

Standard Bidding Document

PROVISION, INSTALLATION, TESTING & COMMISSIONING OF IT
EQUIPMENT (CAMPUS LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL GOVERNMENT
POLYCLINIC (PGMI)-II AT G/11/3, ISLAMABAD
(Goods)

National

Single Stage-Two Envelope



September 18, 2026

*Infrastructure Development Authority, Punjab (Establishment of Federal Government Polyclinic (PGMI-II),
Islamabad), Secretary
50, B-III, Gulberg-III, Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province).
Phone: +92-301-851-8137, Email: procurement@idap.pk*

Table of Contents

REQUEST FOR BIDS	1
Instructions to Bidders	3
Bid Data Sheet	23
Bids Data Sheet (BDS)	24
Eligibility Criteria	28
Evaluation Criteria	30
Items/Lots	32
Related Services of Goods:	36
Items/Lot Specification	37
Price Schedule	80
General Conditions of Contract	82
Special Conditions of Contract	92
Bid Securing Declaration	98
Contract Form	100
Integrity Pact	103
Performance Guarantee Form	105
Annexure	108
Instruction to Bidders (Annex-A)	109
Bid Data Sheet (Annex-B)	109
Appendices and Forms to Bid	109
Schedules to Bid	109

Standard Forms	109
Conditions of Contract	109
Active Network Design - Polyclinic	110
Bill of Quantities	110
Technical Specifications	110
Technical Bid	110
Financial Bid	110
Procurement Forms	111
Past Experience and Completed Contracts	1
Historical Contract Non-Performance, and Pending Litigation and Litigation History	1
Average Annual Turnover	1
Additional Forms and Documents	114

