in accordance with this Article.

2. On termination of this MSA for any reason, the SLA shall automatically terminate forthwith and the IIML will decide the appropriate course of action.
3. The termination provisions set out in **Article 7** of this Agreement shall apply to the SLA and "this Agreement" shall be deemed to refer to the SLA.

7.3. Effects of termination

1. In the event that IIML or the SI terminates this MSA and the SLA pursuant to Section 6 and depending on the event of default, compensation will be decided in accordance with the Terms of Payment Schedule VI.
2. Upon termination of this Agreement, the Parties will comply with the Exit Management Schedule-II.

7.4. Fraud by SI's personnel

IIML reserves its right to initiate criminal action against the agents/ employees of the SI for fraud or misappropriation, besides stringent penalties. The management of the SI would also be made liable for action in case of fraud, under the applicable laws and IIML may call for termination of the contract if IIML finds it necessary to do so.

8. ARTICLE 8: Protection and limitations

8.1. Warranties

1. SI warrants and represents to the IIML that:
 - a. it has full capacity and authority and all necessary approvals to enter into and to perform its obligations under the MSA and under the SLA;
 - b. this MSA and the SLA is executed by a duly authorized representative of the SI;
 - c. it shall discharge its obligations under the Agreement with due skill, care and diligence
 - d. there are no actions, suits or proceedings pending or to its best knowledge, threatened against or affecting it before any court, administrative body or arbitral tribunal which might materially and adversely affect its ability to meet or perform any of its obligations under this MSA and the SLA;
 - e. it has the financial standing and capacity to undertake the Network Infrastructure Upgrade Project in accordance with the terms of this MSA and the SLA.



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

- f. the execution, delivery and performance of this MSA and the SLA will not conflict with, result in the breach of, constitute a default under, or accelerate performance required by any of the terms of its memorandum of association and articles of association or any Applicable Laws or any covenant, contract, agreement, arrangement, understanding, decree or order to which it is a party or by which it or any of its properties or assets is bound or affected;
 - g. it has no knowledge of any violation or default with respect to any order, writ, injunction or decree of any court or any legally binding order of any government authority which may result in any Material Adverse Effect on its ability to perform its obligations under this MSA and/or the SLA no fact or circumstance exists which may give rise to such proceedings that would adversely affect the performance of its obligations under this MSA and/or the SLA;
 - h. it has complied with the Applicable Laws in all material respects and has not been subject to any fines, penalties, injunctive relief or any other civil or criminal liabilities which in the aggregate have or may have a Material Adverse Effect on its ability to perform its obligations under this MSA and/or the SLA;
 - i. no representation or warranty by it contained herein or in any other document furnished by it to the IIML or its nominee including the Proposal or to any government authority contains or will contain any untrue or misleading of material fact or omits or will omit to IIML a material fact necessary to make such representation or warranty not misleading;
 - j. no sums, in cash or kind, have been paid or will be paid, by it or on its behalf, to any person by way of fees, commission or otherwise for securing the Agreement or entering into this MSA or for influencing or attempting to influence any officer or employee of the IIML in connection therewith.
2. In the case of the SLA, the SI warrants and represents to the IIML, that:
- a. the SI has full capacity and authority and all necessary approvals to enter into and perform its obligations under the SLA and to provide the Services;
 - b. the SLA has been executed by a duly authorized representative of the SI;



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- c. the SI is experienced in managing and providing works similar to the Services and that it will perform the Services with all due skill, care and diligence;
 - d. the Services will be provided and rendered by appropriately qualified, trained and experienced personnel;
 - e. The SI has and will have all necessary licenses, approvals, consents of third parties and all necessary technology, hardware, and software to enable it to provide the Services;
 - f. the Services will be supplied in conformance with all applicable laws, enactments, orders and regulations;
 - g. the SI will ensure that the equipment, software, and hardware supplied and/or used in the course of the provision of the Services are brand new updated, operational, and functional; and
 - h. if the SI uses in the course of the provision of the Services components, equipment, software and hardware manufactured by any third party which are embedded in the Deliverables or are essential for the successful use of the Deliverables, it will pass through third-party manufacturer's warranties relating to those components, equipment, software and hardware to the extent possible. In the event that such warranties cannot be enforced by IIML, the SI will enforce such warranties on behalf of IIML and pass on to IIML the benefit of any other remedy received in relation to such warranties.
3. Warranties regarding the Project Assets: - Without limiting the warranty obligations set out in the RFP, the SI warrants that:
- a. the Project Assets purchased by it for the purpose of the Network Infrastructure Upgrade Project conform to technical specifications prescribed in RFP and shall perform according to the said technical specifications. The SI further warrants that such assets are of latest version, non-refurbished, unused and recently manufactured. They shall not be nearing end of sale/ end of support; The items have a product life of at least 7 years
 - b. the Project Assets shall be free from all encumbrances and defects/ faults arising from design, material, manufacturing or workmanship or from any act or omission of the SI that may present a snag/fault, under normal use of the same.
4. Representations and warranties of IIML: IIML represents and warrants to the SI that:
-



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- a. It has full power and authority to execute, deliver and perform its obligations pursuant to the MSA and the SLA;
 - b. It has taken all necessary action to authorize the execution, delivery and performance of this MSA and the SLA.
5. In the event that any occurrence or circumstance comes to the attention of the either Party that renders any of its aforesaid representations or warranties untrue or incorrect, such Party shall immediately notify the other Party of the same. Such notification shall not have the effect of remedying any breach of the representation or warranty that has been found to be untrue or incorrect nor shall it adversely affect or waive any obligation of either Party under the MSA or the SLA.
6. Notwithstanding what has been stated elsewhere in the MSA, SLA and the Schedules attached herein, in the event the SI is unable to meet the obligations pursuant to the implementation of the Project and/or provide the Operations and Maintenance Services and any related scope of work as stated in this MSA, SLA and the Schedules attached herein, the IIML will, inter alia, have the option to invoke the Performance Guarantee after serving a written notice 15 (fifteen) days in advance on the SI. Such right of the IIML shall be without prejudice to any other rights or remedies available under law or contract.

9. ARTICLE 9: Third Party Claims

1. SI (the "Indemnifying Party") undertakes to indemnify IIML (the "Indemnified Party") from and against all Losses on account of bodily injury, death or damage to tangible personal property arising in favour of any person, corporation or other entity (including the Indemnified Party) attributable to the Indemnifying Party's performance or non-performance under this MSA or the SLA to the extent of the Indemnifying Party's comparative fault in causing such Losses.
2. The indemnities set out in Articles shall be subject to the following conditions:
 - a. the Indemnified Party as promptly as practicable informs the Indemnifying Party in writing of the claim or proceedings and provides all relevant evidence, documentary or otherwise;
 - b. the Indemnified Party shall, at the cost of the Indemnifying Party, give the Indemnifying Party all reasonable assistance in the defence of such claim including reasonable access to all relevant information, documentation and personnel provided



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

that the Indemnified Party may, at its sole cost and expense, reasonably participate, through its attorneys or otherwise, in such defence;

- c. If the Indemnifying Party does not assume full control over the defence of a claim as provided in this Article, the Indemnifying Party may participate in such defence at its sole cost and expense, and the Indemnified Party will have the right to defend the claim in such manner as it may deem appropriate, and the cost and expense of the Indemnified Party will be included in Losses;
- d. the Indemnified Party shall not prejudice, pay or accept any proceedings or claim, or compromise any proceedings or claim, without the written consent of the Indemnifying Party;
- e. all settlements of claims subject to indemnification under this Article will: (a) be entered into only with the consent of the Indemnified Party, which consent will not be unreasonably withheld and include an unconditional release to the Indemnified Party from the claimant or plaintiff for all liability in respect of such claim; and (b) include any appropriate confidentiality agreement prohibiting disclosure of the terms of such settlement;
- f. the Indemnified Party shall account to the Indemnifying Party for all awards, settlements, damages and costs (if any) finally awarded in favour of the Indemnified Party which are to be paid to it in connection with any such claim or proceedings;
- g. the Indemnified Party shall take steps that the Indemnifying Party may reasonably require to mitigate or reduce its loss as a result of such a claim or proceedings;
- h. in the event that the Indemnifying Party is obligated to indemnify an Indemnified Party pursuant to this Article, the Indemnifying Party will, upon payment of such indemnity in full, be subrogated to all rights and defences of the Indemnified Party with respect to the claims to which such indemnification relates; and
- i. if a Party makes a claim under the indemnity set out under in respect of any particular Loss or Losses, then that Party shall not be entitled to make any further claim in respect of that Loss or Losses (including any claim for damages).



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

9.1. limitation of liability

1. There shall be no limitation of liability in case of any damages for bodily injury (including death) and damage to real property and tangible personal property proximately caused by a Party's negligent acts or wilful misconduct.
2. Neither this MSA nor the SLA grants or creates any rights, benefits, claims, obligations or causes of action in, to or on behalf of any person or entity (including any third party) other than between the respective Parties to this MSA or the SLA, as the case may be.
3. Any claim or series of claims arising out or in connection with this MSA or the SLA shall be time barred and invalid if legal proceedings are not commenced by the relevant Party against the other Party within a period of project duration from the date when the cause of action first arose or within such longer period as may be permitted by applicable law without the possibility of contractual waiver or limitation.
4. SI's cumulative liability for its obligations and liabilities (including for damages arising out of breach, negligence, or tort) shall not exceed the actual, direct damage, up to a 100% of the total contract value hereunder for the subject of the claim; The cap indicate shall not apply for its liability for bodily injury (including death) or damage to real property causes by Partner's negligence.
5. IIML shall be entitled to claim the remedy of specific performance under this MSA or the SLA.