REQUEST FOR BIDS

PROCUREMENT OF GOODS

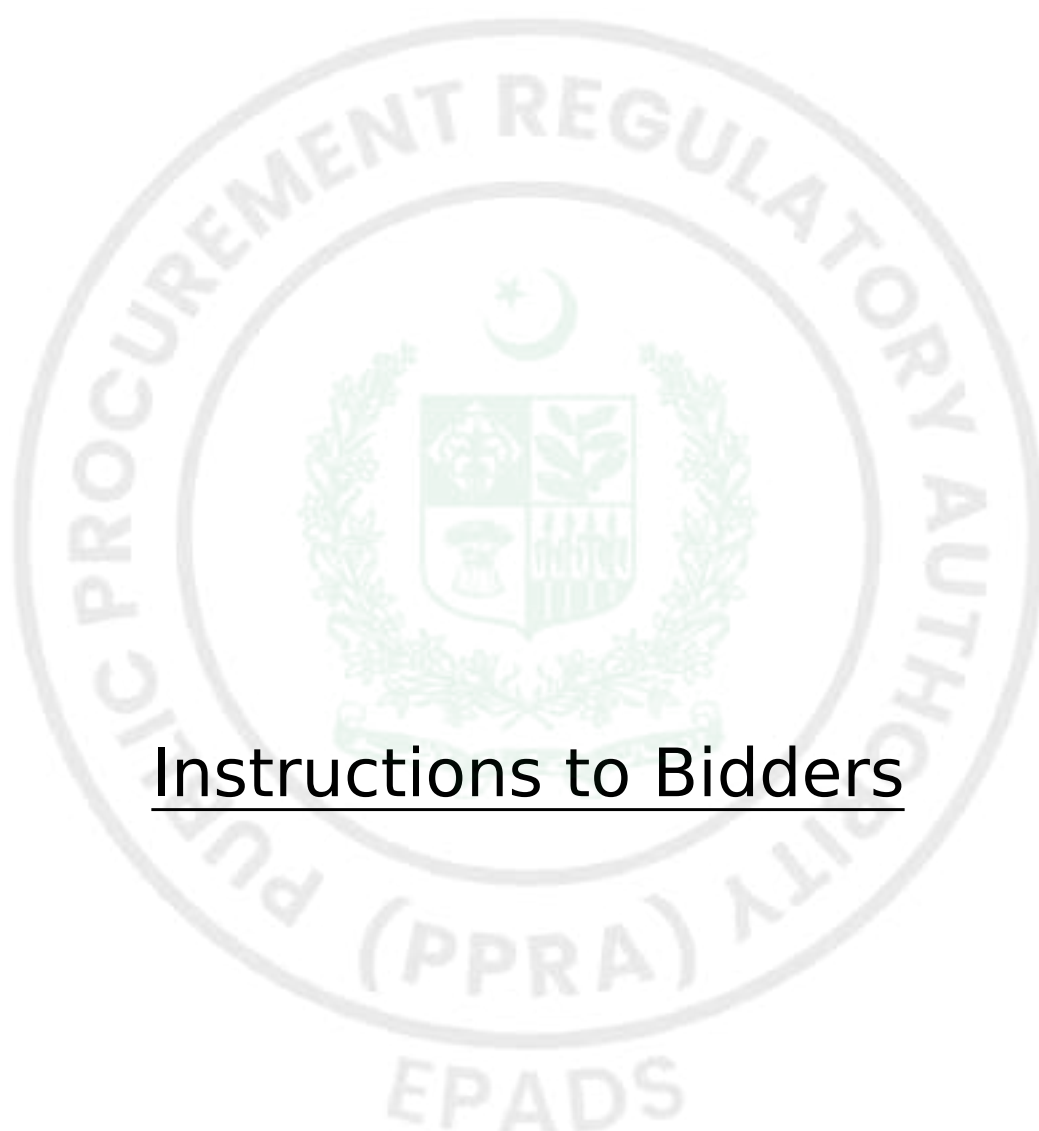
1. The **Infrastructure Development Authority, Punjab (Establishment of Federal Government Polyclinic (PGMI-II), Islamabad)** has reserved Funds for the procurement planned for FY **2026-27**. The **Infrastructure Development Authority, Punjab (Establishment of Federal Government Polyclinic (PGMI-II), Islamabad)** intends to apply part of the proceeds of this Fund to cover eligible payments under the contract for the "**PROVISION, INSTALLATION, TESTING & COMMISSIONING OF IT EQUIPMENT (CAMPUS LAN, VOICE COMMUNICATION, SERVER STORAGE) FOR ESTABLISHMENT OF FEDERAL GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3, ISLAMABAD**" with the reference of "**P121132**"
2. The **Infrastructure Development Authority, Punjab (Establishment of Federal Government Polyclinic (PGMI-II), Islamabad)** invites sealed Bids from eligible Bidders for procurement of goods described in the bidding documents on **EPADS v2.0**.
3. **Single Stage-Two Envelope** will be used by adopting **Least Cost Based Selection (LCBS)** Technique for the subject procurement, in line with the Public Procurement Rules, 2004 and any Regulations, Regulatory Guides, Procurement Guidelines or Instructions issued by the Authority from time to time.
4. All Bids must be accompanied by a Bid Security amounting described in Bid Security Section in Bidding Document in the form of **Pay Order, Banker's Cheque, Call at Deposit, Bank Guarantee** or all bids must be accompanied by bid securing declaration in the format specified in the Bidding documents
5. E-Bidding documents, containing detailed terms & conditions, specifications and requirements etc. are available on **e-Pak Acquisition and Disposal System (EPADS)** at **<https://epads.gov.pk/opportunities/federal/procurements/121132>** for all the interested bidders registered on **EPADS v2.0**. Bidders are required to

get themselves registered on **EPADS v2.0** to participate in Bidding process.

6. The e-bids, prepared in accordance with the instructions in the e-Bidding Documents, must be submitted through **EPADS v2.0** on or before **Friday, October 9, 2026 03:00 PM**. E-bids will be opened using **EPADS v2.0** on the same day at **Friday, October 9, 2026 03:30 PM**. Manual submission of Bids shall not be entertained. Those vendors who have not yet registered on the new version of **EPADS v2.0**, may register themselves on <https://vendors.epads.gov.pk/>. A tutorial to explain the registration process is available at <https://www.youtube.com/watch?v=MNW6T38v7tc>

In terms of Rule 48 of Public Procurement Rules, 2004 Grievance Redressal Committee (GRC) is notified for the subject procurement and notification copy is available on the procuring agency's website and on Authority's website at (www.ppra.org.pk).