10. ARTICLE 10: Force Majeure

1. Neither Party to this MSA or to the SLA shall be liable to the other for any loss or damage which may be suffered by the other due (directly) to the extent and for the duration of any cause beyond the reasonable control of the Party unable to perform ("Force Majeure") events such as but not limited to acts of God not confined to the premises of the Party claiming the Force Majeure, flood, drought, lightning or fire, earthquakes, strike, lock-outs beyond its control, labour disturbance not caused at the instance of the Party claiming Force Majeure, acts of government or other competent authority, war, terrorist activities, military operations, riots, epidemics / pandemics, civil commotions etc. No failure, delay or other default of any contractor or sub-contractor to either Party shall entitle such Party to claim Force Majeure under this Article unless that failure, delay or default is itself caused directly by a Force Majeure event.
2. The Party seeking to rely on Force Majeure shall promptly, within 2 days, notify the other Party of the occurrence of a Force Majeure event as a condition precedent to the availability of this defence with particulars detail in writing to the other Party and shall demonstrate that it has and is taking all reasonable measures to mitigate the events of Force Majeure.



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

3. The Party seeking to rely on Force Majeure shall promptly, upon becoming aware of the same, notify the other Party of the occurrence of a Force Majeure event as a condition precedent to the availability of this defence and shall subsequently give particulars to a reasonable level of detail in writing to the other Party of the facts or circumstances giving rise to Force Majeure within three days of the occurrence and shall further demonstrate that it has and is taking all reasonable measures to mitigate the events of Force Majeure.
4. In the event that an event of Force Majeure substantially prevents, hinders or delays the SI's performance of Services necessary for the operation of IIML's critical business functions for a period in excess of 5 days, IIML may declare that an emergency exists. In the event that the Parties are not able to reasonably resolve the situation within 5 days, IIML may terminate the affected project engagements under the SLA and/or obtain substitute performance from an alternate supplier.
5. The event of force Majeure is to be reviewed under two categories i.e., prior to commencement of operations and post commencement of operations respectively.
6. Prior to commencement of operations: If in the event of Force Majeure occurs prior to commencement of operations and continues for a period in excess of ten days, then the IIML will grant a period of 7 days to the SI to resume normal activities under this MSA. In case the default continues, then the IIML may discuss the issue with the SI and revise the existing timelines for the Project.
7. Force Majeure occurs post commencement of operations: If in the event of Force Majeure occurs post commencement of operations and continues for a period in excess of five days, then the IIML will grant a period of 7 days to the SI to resume normal services under this MSA. In case the default continues, the IIML may grant an extension of time to the SI for rectifying the situation.
8. Notwithstanding the terms of this, the failure on the part of the SI under the SLA to implement any disaster contingency planning and back-up and other data safeguards in accordance with the terms of the SLA against natural disaster, fire, sabotage or other similar occurrence shall not be an event of Force Majeure.
9. All payments pursuant to termination due to Force Majeure event shall be in accordance with the Terms of Payment in MSA.
10. It is hereby clarified that an event of Force Majeure will not lead to expiry of the MSA and of the SLA and result in withholding of the payment to the SI as set out in the Terms of Payment Schedule to this MSA.



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

11. ARTICLE 11: Data Protection and Confidentiality

1. In the course of providing the Services, the SI may be compiling, processing and storing proprietary IIML Data.
2. The SI shall be responsible for complying with its obligations under the Constitution of India, applicable data protection laws, rules and regulations governing the IIML Data, and including the Copyright Act, 1957 and the Information Technology Act, 2000.
3. As a processor of IIML Data, the SI will process IIML Data in accordance with the agreement under the SLA.
4. The SI is required to perform or adhere to only those security measures concerning the IIML Data which were in place (i) as of the Effective Date; and (ii) those made available to it in writing from time to time in accordance with the SLA and this MSA.
5. The SI shall not transfer any IIML Data to a third party unless otherwise authorized by IIML.
6. Upon reasonable written request from a Party to the SLA, the other Party to the SLA will provide the requesting Party with such information that it has regarding the IIML Project Data and its processing which is necessary to enable the requesting party to comply with its obligations under this MSA and the SLA and the applicable data protection law or regulation.

11.1. Confidentiality

1. IIML shall allow the SI to come into possession of highly confidential public records and the SI shall maintain the highest level of secrecy, confidentiality, and privacy with regard thereto.
2. Additionally, the SI shall keep confidential all the details and information with regard to the Project, including systems, facilities, operations, management, and maintenance of the systems/facilities.
3. IIML shall retain all rights to prevent, stop and if required take the necessary punitive action against the SI regarding any forbidden disclosure.
4. The SI shall ensure that all its employees, agents and sub-contractors execute individual non-disclosure agreements, which have been duly approved by the IIML with respect to this Project.
5. The aforesaid provisions shall not apply to the following information:
 - a. already in the public domain; and
 - b. which has been developed independently; and
 - c. which has been received from a third party who had the right to disclose the aforesaid information; and



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- d. disclosed to the public due to a court order.

12. ARTICLE 12 Audit, Access and reporting

1. The Parties shall comply with the Audit, Access and Reporting Schedule.
2. The SI shall on request allow access to IIML to all information which is in the possession or control of the SI which relates to the provision of the Services as set out in the Audit, Access and Reporting Schedule and is reasonably required to comply with the terms of the Audit, Access and Reporting Schedule III.

13. ARTICLE 13 Intellectual Property

13.1. Intellectual property of IIML

1. The Intellectual Property Rights on the Project Artifacts of the *Network Infrastructure Upgrade Project* shall vest with the IIML as soon as the system is certified by a third-party agency. A copy of the project artifacts shall be kept in the custody of the IIML on successful commissioning of the project components basis, with proper version control.
2. Except as otherwise provided in this MSA, all systems related designs, documents, and source code (customized for this project) shall be the exclusive property of the IIML.
3. Subject to any sole or exclusive rights granted by IIML to a third party prior to the Effective Date, IIML grants to the SI solely in their performance of Services for the Project, non-exclusive, paid-up, royalty free right and license during the Term of this MSA (but not the right to sub-license), to use the IIML Data including the right to copy, perform, display, execute, reproduce, modify, enhance and improve the IIML Data to the extent reasonably necessary or useful for the provision of Services hereunder.
4. All right, title, and interest in and to, and ownership in, IIML Proprietary Information, shall remain solely with IIML. The SI shall be entitled to use such IIML Proprietary Information only during the Term and only for the purposes of providing the Services or to the extent necessary for the SI's normal operational, repair and maintenance purposes related to the Services. IIML shall retain ownership of all Intellectual Property Rights related to IIML Proprietary Information.
5. IIML hereby grants to SI a non-exclusive right and license to access and use the IIML Proprietary Information solely for the purpose of providing Services to IIML pursuant to this MSA and the SLA. Such right and license shall terminate upon the expiration or termination of this MSA and the SLA.
6. The SI shall not use the IIML Data for any other purpose other than for the purpose of providing the Services.



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

13.2. Intellectual property rights with respect to third party

1. If the SI uses in the course of the provision of the Services any Third-Party System, it will use all commercially reasonable endeavours to pass to IIML such third party's warranties relating to such Third-Party Systems. In the event that such warranties cannot be passed to or enforced by IIML, the SI will enforce such warranties on IIML's behalf and account to the IIML for so doing. For a third-party product supplied under the MSA or the SLA, the SI shall pass on to the IIML all the indemnities offered by such third party.
2. The SI shall procure the licenses of the third-party software in accordance with its procedures by payment of applicable license fees or subscription fees on behalf of IIML. The licenses thus procured would be in the name of the IIML. The SI shall ensure that third party vendors provide standard based customer interface and also considers other factors like regular upgrades/updates and support etc.
3. The Intellectual Property Rights of third-party software shall remain vested with the owner of such rights. However, all improvements, enhancements and modifications to the same including all Intellectual Property Rights related thereto, shall be owned by and be the property of the IIML.

13.3. Intellectual property rights with respect to deliverables

1. With respect to ownership of the Deliverables, the Parties agree that the following shall apply:
 - a. All right, title and interest and ownership of the Deliverables and Intellectual Property Rights in them provided to IIML by SI during the course of its performance under this MSA and under SLA which includes but is not limited to Network Infrastructure Upgrade Project shall vest in IIML immediately upon creation. To the extent that the SI Proprietary Information is incorporated within the Deliverables, SI and its employees engaged hereby grant to IIML a worldwide, perpetual, irrevocable, non-exclusive, transferable, paid-up right and license to use, copy, modify (or have modified), transport to IIML and prepare from them, use and copy derivative works for the benefit of and internal use of IIML of such SI Proprietary Information. The IIML's rights pursuant to the preceding sentence include the right to disclose such SI Proprietary Information to third party contractors solely for use on the Project provided that all such third-party contractors execute, deliver and comply with any customary confidentiality and nondisclosure agreements reasonably required by the IIML.
 - b. If SI proceeds to apply for, or assign to any third party, any patent rights relating to the SI Proprietary Information referred to in the above clause, the SI will ensure that the IIML's rights as provided herein are preserved.



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

13.4. Intellectual property rights on termination:

1. Upon the expiration or any termination of this MSA (and also in respect of the SLA), SI shall undertake the actions set forth below in this Article to assist IIML and its nominees to procure replacement services equivalent to Services provided hereunder:
 - a) The SI undertakes to negotiate in good faith with IIML and any relevant Replacement SI in respect of commercial terms applying to grant of rights in respect of intellectual property rights relating to the SI Proprietary Information and which IIML and any relevant Replacement SI require to enable them to provide or receive services substantially equivalent to the Services hereunder.
 - b) In respect of SI third party Intellectual Property Rights, SI undertakes to assist IIML and/or its nominees to secure such consents or licenses from such third parties as are necessary to enable IIML to receive services substantially equivalent to the Services hereunder. The obligations of the SI shall be considered part of the services performed by the SI under the Exit Management Services.
2. SI shall hand over the source code (if any) and all its versions of the Deliverables upon termination/exit to IIML for future maintenance.
3. Nothing contained in this MSA or in the SLA shall or will be construed or deemed to grant to the SI or its respective affiliates/nominees any right, title, license or other interest in, to or under (whether by estoppel, by implication or otherwise) any logo, trademark, trade name, service mark or similar designations of the *Network Infrastructure Upgrade Project*.

14. ARTICLE 14: Miscellaneous

14.1. Personnel

1. Personnel assigned by SI to perform the Services shall be employees of SI, and under no circumstances will such personnel be considered employees of IIML.
2. Personnel of SI and the existing Government staff shall work together handling day to day functioning of the Network Infrastructure Upgrade Project.
3. SI shall have the sole responsibility for supervision and control of its personnel and for payment of such personnel's entire compensation, including salary, withholding of income taxes and social security taxes, worker's compensation, employee and disability benefits and the like and shall be responsible for all employer obligations under all applicable laws.



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

4. SI shall use its best efforts to ensure that sufficient SI personnel are assigned to perform the Services and those personnel have appropriate qualifications to perform the Services.
5. After discussion with SI, IIML shall have the right to require the removal or replacement of any SI personnel performing work under this MSA or the SLA. In the event that IIML requests that any SI personnel be replaced, the substitution of such personnel shall be accomplished pursuant to a mutually agreed upon schedule but not later than 5 working days.
6. In the event the IIML identifies any personnel of SI as "Key Personnel", then the SI shall not remove such personnel without the prior written consent of the IIML. This Clause shall however not apply to a case of death, retirement, illness, resignation or termination of employment of any Key Personnel for whatever reason by the SI.
7. Nothing in this MSA or the SLA will limit the ability of SI or any SI freely to assign or reassign its employees; provided that SI shall be responsible, at its expense, for transferring all appropriate knowledge from personnel being replaced to their replacements. IIML shall have the right to review and approve SI's plan for any such knowledge transfer. SI shall maintain the same standards for skills and professionalism among replacement personnel as in personnel being replaced.
8. Each Party shall be responsible for the performance of all its obligations under this MSA and the SLA and shall be liable for the acts and omissions of its employees and agents in connection therewith.
9. Neither Party will solicit for employment or knowingly hire an employee of the other Party with whom such Party has contact pursuant to project engagements under this MSA or the SLA. This restriction shall not apply to employees of either Party responding to advertisements in job fairs or news media circulated to the general public.

14.2. Sub-contractors

1. SI shall not subcontract any work except as mentioned in volume 1 of RFP related to the implementation of IT Infrastructure Enhancement Project to be performed under this MSA or under the SLA without the IIML's prior written consent.
2. The approval of the IIML of a sub-contractor shall not relieve the SI of any of its obligations under the Contract. The terms of any sub-contract shall be subject to and conform to the provisions of this Contract.
3. It is clarified that the SI shall be the principal employer for all claims arising from the liabilities statutory or otherwise, concerning the sub-contractors.



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

14.3. Assignment

All terms and provisions of this MSA and the SLA shall be binding on and shall inure to the benefit of IIML, SI and their respective successors and permitted assigns. Subject to the foregoing, in the event of any assignment of this MSA or the SLA or any rights hereunder by either Party, the assigning Party shall remain liable for the performance of its obligations hereunder. IIML may also assign or novate all or any part of this MSA, SLA and Schedules, and the SI agrees to join in any such novation, to any third party contracted to provide outsourced services to IIML.

14.4. Trademarks, publicity

Neither Party may use the trademarks of the other Party without the prior written consent of the other Party. Except as required by law or the rules and regulations of each stock exchange upon which the securities of one of the Parties is listed, neither Party shall publish or permit to be published either along or in conjunction with any other person any press release, information, article, photograph, illustration or any other material of whatever kind relating to this MSA or to the SLA or the business of the Parties without prior reference to and approval in writing from the other Party, such approval not to be unreasonably withheld or delayed provided however that SI may include IIML or its client lists for reference to third parties subject to the prior written consent of IIML (not to be unreasonably withheld or delayed). Such approval shall apply to each specific reference and relate only to that reference.

14.5. Notices

1. Any notice or other document which may be given by either Party under this MSA or under the SLA shall be given in writing in person or by pre-paid recorded delivery post or by facsimile transmission.
2. In relation to a notice given under this MSA or under the SLA, any such notice or other document shall be addressed to the other Party's principal or registered office address as set out below:

The Chief Administrative Officer,
Indian Institute of Management
Lucknow

With a copy to:

SI:



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Tel:

Fax:

Contact:

Copy to:

3. In relation to a notice given under the MSA or under the SLA, shall specify the Parties' address for service of notices, any such notice to be copied to the Parties at the addresses set out in Article 14.
4. Any such notice or other document shall be deemed to have been given to the other Party (or, if relevant, its relevant associated company) when delivered (if delivered in person) if delivered between the hours of 10.00 am and 6.00 pm at the address of the other Party set forth above or if sent by fax, provided the copy fax is accompanied by a confirmation of transmission, or on the next working day thereafter if delivered outside such hours, and 7 days from the date of posting (if by letter).
5. Either Party to this MSA may change its address, telephone number, facsimile number and nominated contact for notification purposes by giving the other reasonable prior written notice of the new information and its effective date.

14.6. Variations and further assurance

1. No amendment, variation or other change to this MSA or to the SLA shall be valid unless authorized in accordance with the change control procedure as set out in the Change Control Schedule and made in writing and signed by the duly authorized representatives of the Parties to this MSA or to the SLA.
2. Each Party to this MSA or to the SLA agrees to enter into or execute, without limitation, whatever other agreement, document, consent and waiver and to do all other things which shall or may be reasonably required to complete and deliver the obligations set out in this MSA or in the SLA.

14.7. Severability and waiver

1. If any provision of this MSA or the SLA, or any part thereof, shall be found by any court or administrative body of competent jurisdiction to be illegal, invalid or unenforceable the illegality, invalidity or unenforceability of such provision or part provision shall not affect the other provisions of this MSA or the SLA or the remainder of the provisions in question which shall remain in full force and effect. The relevant Parties shall negotiate in good faith in order to agree to substitute for any illegal, invalid or unenforceable provision a valid and enforceable provision



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

which achieves to the greatest extent possible the economic, legal and commercial objectives of the illegal, invalid or unenforceable provision or part provision.

2. No failure to exercise or enforce and no delay in exercising or enforcing on the part of either Party to this MSA or to the SLA of any right, remedy or provision of this MSA or the SLA shall operate as a waiver of such right, remedy or provision in any future application nor shall any single or partial exercise or enforcement of any right, remedy or provision preclude any other or further exercise or enforcement of such right, remedy or provision or the exercise or enforcement of any other right, remedy or provision.

14.8. Compliance with laws and regulations

Each Party to this MSA or to the SLA accepts that its individual conduct shall (to the extent applicable to it) at all times comply with all laws, rules and regulations of government and other bodies having jurisdiction over the area in which the Services are undertaken provided that changes in such laws, rules and regulations which result in a change to the Services shall be dealt with in accordance with the Change Control Schedule.

14.9. Professional fees

All expenses incurred by or on behalf of each Party to this MSA or to the SLA, including all fees of agents, legal advisors, accountants employed by either of the Parties in connection with the negotiation, preparation, and execution of this MSA or the SLA shall be borne solely by the Party which incurred them.

14.10. Insurance

The SI shall provide and thereafter maintain insurance against all risks in respect of its property and any equipment used for the execution of this Contract. The SI shall provide and thereafter maintain all appropriate workmen's compensation insurance, or the equivalent, with respect to its employees to cover claims for personal injury or death in connection with this Contract. The SI shall also provide and thereafter maintain liability insurance in an adequate amount to cover third party claims for death or bodily injury, or loss of or damage to property, arising from or in connection with the provision of services under this Contract or the operation of any vehicles, or other equipment owned or leased by the SI or its agents, servants, employees or sub-contractors performing work or services in connection with this Contract.

14.11. Ethics

SI represents, warrants and covenants that it has given no commitments, payments, gifts, kickbacks, lavish or expensive entertainment, or other things of value to any employee or agent of IIML in connection with this agreement and acknowledges that the giving of any such payment,



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

gifts, entertainment, or other things of value is strictly in violation of IIML's standard policies and may result in cancellation of this MSA and the SLA.

14.12. Strategic control

Network Infrastructure Upgrade Project is defined as the authority of IIML to own the Project Components and to ensure that the application system and the databases are customized, installed, and managed exactly in conformance with the procedures laid down by the IIML, that the system does not perform functions and activities not provided for or contemplated by the prescribed procedures, that no changes are made to the Project Components are made without specific approval of IIML and that IIML has the required access to ensure the same. The strategic control shall be executed in accordance with the Strategic control Schedule and shall cover all the aspects of the Network Infrastructure Upgrade Project.

14.13. Entire agreement

This Agreement and all schedules appended thereto and the contents and specifications of the Volumes I and II of the RFP constitute the entire agreement between the Parties with respect to their subject matter, and as to all other representations, understandings or agreements which are not fully expressed herein, provided that nothing in this section shall be interpreted so as to exclude any liability in respect of fraudulent misrepresentation.

In case of conflict in ascertaining the completeness of Scope of Work, the RFP along with annexures shall have precedence over other documents.

In case, anything mentioned in the RFP has not been included in this MSA, then in such event, the provisions/specifications/ requirements as stated in the RFP shall be deemed to be part of this Agreement.

14.14. Survivability

The termination or expiry of this MSA or the SLA for any reason shall not affect or prejudice any terms of this MSA or the SLA, or the rights of the Parties under them which are either expressly or by implication intended to come into effect or continue in effect after such expiry or termination.

14.15. Amendment

1. The Parties acknowledge and agree that amendment to this MSA or to the SLA shall be made in writing in accordance with the procedure this MSA and SLA is executed and signed.
2. The Parties acknowledge and agree that the form of the SLA may need to be amended as necessary or appropriate to reflect the legal requirements and practices from time to time applicable in the relevant jurisdiction, and that amendment shall be made in accordance with the



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Agency by:

(Signature)

(Signature)

(Name)

(Name)

(Designation)

(Designation)

(Address)

(Address)

(Fax No.)

(Fax No.)

In the presence of:

1.

2.



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

15. SERVICE LEVEL AGREEMENT

The objective of this section is to provide the draft Service Level Agreement to be signed between the IIML and the successful bidder. The agreement is the draft and can be changed after discussion between the two parties before signing the agreement.

THIS AGREEMENT is made this _____ day of _____ 2021

BETWEEN:

The Chief Administrative Officer, Indian Institute of Management Lucknow, having its office at _____ India hereinafter referred to as 'Purchaser' or 'Buyer', which expression shall, unless the context otherwise requires, include its permitted successors and assigns).