Infrastructure Development Authority, Punjab (Establishment of Federal
Government Polyclinic (PGMI-II), Islamabad), Secretary
50, B-III, Gulberg-III, Lahore City, Lahore (District), Lahore Division (Division),
Punjab (Province).
+92-301-851-8137
procurement@idap.pk



Instructions to Bidders

A. Introduction

1.Scope of Bids

1.1 The Procuring Agency (PA), as indicated in the **Bids Data Sheet (BDS)** invites Bids **through EPADS v2.0** for the provision of Goods for as specified in the BDS and **in Section V - Evaluation Criteria, Specifications & Schedule of Requirements**. The name, identification, and number of items/deliverables are provided in the **BDS**. The successful Bidders will be expected to provide the goods within the specified period and timeline(s) as stated in the **BDS**.

2. Source of Funds

2.1 Source of funds is referred in Clause-1 of Invitation for Bids.

3. Eligible Bidders

3.1 A Bidder may be natural person, company or firm or public or semi-public agency of Pakistan or any foreign country, or any combination of them with a formal existing agreement (on Judicial Papers) in the form of a joint venture, consortium, or association. In the case of a joint venture, consortium, or association, all members shall be jointly and severally liable for the execution of the Contract in accordance with the terms and conditions of the Contract. The joint venture, consortium, or association shall nominate a Lead Member as nominated in the BDS, who shall have the authority to conduct all business for and on behalf of any and all the members of the joint venture, consortium, or association during the Bidding process, and in case of award of contract, during the execution of the contract.

3.2 Verifiable copy of the agreement that forms a joint venture, consortium or association shall be required to be submitted as part of the Bid.

3.3 The appointment of Lead Member in the joint venture, consortium, or association shall be confirmed by submission of a valid Power of Attorney to the Procuring Agency.

3.4 Any bid submitted by the joint venture, consortium or association shall indicate the part of proposed contract to be performed by each party and each party shall be evaluated (or post qualified if required) with respect to its contribution only, and the responsibilities of each party shall not be substantially altered without prior written approval of the Procuring Agency and in line with

any instructions issued by the Authority.

(The limit on the number of members of JV or Consortium or Association may be prescribed in BDS, in accordance with the guidelines issued by the PPRA).

3.5 The invitation for Bids is open to all prospective suppliers, manufacturers, or authorized agents / dealers subject to any provisions of incorporation or licensing by the respective national incorporating agency or statutory body established for that particular trade or business. Procuring agencies shall specify the registration/licensing requirements for the foreign bidders keeping in view the requirement of that business.

3.6 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest with one or more parties in this Bidding process, if they:

1. are associated or have been associated in the past, directly or indirectly with a firm or any of its affiliates which have been engaged by the Procuring Agency to provide consulting services for the preparation of the design, specifications and other documents to be used for the procurement of the Goods to be purchased under this Invitation for Bids.
2. have controlling shareholders in common; or
3. receive or have received any direct or indirect subsidy from any of them; or
4. have the same legal representative for purposes of this Bid; or
5. have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the Bids of another Bidder, or influence the decisions of the Procuring Agency regarding this Bidding process; or
6. Submit more than one Bid in this Bidding process.

3.7 A Bidder may be ineligible if –

1. he is declared bankrupt or, in the case of company or firm, insolvent;
2. payments in favor of the Bidder is suspended in accordance with the judgment of a court of law other than a judgment declaring bankruptcy and resulting (in accordance with the national laws) in the total or partial loss of the right to administer and dispose of its property;

3. the Bidder is convicted, by a final judgment, of any offence involving professional conduct;

4. the Bidder is blacklisted locally or by international organizations and hence debarred due to involvement in corrupt and fraudulent practices, or performance failure or due to breach of Bid securing declaration.

3.8 As and when required, bidders shall provide to the Procuring Agency evidence of their eligibility, proof of compliance with the necessary legal requirements to carry out the contract effectively.

3.9 Bidders shall submit Bids relating to the nature, conditions and modalities of sub-contracting wherever the sub-contracting of any elements of the contract amounting to more than ten (10) percent of the Bid price is envisaged.

4. Eligible Goods and Related Services

4.1 All goods and related services to be supplied under the contract shall have their origin in eligible source countries, and all expenditures made under the contract will be limited to such goods and services. For purpose of this Bid, ineligible countries are the countries declared ineligible by the Federal Government.

5. One Bid per Bidder

5.1 A bidder shall submit only one Bid, in the same bidding process, either individually as a Bidder or as a member in a joint venture or any similar arrangement.

5.2 The Bidder shall not engage a subcontractor for any portion of the contract if the value of such subcontracting exceeds thirty percent (30%) of the total contract amount.