AND

_____, a Company incorporated under the Companies Act, 1956, having its registered office at _____ (hereinafter referred to as 'the SI/IA' or 'the System Integrator/SI' which expression shall, unless the context otherwise requires, include its permitted successors and assigns).

Each of the parties mentioned above are collectively referred to as the 'Parties' and individually as a 'Party'

WHEREAS

1. IIML intends to enable and augment successfully the implementation, operations and maintenance of the components of the *Network Infrastructure Upgrade Project* with the ultimate objective of providing the envisioned services to the stakeholders.
2. IIML undertook selection of a suitable System Integrator (SI) through a competitive bidding process for implementing the project and in this behalf issued Request for Proposal (RFP) dated _____.
3. The SI has been selected as the successful bidder to undertake the successful implementation of the Network Infrastructure Upgrade Project.
4. IIML intends to grant to the SI the right to undertake and implement the Network Infrastructure Upgrade Project on the terms and conditions set forth below for a period which starts from the date of contract and extends to the period which involves implementation phase till successful commissioning of the project and SEVEN years of Operation and maintenance from the date of successful 'Go-Live' of the project.



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- The SI in pursuance of its bid undertakes to implement the project during the term. As part of the acceptance inter alia, the SI shall furnish the Performance Guarantee as defined in this Agreement;
- Now therefore, in view of the mutual promises and consideration set out herein, IIML and the SI (each individually a "Party" hereto and collectively the "Parties") have agreed to enter into this Master Services Agreement ("MSA") to govern the way in which SI will build and maintain the project specified under this Agreement and the Service Level Agreement ("SLA") in accordance with roles and responsibilities of the IIML and the SI as set forth in the RFP.

15.1. Definitions and Interpretation

15.2. Definitions

Terms and expressions used in this Agreement (including the Introduction) shall have the meanings set out in below table:

S. No.	Term	Definition
1.	Agreement/Service Level Agreement/SLA	means this Service Level agreement together with all Articles, Annexures, Schedules and the contents and specifications of the RFP;
2.	Project or Network Infrastructure Upgrade Project	Means Project including all the project components and accompaniments. Project shall be as per the terms laid down in the RFP and provision of services in conformance to the SLA.
3.	Network availability	"Network availability" shall mean the time period for which the specified services and components with specified technical and services standards as are available to the users of the system. Network availability, in percentage, can be calculated as: $\{ \text{Network availability time (Hours) in the quarter} / (\text{Total time in the quarter} - \text{scheduled maintenance time}) \} * 100.$ Time lost due to following reasons shall NOT BE counted in TOTAL TIME while calculating Uptime requirement: 1. the scheduled outages planned in advance for the Purchaser



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Term	Definition
		<p>2. time lost due to power or environment failures (in case the outage is beyond the duration of backup power supplied by SI as per the RFP requirements).</p> <p>3. time lost due to damage or malfunction of the equipment or any of the units thereof due to causes attributable to the Purchaser. Such as attachment of additional devices without permission of SI.</p> <p>The SI shall not be responsible for failure of any Service Levels in accordance with this Agreement if such failure is caused due to reasons attributable to, or failure of the Purchaser to perform its or their obligations or for force majeure event.</p>
4.	Parties	Means IIML and SI for the purposes of this SLA. IIML and the SI; " Party " shall be interpreted accordingly.
5.	Scheduled maintenance time	'Scheduled maintenance time' refers to unavailability of the IIML services due to maintenance activities such as configuration changes, upgradation, or changes to any supporting infrastructure. Prior intimation of such planned outage shall be given, and approval sought from the IIML as applicable and shall be notified at least One week before.
6.	Service Level	means the level of service and other performance criteria which will apply to the Services as set out in the SLA parameters effective during the Term of this SLA
7.	Term	means the duration of this SLA
8.	Applicable Law(s)	means any statute, law, ordinance, notification, rule, regulation, judgment, order, decree, byelaw, approval, directive, guideline, policy, requirement or other governmental restriction or any similar form of decision of, or determination by, or any interpretation or administration of the Purchaser as may be in effect on the date of the execution of this Agreement and during the subsistence thereof, applicable to the Project;



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Term	Definition
9.	Business Hours	shall mean the working time for Purchaser users which is 9:30 AM to 5:30 PM daily. Again, for components such as Active and Passive devices, Fiber cables, Network Management Systems, Firewalls, Ticketing Solution, etc. which enable connectivity of Network for the Purchaser, the working time should be considered as 24 hours for all the days of the week. It is desired that IT maintenance, other batch processes (like backup) etc. should be planned so that such backend activities have minimum effect on the performance;
10.	Effective Date	shall have the same meaning ascribed to it in Article 1;

- A. The headings and use of bold type in this SLA are for convenience only and shall not affect the interpretation of any provision of this SLA.
- B. The words "day" and "month" mean "calendar day" and "calendar month" unless otherwise stated. Where, because of a difference in time zone, the calendar day or calendar month in one Country differs from another Country, then the calendar day or calendar month shall be deemed to be the calendar day or calendar month applicable to India.

15.3. Interpretation

In this Agreement, unless otherwise specified:

- a. references to Clauses, Sub-Clauses, Paragraphs and Schedules are to clauses, subclauses, paragraphs of and schedules to this Agreement;
- b. use of any gender includes the other genders;
- c. references to a 'company' shall be construed so as to include any company, corporation or other body corporate, wherever and however incorporated or established.
- d. references to a 'person' shall be construed so as to include any individual, firm, company, government, state or agency of a state, local or municipal authority or government body or any joint venture, association or partnership (whether or not having separate legal personality);
- e. a reference to any statute or statutory provision shall be construed as a reference to the same as it may have been, or may from time to time be, amended, modified or re-enacted;
- f. any reference to a 'day' (including within the phrase 'business day') shall mean a period of 24 hours running from midnight to midnight;



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- g. references to a 'business day' shall be construed as a reference to a day (other than a Sunday) on which banks in the state of Uttar Pradesh are generally open for business;
- h. references to times are to Indian Standard Time;
- i. a reference to any other document referred to in this Agreement is a reference to that other document as amended, varied, novated or supplemented at any time; and
- j. all headings and titles are inserted for convenience only. They are to be ignored in the interpretation of this Agreement.

15.4. Measurements and Arithmetic Conventions

All measurements and calculations shall be in the metric system and calculations done to 2 (two) decimal places, with the third digit of 5 (five) or above being rounded up and below 5 (five) being rounded down except in money calculations where such amounts shall be rounded off to the nearest INR.

15.5. Ambiguities within Agreement

In case of ambiguities or discrepancies within this Agreement, the following principles shall apply:

- a. as between two Clauses of this Agreement, the provisions of a specific Clause relevant to the issue under consideration shall prevail over those in a general Clause;
- b. as between the provisions of this Agreement and the Schedules, the Agreement shall prevail, save and except as expressly provided otherwise in the Agreement or the Schedules; and
- c. as between any value written in numerals and that in words, the value in words shall prevail.

15.6. Priority of agreements

The Parties hereby expressly agree that for the purpose of giving full and proper effect to this Agreement, the MSA and this Agreement shall be read together and construed harmoniously. In the event of any conflict between the MSA and this Agreement, the provisions contained in the MSA shall prevail over this Agreement.

15.7. Structure

This SLA shall operate as a legally binding services agreement specifying terms which apply to the Parties in relation to the provision of the Services by the SI to the Buyer and its nominated agencies under this Agreement and the MSA.

15.8. Objectives of SLA

The SI shall be required to ensure that the Service Levels which shall ensure the following:



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- a) Improving the efficiency of operations for the Purchaser.
- b) Leveraging the benefits in new system in order to:
 - i. Reduce manual records and replace with computerized standardized documents.
 - ii. Infuse transparency in operations by enabling the stakeholders to have easy access to the records and provision of login ids and biometrics to infuse accountability in operations.
 - iii. Enable faster request processing in delivery of services with better turn-around time.
 - iv. Facilitate automated data transfer with state-wide connectivity to prevent unnecessary duplication & simplify preparation of registers and reports.
 - v. Generate meaningful MIS from the system.
 - vi. Provide inbuilt mechanism of security and quality control for crucial dealer data.

To meet the aforementioned objectives the SI will provide the Service Levels in accordance with the performance metrics as set out in detail in this Agreement. Further this Agreement shall govern the provision of the contracted services of the SI to the Purchaser and its nominated agencies after the Go-Live Date.

15.9. Scope of the SLA

This Agreement has been executed in relation to the outsourcing portion of the Project between the Parties. The detailed Service Levels have been set out in Annexure A to this Agreement.

This Agreement shall ensure the following:

- a) Establishment of mutual responsibilities and accountability of the Parties;
- b) Definition each Party's expectations in terms of services provided;
- c) Establishment of the relevant performance measurement criteria;
- d) Definition of the availability expectations;
- e) Definition of the escalation process;
- f) Establishment of trouble reporting single point of contact; and
- g) Establishment of the framework for SLA change management

The following parties are obligated to follow the procedures as specified by this Agreement:

- a) Buyer
- b) System Integrator (SI)



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

15.10. Commencement and Duration of SLA

This SLA shall commence on the date on which it is fully executed by IIML and the SI (hereinafter the 'Effective Date') and shall, unless terminated earlier in accordance with its terms or unless otherwise agreed by the Parties, expire on the date on which this SLA expires or terminates for any reason, which shall a period of SEVEN (7) years starting from the 'Go-Live' date of the project.

15.11. Exclusions to the Agreement

This Agreement shall not govern the following services:

- a) Consulting services; and
- b) SI's business processes not related to the Project.

15.12. Terms of Payment and Penalties

- a) In consideration of the Services and subject to the provisions of the MSA and this SLA, the IIML shall pay the amounts in accordance with the Terms of Payment Schedule of the MSA.
- b) For the avoidance of doubt, it is expressly clarified that the Buyer and/or its nominated agencies may also calculate a financial sum and debit the same against the terms of payment as defined in the Terms of Payment Schedule of the MSA as a result of the failure of the SI to meet the Service Levels as set out in Annexure A of this Agreement, such sum being determined in accordance with the terms of the Service as set out in Annexure A of this Agreement.

15.13. Updating the Service level Agreement

- a) The Parties anticipate that this Agreement shall need to be re-evaluated and modified to account for changes in work environment and technology from time to time. Hence, they hereby agree to revise the terms of the Agreement on an annual basis.
- b) The Parties hereby agree upon the following procedure for revising this Agreement:
 - i. Any and all changes to this Agreement will be initiated in writing between the Buyer and the SI, the service levels in this Agreement shall be considered to be standard for the Buyer and shall only be modified if both Parties agree to an appended set of terms and conditions;
 - ii. Only the Buyer or the SI may initiate a revision to this Agreement;
 - iii. A notice of the proposed revision ("SLA Change Request") shall be served to the Buyer or the SI as the case may be;
 - iv. The SLA Change request would be deemed to be denied in case it is not approved within a period of 30 days;



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- v. In the event that Buyer/SI approves of the suggested change the change shall be communicated to all the Parties and the SLA Change request would be appended to the Agreement;
- vi. The Buyer shall update and republish the text of Agreement annually to include all the SLA Change Requests that have been appended to the Agreement during the course of the year. Such republished Agreement shall be circulated to all the Parties within 7 days of such change taking place.
- vii. The following is a description of the Service Level Agreement Change Process:
 - (i) SI and/or IIML identifies a requirement that is different from the current Service Level Agreement. SI or IIML initiates a Service Level Agreement Change Request in the format as specified in the CCN of the MSA.
 - (ii) SLA Change Request is presented to IIML or SI for review.
 - (iii) Each party must approve all Service Level Agreement changes within stipulated time frame.
 - (iv) If the change is approved, the approval information is filled in on the change form, the requesting party is notified of the implementation date, the approved request is communicated in writing to all parties listed in (ii) above, and the Service Level Agreement Change Request is appended to the Service Level Agreement. If the changes are not approved, the Requestor of the change will be notified. The Service Level Agreement is updated as and when required.

15.14. Document History

All revisions made to this Agreement shall be listed in chronological order as per the format set out below and a copy of the same shall be provided to the Parties:

Version	Date	Description of Change
_____	_____	_____

15.15. Scope of Services

- a) The SI shall ensure that Services are available at various locations as per the requirements of the project.



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- b) The SI shall provide support services for addressing problems related to the provision of services of the selected bidder through the Point of Contact (POC). Such POC shall be available over telephone or Emails 24 hours a day, 7 days a week.
- c) The SI guarantees that he shall achieve the Service Levels for the Project.
- d) The SI shall be liable to Service Credits in case of failure to comply with the Service Levels. However, any delay not attributable to the SI shall not be considered while computing adherence to the Service Levels.

15.16. Responsibilities and Obligations

Volume I of the RFP defines IIML and SI roles and responsibilities typically required to successfully support the initiative.

15.17. Performance Review

The representatives of both the Parties will meet weekly, fortnightly and monthly to discuss project priorities, service levels and system performance. Additional meetings may be held at the request of either the IIML or the SI. The Agenda for these meetings will be:

- a) Service Performance
- b) Review of Specific Problems/Exceptions and Priorities
- c) Review Operation of the SLA and determine corrective action to overcome deficiencies.

15.18. Indemnities

The Parties agree to indemnify each other under this Agreement in accordance with the terms and principles set out in the MSA.

15.19. Dispute resolution

Any dispute, difference or claim arising out of or in connection with the Agreement which is not resolved amicably shall be decided in accordance with the dispute resolution procedure as set out in the MSA

15.20. Maximum Cap on SLA Penalties

The Penalty shall be calculated on a quarterly basis. The total penalties should not exceed 10% of the total contract value. In the event of exceeding this limit, the IIML may at its discretion will have right to terminate the contract as per the terms and Conditions of this RFP and Draft contract Agreement.

15.21. Miscellaneous

- a) **Assignment and charges**



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

This Agreement shall be binding on and ensure for the benefit of each Party's successors in title. No Party shall assign or declare any trust in favour of a third party over, all or any part of the benefit of, or its rights or benefits under, this Agreement.

b) Governing law and jurisdiction

This Agreement shall be construed and interpreted in accordance with and governed by the laws of India, and the courts at the State of UTTAR PRADESH shall have jurisdiction over matters arising out of or relating to this Agreement.

c) Waiver of sovereign immunity

The Parties unconditionally and irrevocably:

- i. agree that the execution, delivery and performance by them of the Agreement constitute commercial acts done and performed for commercial purpose;
- ii. agree that, should any proceedings be brought against a Party or its assets, property or revenues in any jurisdiction in relation to the Agreement or any transaction contemplated by the Agreement, no immunity (whether by reason of sovereignty or otherwise) from such proceedings shall be claimed by or on behalf of such Party with respect to its assets;
- iii. waive any right of immunity which it or its assets, property or revenues now has, may acquire in the future or which may be attributed to it in any jurisdiction; and
- iv. consent generally to the enforcement of any judgment or award against it in any such proceedings to the giving of any relief or the issue of any process in any jurisdiction in connection with such proceedings (including the making, enforcement, or execution against it or in respect of any assets, property or revenues whatsoever irrespective of their use or intended use of any order or judgment that may be made or given in connection therewith).

d) Variation

This Agreement may only be varied in writing and signed by both Parties.

e) Waiver

Waiver including partial or conditional waiver, by either Party of any default by the other Party in the observance and performance of any provision of or obligations under this Agreement:

- shall be in writing
- shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions of or obligations under this Agreement;



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- shall not be effective unless it is in writing and executed by a duly authorized representative of the Party; and
- shall not affect the validity or enforceability of this Agreement in any manner.

f) Exclusion of implied warranties

This Agreement expressly excludes any warranty, condition or other undertaking implied at law or by custom or otherwise arising out of any other agreement between the Parties or any representation by either Party not contained in a binding legal agreement executed by both Parties.

g) Survival

- i. Termination or expiration of the Term shall:
 - not relieve the SI or the Buyer, as the case may be, of any obligations hereunder which expressly or by implication survive hereof; and
 - except as otherwise provided in any provision of this Agreement expressly limiting the liability of either Party, not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of, or caused by, acts or omissions of such Party prior to the effectiveness of such termination or expiration or arising out of such termination or expiration.
- ii. All obligations surviving termination or expiration of the Term shall cease on termination or expiration of the Term.

h) Entire Agreement

This Agreement and the Annexure together constitute a complete and exclusive statement of the terms of the agreement between the Parties on the subject hereof, and no amendment or modification hereto shall be valid and effective unless such modification or amendment is agreed to in writing by the Parties and duly executed by persons especially empowered in this behalf by the respective Parties. All prior written or oral understandings offers or other communications of every kind pertaining to this Agreement are abrogated and withdrawn.

i) Severability

If for any reason whatever, any provision of this Agreement is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Parties shall negotiate in good faith with a view to agreeing to one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable to such invalid, illegal or unenforceable provision. Failure to agree upon any



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

such provisions shall not be subject to the dispute resolution procedure set forth under this Agreement or otherwise.

j) No partnership

This Agreement shall not be interpreted or construed to create an association, joint venture or partnership between the Parties, or to impose any partnership obligation or liability upon either Party, and neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party except as expressly provided under the terms of this Agreement.

k) Third parties

This Agreement is intended solely for the benefit of the Parties and their respective successors and permitted assigns, and nothing in this Agreement shall be construed to create any duty to, standard of care with reference to, or any liability to, any person not a Party to this Agreement.

l) Notices

Any notice or other communication to be given by any Party to the other Party under or in connection with the matters contemplated by this Agreement shall be in writing and shall be given by hand delivery, recognized courier, registered post, email or facsimile transmission and delivered or transmitted to the Parties at their respective addresses set forth below:

If to Purchaser:

Attn: <***>

Tel:

Fax:

Email:

Contact:

With a copy to:

If to the SI:

Attn. <***>

Phone: <***>

Fax No. <***>

m) Language



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

All notices required to be given by one Party to the other Party and all other communications, documentation and proceedings which are in any way relevant to this Agreement shall be in writing and in the English language.

n) Counterparts

This Agreement may be executed in two counterparts, each of which, when executed and delivered, shall constitute an original of this Agreement.

o) Mitigation

Without prejudice to any express provisions of this Agreement on any mitigation obligations of the Parties, each of the Buyer and the SI shall at all times take all reasonable steps to minimize and mitigate any loss for which the relevant Party is entitled to bring a claim against the other Party pursuant to this Agreement.

p) Removal of Difficulties

The Parties acknowledge that it is conceivable that the Parties may encounter difficulties or problems in the course of implementation of the Project and the transactions envisaged under this Agreement. The Parties agree and covenant that they shall mutually discuss such difficulties and problems in good faith and take all reasonable steps necessary for removal or resolution of such difficulties or problems.

IN WITNESS WHEREOF the Parties have by duly authorized representatives set their respective hands and seal on the date first above written in the presence of:

SIGNED, SEALED AND DELIVERED

SIGNED, SEALED AND DELIVERED

For and on behalf of the Implementation

For and on behalf of the Buyer by:

Agency by:

(Signature)

(Signature)

(Name)

(Name)

(Designation)

(Designation)

(Address)

(Address)

(Fax No.)

(Fax No.)

In the presence of:

- 1.
- 2.



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

Annexure A - Service levels

The Service Levels for the various Project Components are stated in table below:

S. No.	Activity/SLA Parameter	Target Service Level	Penalty on Breach of Service Level
Project Component: Network Components			
1.	Agreement signing	Within 1 week of formal announcement of successful bidder. (Includes time for IIML feedback and its incorporation by SI)	Penalty of Rs 50,000 shall be charged per day basis
2.	Submission of updated Technical design document	Within 2 weeks of agreement signing. (Includes time for IIML feedback and its incorporation by SI)	Penalty of Rs 25,000 shall be charged per day basis
3.	Absence of safety gear for technicians, laborer	During OFC digging, laying; UTP laying, technicians and laborer are expected to be provided safety gear and working dress	Penalty of Rs 10,000 shall be charged per day basis
4.	Availability of Network services to stakeholders	Availability of all the services associated with Campus Network (All equipment supplied for Project, controllers, monitoring software, etc. shall be included) <u>A detailed methodology for calculation of SLA to be submitted by bidder as part of Technical proposal</u>	<ul style="list-style-type: none"> • 99.5 - 99.0: 0.1% of EQI (Equally Quarterly Instalment Payment) • 98.999 - 98: 0.2% of EQI (Equally Quarterly Instalment Payment) • Less than 98%: 0.4% of EQI (Equally Quarterly Instalment Payment).
5.	Resumption of monitoring, security services	<ul style="list-style-type: none"> • NGFW, WAF, NAC & NMS: 6 hours from reporting • WAF, SSO & Helpdesk solution: 3.5 hours from reporting 	Penalty of Rs 25,000/ hour shall be charged on hourly basis
6.	Resumption of network services - switches	Within one hour for un-serviceability of switches: Core, distribution, Access; OLTs	Penalty of Rs 20,000/ hour shall be charged on hourly basis (Priority shall be to resume services by shifting load to serviceable distribution)



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Activity/SLA Parameter	Target Service Level	Penalty on Breach of Service Level
			switches, Core switch. In case of Access switch, reserve access switch be used.
7.	Resumption of WAPs services	Within one hour	Penalty of Rs 5,000/ WAP/ hour shall be charged on hourly basis (by replacing WAP with reserve WAP)
8.	Repair of un-serviceable component listed in sl no 4,5,6 above	Within 5 working days	Penalty of Rs 10,000 shall be charged per day basis
9.	Repair of cut OFC	Underground OFC – within 24 hours Overground OFC – within 6 hours	Penalty of Rs 20,000/ hour shall be charged on hourly basis
10.	Replacement / repair of passive network components	ONTs, Splitters: within one hour UTP: within two hours	Penalty of Rs 5,000/ Splitter/ hour (replacing from reserve) ONTs, UTPs: replacement from reserve/ repair
11.	Upkeep of Access switch, Splitters, OFC route markers	Free from ingress of dust, bees; lock in working condition, mounting/ platform in working and presentable condition.	Penalty of Rs 5,000/ equipment/ day.
Project Component: UPS and Electrical Items			
12.	UPS Availability at all the sites	99.75%	<ul style="list-style-type: none"> 99.749 - 99.5: 0.1% of EQI (Equally Quarterly Instalment Payment) 99.499 - 99.3: 0.2% of EQI (Equally Quarterly Instalment Payment) Less than 99.299%: 0.4% of EQI (Equally Quarterly Instalment Payment).
13.	Repair Works for Electrical Works	All repairs within 1 Calendar day of reporting by DC team	For lower performance (i.e., more than 1 day), penalty of Rs 5,000 shall be charged per day basis.
Project Component: NON-IT Items			
14.	Repair works for all non-IT items	All repairs within 1 Calendar day of reporting by IIML	For lower performance (i.e., more than 1 day), penalty of Rs 5,000 shall be charged per day basis.



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Activity/SLA Parameter	Target Service Level	Penalty on Breach of Service Level
Ticket Resolution by onsite support team (for Tickets pertaining to Network Management)			
15.	Response Time	<p>Average Time taken to acknowledge and respond, once a ticket/incident is logged through one of the agreed channels (<i>like Ticketing solution, Telephone, Email etc.</i>). This is calculated for all tickets/incidents reported within the reporting month.</p> <p>The time taken shall start from the time the ticket was logged in the system or call was made to the Support team, assignment of the ticket to the Support Engineer, and sending the "Response/Acknowledgement" mail to the customer. The Response mail that is sent by the Support team must include the name and phone number of the engineer who has been assigned that ticket</p> <p>95% of the incidents should be responded within 15 minutes.</p>	<ul style="list-style-type: none"> • <95% & >=90%: 5% of the Quarterly Payment • < 90% & >= 85%: 7% of the Quarterly Payment • < 85%: 9% of the Quarterly Payment
16.	Time to Resolve - Severity 1 (<i>refer note below this table for Severity level definitions</i>)	<p>Time taken to resolve the reported ticket/incident from the time of logging: For Severity 1, 98% of the incidents should be resolved within 30 minutes of problem reporting.</p>	<ul style="list-style-type: none"> • <98% & >=90%: 5% of the Quarterly Payment • < 90% & >= 85%: 10% of the Quarterly Payment • < 85%: 20% of the Quarterly Payment



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Activity/SLA Parameter	Target Service Level	Penalty on Breach of Service Level
17.	Time to Resolve - Severity 2,3 <i>(refer note below this table for Severity level definitions)</i>	Time taken to resolve the reported ticket/incident from the time of logging. <ul style="list-style-type: none"> 95% of Severity 2 within 4 hours of problem reporting 95% of Severity 3 within 16 hours of problem reporting 	<ul style="list-style-type: none"> <95% & >=90%: 2% of the Quarterly Payment < 90% & >= 85%: 4% of the Quarterly Payment < 85%: 6% of the Quarterly Payment
18.	Availability of Root Cause Analysis (RCA) reports for Severity 1	Average within 5 Working days	5% of Quarterly payment
Security Incident Management			
19.	Percentage of timely incident report & Response time	Measured as a percentage by the number of defined incidents reported within a predefined time (1 hour) limit after discovery, over the total number of defined incidents to the network service which are reported within a predefined period (i.e., month). <ul style="list-style-type: none"> 95% within 1 hour 	<ul style="list-style-type: none"> <95% & >=90%: 5% of the Quarterly Payment < 90%: 10% of the Quarterly Payment
		Incident Response – onsite support team shall assess and acknowledge the defined incidents within 1 hour after discovery.	< 85%: 15% of the Quarterly Payment
Periodic Reports			
20.	Availability of Weekly and Monthly SLA Reports covering all the above SLA	2nd business / working day of respective subsequent week for weekly reports. 1 st week of the next month for monthly reports	Penalty of 5% of Quarterly Payment for each non-compliance



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

S. No.	Activity/SLA Parameter	Target Service Level	Penalty on Breach of Service Level
	parameters required for monitoring within the defined time		
SLA for Onsite Resources			
21.	Availability of onsite resources at the site	Availability of the Project Manager at the site during Business days (Exception as Leave Policy with Approval of IIML)	Rs. 3500 per person per day of absence
		Availability of the Network Engineers at the site during any shift (Exception as Leave Policy with Approval of IIML)	Rs. 1500 per person per day of absence

Note:

Severity Levels for Helpdesk Tickets:

Level	Description
Severity 1	Complete loss of any service or network connectivity that impacts a significant number of users and no workaround exists for that issue.
Severity 2	Partial loss of service or network connectivity that impacts few users only and no workaround exists .
Severity 3	Minor loss of service or network connectivity. The result is an inconvenience to less than 4 users, which may be resolved by a temporary workaround.
Severity 4	No loss of service. The issue pertains to a suggestion for potential improvement in the services.



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

These severity level definitions will be further elaborated in consultation with IIML at the time of Helpdesk implementation.



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

- iv. an estimate of any proposed change.
 - v. any relevant acceptance criteria.
 - vi. an assessment of the value of the proposed change.
 - vii. Material evidence to prove that the proposed change is not already covered within the scope of the project or MSA.
- b) Prior to submission of the completed CCN to the IIML, or its nominated agencies, the S will undertake its own internal review of the proposal and obtain all necessary internal approvals. As a part of this internal review process, the Service Provider shall consider the materiality of the proposed change in the context of the MSA, the Project Implementation, post implementation affected by the change and the total effect that may arise from implementation of the change.
- c) Materiality criteria will be established by the IIML and the SI’s Project Manager. Changes requiring no escalation of authority can be implemented. Discussion and agreement as to materiality will be held in accordance with the Governance Schedule of this Agreement.

3. COSTS

Each Party shall be responsible for its own costs incurred in the quotation, preparation of CCNs and in the completion of its obligations described in this process provided the Service Provider meets the obligations as set in the CCN. In the event the IA is unable to meet the obligations as defined in the CCN then the cost of getting it done by third party will be borne by the SI.

4. REPORTING

Change requests and CCNs will be reported monthly to each Party's Project Managers who will prioritize and review progress.

5. OBLIGATIONS

The Service Provider shall be obliged to implement any proposed changes once approval in accordance with above provisions has been given, with effect from the date agreed for implementation and within an agreed timeframe.

<u>Change Control Notice</u>	
Change Control Note	CCN Number
Part A: Initiation	
Title:	
Originator:	
Sponsor:	



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Date of Initiation	
Details of Proposed Change	
(To include reason for change and appropriate details/specifications. Identify any attachments as A1, A2 and A3 etc.)	
Authorized by IIML	Date:
Name:	
Signature:	
Received By IA	Date:
Name:	
Signature:	
Change Control Note	CCN Number
Part B: Evaluation	
(Identify any attachments as B1, B2, and B3 etc.) Changes to Services, charging structure, payment profile, documentation, training, service levels and component working arrangements and any other contractual issue.	
Brief Description of Solution:	
Impact:	
Deliverables:	
Timetable:	
Charges (including a schedule of payments)	for Implementation:
Other Relevant Information: (including value -added and acceptance criteria)	
Authorized by	Date:
Name:	
Signature:	
Change Control Note	CCN Number



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

Part C: Authority to Proceed	
Implementation of this CCN as submitted in Part A, in accordance with Part B is: (Tick as appropriate)	
Approved Rejected Requires Further Information (as follows, or as Attachment 1 etc.)	
For IIML and its nominated agencies	For SI
Signature:	Signature:
Name:	Name:
Title:	Title:
Date	Date:



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

SCHEDULE II: EXIT MANAGEMENT SCHEDULE

Purpose

1. This Schedule sets out the provisions, which will apply on expiry or termination of the MSA, the Project Implementation, Operation and Management SLA.
2. In the case of termination of the Project Implementation and/or Operation and Management SLA due to illegality, the Parties shall agree at that time whether, and if so during what period, the provisions of this Schedule shall apply.
3. The Parties shall ensure that their respective associated entities carry out their respective obligations set out in this Exit Management Schedule.

COOPERATION AND PROVISION OF INFORMATION

During the exit management period:

1. the SI will allow the IIML access to information reasonably required to define the then current mode of operation associated with the provision of the services to enable IIML to assess the existing services being delivered;
2. promptly on reasonable request by the IIML, the SI shall provide access to and copies of all information held or controlled by them which they have prepared or maintained in accordance with the MSA, the Project Implementation, and the Operation and Management SLA relating to any material aspect of the services (whether provided by the SI or sub-contractors appointed by the SI). The IIML shall be entitled to copy of all such information. Such information shall include details pertaining to the services rendered and other performance data. The SI shall permit the IIML and/or any Replacement SI to have reasonable access to its employees and facilities as reasonably required by the IIML to understand the methods of delivery of the services employed by the SI and to assist appropriate knowledge transfer.

CONFIDENTIAL INFORMATION, SECURITY AND DATA

1. The SI will promptly on the commencement of the exit management period supply to the IIML the following:
 - a. information relating to the current services rendered and customer satisfaction surveys and performance data relating to the performance of sub-contractors in relation to the services;
 - b. documentation relating to Project's Intellectual Property Rights;
 - c. documentation relating to sub-contractors;



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- d. all current and updated data as is reasonably required for purposes of IIML transitioning the services to its Replacement SI in a readily available format nominated by the IIML;
 - e. all other information (including but not limited to documents, records and agreements) relating to the services reasonably necessary to enable IIML, or its Replacement SI to carry out due diligence in order to transition the provision of the Services to IIML, or its Replacement SI (as the case may be).
2. Before the expiry of the exit management period, the SI shall deliver to the IIML all new or updated materials from the categories set out above and shall not retain any copies thereof, except that the SI shall be permitted to retain one copy of such materials for archival purposes only.
 3. Before the expiry of the exit management period, unless otherwise provided under the MSA, the IIML shall deliver to the SI all forms of SI confidential information, which is in the possession or control of IIML or its users.

EMPLOYEES

1. Promptly on reasonable request at any time during the exit management period, the SI shall, subject to applicable laws, restraints and regulations (including in particular those relating to privacy) provide to the IIML a list of all employees (with job titles) of the SI dedicated to providing the services at the commencement of the exit management period;
2. Where any national, regional law or regulation relating to the mandatory or automatic transfer of the contracts of employment from the SI to the IIML or its nominees, or a Replacement SI ("Transfer Regulation") applies to any or all of the employees of the SI, then the Parties shall comply with their respective obligations under such Transfer Regulations.
3. To the extent that any Transfer Regulation does not apply to any employee of the SI, IIML, or its Replacement SI may make an offer of employment or contract for services to such employee of the SI and the SI shall not enforce or impose any contractual provision that would prevent any such employee from being hired by the IIML or any Replacement SI.

TRANSFER OF CERTAIN AGREEMENTS

On request by the IIML, the SI shall affect such assignments, transfers, licenses and sub-licenses as the IIML may require in favor of the IIML, or its Replacement SI in relation to any equipment lease, maintenance or service provision agreement between SI and third-party lessors, vendors, and which are related to the services and reasonably necessary for the carrying out of replacement services by the IIML or its Replacement SI.

RIGHTS OF ACCESS TO PREMISES



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

1. At any time during the exit management period, where Assets are located at the SI's premises, the SI will be obliged to give reasonable rights of access to (or, in the case of Assets located on a third party's premises, procure reasonable rights of access to) the IIML, and/or any Replacement SI in order to make an inventory of the Assets.
2. The SI shall also give the IIML, or any Replacement SI right of reasonable access to the SI's premises and shall procure the IIML and any Replacement SI rights of access to relevant third-party premises during the exit management period and for such period of time following termination or expiry of the MSA as is reasonably necessary to migrate the services to the IIML, or a Replacement SI.

GENERAL OBLIGATIONS OF THE SI

1. The SI shall provide all such information as may reasonably be necessary to effect as seamless a handover as practicable in the circumstances to the IIML or its Replacement SI and which the SI has in its possession or control at any time during the exit management period.
2. For the purposes of this Schedule, anything in the possession or control of any SI, associated entity, or sub-contractor is deemed to be in the possession or control of the SI.
3. The SI shall commit adequate resources to comply with its obligations under this Exit Management Schedule.

EXIT MANAGEMENT PLAN

1. The SI shall provide the IIML with a recommended exit management plan ("Exit Management Plan") which shall deal with at least the following aspects of exit management in relation to the MSA as a whole and in relation to the Project Implementation, and the Operation and Management SLA.
 - a) A detailed program of the transfer process that could be used in conjunction with a Replacement SI including details of the means to be used to ensure continuing provision of the services throughout the transfer process or until the cessation of the services and of the management structure to be used during the transfer;
 - b) plans for the communication with such of the SI's sub-contractors, staff, suppliers, customers and any related third party as are necessary to avoid any material detrimental impact on the IIML's operations as a result of undertaking the transfer;
 - c) plans for provision of contingent support to IIML and Replacement SI for a reasonable period after transfer.
2. The SI shall re-draft the Exit Management Plan annually thereafter to ensure that it is kept relevant and up to date.
3. Each Exit Management Plan shall be presented by the SI to and approved by the IIML.



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

4. The terms of payment as stated in the Terms of Payment Schedule include the costs of the SI complying with its obligations under this Schedule.
5. In the event of termination or expiry of MSA, Project Implementation, or Operation and Management SLA, each Party shall comply with the Exit Management Plan.
6. During the exit management period, the SI shall use its best efforts to deliver the services.
7. Payments during the Exit Management period shall be made in accordance with the Terms of Payment Schedule.



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

SCHEDULE III: AUDIT, ACCESS AND REPORTING

PURPOSE

This Schedule details the audit, access and reporting rights and obligations of the IIML and the SI.

AUDIT NOTICE AND TIMING

- a. As soon as reasonably practicable after the Effective Date, the Parties shall use their best endeavours to agree to a timetable for routine audits during the Project Implementation Phase and the Operation and Management Phase.
- b. IIML may conduct non-timetabled audits at its own discretion.

ACCESS

The SI shall provide to IIML reasonable access to employees, subcontractors, suppliers, agents and third-party facilities as detailed in Volume I of the RFP, documents, records and systems reasonably required for audit and shall provide all such persons with routine assistance in connection with the audits and inspections. The IIML shall have the right to copy and retain copies of any relevant records. The SI shall make every reasonable effort to co-operate with them.

AUDIT RIGHTS

1. The IIML shall have the right to audit and inspect suppliers, agents and third-party facilities (as detailed in Volume I of the RFP), data centres, project components, Back Up Site, data entry office, documents, records, procedures and systems relating to the provision of the services, but only to the extent that they relate to the provision of the services, as shall be reasonably necessary to verify:
 - a) The security, integrity and availability of all IIML data processed, held or conveyed by the Partner on behalf of IIML and documentation related thereto;
 - b) That the actual level of performance of the services is the same as specified in the SLA;
 - c) That the SI has complied with the relevant technical standards, and has adequate internal controls in place; and
 - d) The compliance of the SI with any other obligation under the MSA and SLA.

AUDIT RIGHTS OF SUB-CONTRACTORS, SUPPLIERS AND AGENTS

1. The SI shall use reasonable endeavours to achieve the same audit and access provisions as defined in this Schedule with sub-contractors, suppliers and agents who supply labour, services,



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

equipment or materials in respect of the services. The SI shall inform the IIML prior to concluding any sub-contract or supply agreement of any failure to achieve the same rights of audit or access.

2. **REPORTING:** The SI will provide monthly reports to IIML regarding any specific aspects of the Project and in context of the audit and access information as required by the IIML

ACTION AND REVIEW

1. Any change or amendment to the systems and procedures of the SI, or sub-contractors, where applicable arising from the audit report shall be agreed within thirty (30) calendar days from the submission of the said report.
2. Any discrepancies identified by any audit pursuant to this Schedule shall be immediately notified to the IIML and the SI Project Manager who shall determine what action should be taken in respect of such discrepancies in accordance with the terms of the MSA.

TERMS OF PAYMENT

The SI shall bear the cost of any audits and inspections. The terms of payment are inclusive of any costs of the SI and the sub-contractor, for all reasonable assistance and information provided under the MSA, the Project Implementation, Operation and Management SLA by the SI pursuant to this Schedule.

RECORDS AND INFORMATION

For the purposes of audit in accordance with this Schedule, the SI shall maintain true and accurate records in connection with the provision of the services and the SI shall handover all the relevant records and documents upon the termination or expiry of the MSA.



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

The SI shall document the agreed structures in a procedure's manual.

The agenda for each meeting of the Management Committee shall be set to reflect the discussion items referred to above and extraordinary items may be added either with the agreement of the Parties or at the request of either Party. Copies of the agenda for meetings of the Management Committee, along with relevant pre-reading material, shall be distributed at least one week in advance of the relevant meeting.

All meetings and proceedings will be documented, such documents to be distributed to both Parties and copies shall be kept as a record. All actions, responsibilities and accountabilities arising out of any meeting shall be tracked and managed.

The Parties shall ensure as far as reasonably practicable that the Management Committee shall resolve the issues and resolve the objectives placed before them and that members representing that Party are empowered to make relevant decisions or have easy access to empowered individuals for decisions to be made to achieve this.

Arbitration: The Parties shall first submit any dispute or disagreement between the Parties arising out of or relating to and/or in connection with this Agreement or any Service Level Agreement or statement of Work which is not a Material Breach as stated in Article VI of this Agreement (a "Disputed Matter") to the IIML. In case the Disputed Matter remains unresolved, the same shall be then submitted to Management Committee.

In order formally to submit a Disputed Matter to the aforesaid fora, one Party ("Claimant") shall give a written notice ("Dispute Notice") to the other Party. The Dispute Notice shall be accompanied by (a) a statement by the Claimant describing the Disputed Matter in reasonable detail and (b) documentation, if any, supporting the Claimant's position on the Disputed Matter.

The other Party ("Respondent") shall have the right to respond to the Dispute Notice within 7 days after receipt of the Dispute Notice. In the event that the forum is unable to resolve the Disputed Matter within a further period of 7 days, it shall refer the Disputed Matter to next level of the dispute resolution for action.

All negotiations, statements and/or documentation pursuant to these Articles shall be without prejudice and confidential (unless mutually agreed otherwise).

If the Disputed Matter is having a material effect on the operation of the Services (or any of them or part of them) the Parties will use all their respective reasonable endeavors to reduce the elapsed time in reaching a resolution of the Disputed Matter.



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

SCHEDULE V: INVOICING AND SETTLEMENT SCHEDULE

In respect of its remuneration for the services, the SI shall be eligible to receive the payments in accordance with the “Payment Terms and Schedule” described in Volume II of this RFP.

Subject to the specific terms of each Service Level Agreement, the SI should submit its invoices in accordance with the following principles:

- i. IIML shall be invoiced by the SI for the Services. Generally, and unless otherwise agreed in writing between the Parties or expressly set out in the Service Level Agreement, the SI shall raise an invoice as per the terms of payment as stated in the Terms of Payment
- ii. Any invoice presented in accordance with this Article shall be in a form agreed with the IIML.

The penalties are imposed on the SI as per the SLA. Payments will be released after adjusting the penalties pertaining to SLA, if any.

The IIML shall be entitled to delay or withhold payment of any invoice or part of it delivered by the SI under this Schedule where the IIML disputes such invoice or part of it provided that such dispute is bona fide. The withheld amount shall be limited to that which is in dispute. The disputed amount shall be settled in accordance with the escalation procedure as set out in the Governance Schedule. Any exercise by IIML under this Article shall not entitle the SI to delay or withhold provision of the Services.

The IIML shall be entitled to delay or withhold payment of any invoice or part of it delivered by the SI under this Schedule where IIML disputes any previous invoice or part of it that it had not previously disputed provided that such dispute is bona fide. The withheld amount shall be limited to that which is in dispute. The disputed amount shall be referred to the escalation procedure as set out in the Governance Schedule. Any exercise by the IIML under this Article shall not entitle the SI to delay or withhold provision of the Services.



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

SCHEDULE VI: TERMS OF PAYMENT SCHEDULE

1. SI shall invest for all the expenses including IT, non-IT infrastructure and deployment of skilled resources to provide all the services as provided under Scope of Work in Volume I of this RFP.
2. The SI should provide support and maintenance for Network Infrastructure Upgrade Project for 7 years from the date of Go-Live of the project. The SI's request for payment shall be made as per the "Terms of Payment" in volume II of this RFP.
3. The payment will be released after deducting the penalty as per the penalty clause. The penalties for not achieving SLA.
4. The SI shall raise invoice based on the achieving payment criteria as stated in Section 17 of RFP Volume II.



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

SCHEDULE VII: STRATEGIC CONTROL SCHEDULE

STRATEGIC CONTROL DEFINED

IIML requires that it retains a Strategic Control over Network Infrastructure Upgrade Project so as to ensure the following:

1. That the Project Components have been commissioned and maintained in exact conformance to the rules and regulations in force.
2. That any changes to the Project Components are made under due authority of IIML
3. That the Project Components are administered with utmost care and caution
4. That the security of the Project Components is of the highest order following international standards and
5. That the Project Components are owned by IIML

Against the above requirement, **Strategic Control of Network Infrastructure Upgrade Project** is defined as the authority of IIML to own the Project Components and the data of the Project Components and to ensure that the Project Components have been commissioned managed exactly in conformance with the procedures laid down by the IIML, that the Project Components perform functions and activities which have been provided for or contemplated by the prescribed procedures, that no changes are made to the Project Components and the data without specific approval of IIML and that IIML has the required access to ensure the same .



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

ANNEXURE I: SCOPE OF WORK FOR SI

The scope of work for the selected SI is as per RFP Volume 1 and consequent clarifications, corrigendum, and addendum.

ANNEXURE II: NON-DISCLOSURE AGREEMENT

This AGREEMENT is made this ___ day of [], 2021, by and between:

The Chief Administrative Officer, Indian Institute of Management Lucknow, hereinafter referred to as "IIML" (which term or expression unless excluded by or repugnant to the subject or context shall mean and include its successors-in office and assigns) of the FIRST PART.

AND

(II) [_____] a registered company under the Indian Companies Act, 1956 having a registered office at _____ and place of business at _____ (hereinafter referred to as "SI").

WHEREAS

in order to pursue the mutual business purpose of this particular project, IIML and M/s----- recognize that there is a need to disclose to M/s----- certain information, as defined in para 1 below, of IIML to be used only for the Business Purpose and to protect such confidential information from unauthorized use and disclosure.

In consideration of the other party's disclosure of such information, M/s----- agrees as follows:

1. This Agreement will apply to all confidential and proprietary information disclosed by IIML to the SI, and other information which the disclosing party identifies in writing or otherwise as confidential before or within thirty days after disclosure to the SI ("Confidential Information"). Information consists of certain specifications, documents, software, prototypes and/or technical information, and all copies and derivatives containing such Information, that may be disclosed to the SI for and during the Purpose, which a party considers proprietary or confidential ("Information").
2. Information may be in any form or medium, tangible or intangible, and may be communicated/disclosed in writing, orally, or through visual observation or by any other means to the SI by the IIML. Information shall be subject to this Agreement, if it is in tangible form, only



Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

- d) is the subject of a subpoena or other legal or administrative demand for disclosure; provided, however, that the SI has given the disclosing party prompt notice of such demand for disclosure and the SI reasonably cooperates with the disclosing party's efforts to secure an appropriate protective order; or
 - e) is disclosed with the prior consent of the disclosing party; or
 - f) was in its possession or known to it by being in its use or being recorded in its files or computers or other recording media prior to receipt from the disclosing party and was not previously acquired by the SI from the disclosing party under an obligation of confidence; or
 - g) the SI obtains or has available from a source other than the disclosing party without breach by the SI or such source of any obligation of confidentiality or non-use towards the disclosing party.
5. The SI agrees not to remove any of the other party's Confidential Information from the premises of the IIML without IIML's prior written approval. The SI agrees to exercise extreme care in protecting the confidentiality of any Confidential Information which is removed, only with the IIML's prior written approval, from the IIML's premises. Each party agrees to comply with any and all terms and conditions the disclosing party may impose upon any such approved removal, such as conditions that the removed Confidential Information and all copies must be returned by a certain date, and that no copies are to be made off of the premises.
6. Upon the IIML's request, the SI will promptly return to the IIML all tangible items containing or consisting of the disclosing party's Confidential Information all copies thereof.
7. Each party recognizes and agrees that all of the disclosing party's Confidential Information is owned solely by the IIML (or its licensors) and that the unauthorized disclosure or use of such Confidential Information would cause irreparable harm and significant injury, the degree of which may be difficult to ascertain. Accordingly, the SI agrees that the IIML will have the right to obtain an immediate injunction enjoining any breach of this Agreement, as well as the right to pursue any and all other rights and remedies available at law or in equity for such a breach.
8. Access to Information hereunder shall not preclude an individual who has seen such Information for the purposes of this Agreement from working on future projects for the IIML which relate to similar subject matters, provided that such individual does not make reference to the Information and does not copy the substance of the Information during the Confidentiality Period.
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Request for Proposal (Volume III) for selection of System Integrator for IIML Network Infrastructure Upgrade Project

Furthermore, nothing contained herein shall be construed as imposing any restriction on the SI's disclosure or use of any general learning, skills or know-how developed by the SI's personnel under this Agreement, if such disclosure and use would be regarded by a person of ordinary skill in the relevant area as not constituting a disclosure or use of the Information.

9. As between the parties, all Information shall remain the property of the IIML. By disclosing Information or executing this Agreement, the IIML does not grant any license, explicitly or implicitly, under any trademark, patent, copyright, mask work protection right, trade secret or any other intellectual property right. THE IIML DISCLAIMS ALL WARRANTIES REGARDING THE INFORMATION, INCLUDING ALL WARRANTIES WITH RESPECT TO INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS AND ALL WARRANTIES AS TO THE ACCURACY OR UTILITY OF SUCH INFORMATION. Execution of this Agreement and the disclosure of Information pursuant to this Agreement does not constitute or imply any commitment, promise, or inducement by either party to make any purchase or sale, or to enter into any additional agreement of any kind.
10. The IIML's failure to enforce any provision, right or remedy under this agreement shall not constitute a waiver of such provision, right or remedy.
11. This Agreement will be construed in, interpreted and applied in accordance with the laws of India.
12. In case of any dispute or differences, breach & violation relating to the terms of the Agreement, the said matter or dispute, difference shall be referred to sole arbitration of the IIML or any other person appointed by IIML. The award of the arbitrator shall be final and binding on both the parties. In the event of such Arbitrator to whom the matter is originally referred to is being transferred or vacates his office on resignation or otherwise or refuses to do work or neglecting his work or being unable to act as Arbitrator for any reasons whatsoever, IIML shall appoint another person to act as Arbitrator in place of out-going Arbitrator and the person so appointed shall be entitled to proceed further with the reference from the stage at which it was left by his predecessor. The M/s ----- will have No Objection in any such appointment, that arbitrator so appointed is an employee of IIML. The said Arbitrator shall act under the Provisions of the Arbitration and conciliation Act, 1996 or any statutory modifications or re-enactment there of or any rules made thereof.
13. This Agreement constitutes the entire agreement of the parties with respect to the parties' respective obligations in connection with Information disclosed hereunder and supersedes all



**Request for Proposal (Volume III) for selection of System Integrator for
IIML Network Infrastructure Upgrade Project**

prior oral and written agreements and discussions with respect thereto. The parties can amend or modify this Agreement only by a writing duly executed by their respective authorized representatives. Neither party shall assign this Agreement without first securing the other party's written consent.

14. This Agreement will remain in effect for five years from the date of the last disclosure of Confidential Information, at which time it will terminate, unless extended by the disclosing party in writing.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement by their duly authorized officers or representatives.

For and on behalf of IIML

For and on behalf of (SI)

An authorized signatory duly nominated

IIML (1st Party)

Pursuant to Board Resolution No.

(Name and Designation)

(Name and Designation)

Date:

Date:

Place:

Place:

Witnessed by

Witnessed by

1.

1.

2.

2.

*** END ***