6. Cost of Bidding

6.1 Any cost incurred by the bidder relating to the preparation and submission of its Bid shall be borne by the bidder, and the Procuring Agency shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

B. Bidding Documents

7. Contents of Bidding Document

7.1 The Goods required, Bidding procedures, and terms and conditions of the contract are prescribed in the Bidding Documents. In addition to the Invitation for Bids, the Bidding documents which should be read in conjunction with any addenda issued in accordance with **ITB 9.1** include:

Section I -Invitation to Bids

Section II Instructions to Bidders (ITB)

Section III Bid Data Sheet (BDS)

Section IV Evaluation Criteria, Specifications, Schedule of Requirements

Section V Bid Forms

Section VI General Conditions of Contract (GCC)

Section VII Special Conditions of Contract (SCC)

Section VIII Contract Forms

7.2 The Bidder is expected to examine all instructions, forms, terms and specifications in the Bidding documents. Failure to furnish all the information required in the Bidding documents through **EPADS v2.0** will be at the Bidder's risk and may result in the rejection of his Bids.

8. Clarification of Bidding documents

8.1 A prospective Bidder requiring any clarification of the Bidding documents may notify the Procuring Agency through **EPADS v2.0**.

8.2 The Procuring Agency will within three (3) working days after receiving the request for clarification, respond to any request for clarification through **EPADS v2.0** provided that such request is received not later than three (03) days prior to the deadline for the submission of Bids as prescribed in **ITB 22**

8.3 Copies of the Procuring Agency's response will be forwarded to all identified Prospective Bidders through **EPADS v2.0**, including a description of the inquiry, but without identifying its source.

8.4 Should the Procuring Agency deem it necessary to amend the Bidding document as a result of a clarification, it shall do so following the procedure under **ITB 9**.

8.5 If indicated **in the BDS**, the Bidder's designated representative is invited at the Bidder's cost to attend a pre-Bid meeting at the place, date and time mentioned **in the BDS**. During this pre-Bid meeting, prospective Bidders may request clarification of the schedule of requirement, the Evaluation Criteria or any other aspects of the Bidding document.

8.6 Minutes of the pre-Bid meeting, if applicable, including the text of the questions asked by Bidders, including those during the meeting (without identifying the source) and the responses given, together with any responses prepared after the meeting will be uploaded on **EPADS v2.0**. Any modification to the Bidding documents that may become necessary as a result of the pre-Bid meeting shall be made by the Procuring Agency exclusively through the use of an Addendum pursuant to **ITB 9**. Non-attendance at the pre-Bid meeting will not be a cause for disqualification of a Bidder.

9. Amendment of Bidding documents

9.1 Before the deadline for submission of Bids, the Procuring Agency for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder or Pre-Bid meeting may modify the Bidding documents by issuing addenda through **EPADS v2.0**.

9.2 The Procuring Agency shall promptly publish the addendum through **EPADS v2.0**.

9.3 Any addendum issued including the notice of any extension of the deadline shall also be communicated through EPADS v2.0 to all the bidders who have already submitted their bids. Such bidders shall have the right to withdraw their already submitted bid and re-submit the revised bid prior to the original or extended bid submission deadline.

9.4 To give prospective Bidders reasonable time in which to take an addendum/corrigendum into account in preparing their Bids, the Procuring Agency may, at its discretion, extend the deadline for the submission of Bids through **EPADS v2.0**:

Provided that the Procuring Agency shall extend the deadline for submission of Bids, if such an addendum is issued within last three (03) days of the Bids submission deadline.

C. Preparation of Bids

10. Language of Bid

10.1 The Bid prepared by the bidder, as well as all correspondence and documents relating to the Bids exchanged by the Bidder and the Procuring Agency shall be written in the English language unless otherwise specified in the BDS. Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an accurate translation of the relevant pages in the English language unless otherwise specified in the **BDS**, in which case, for purposes of interpretation of the Bidder, the translation shall govern.

11. Documents and samples Constituting the Bid

11.1 The Bid prepared by the Bidder shall constitute the documents required in the **BDS**.

Details of sample(s) where applicable and requested in the BDS.

1. Documentary evidence established in accordance with ITB that the Bidder is eligible and/or qualified for the subject bidding process;
2. Documentary evidence establish that the Bidder has been authorized by the manufacturer to deliver the goods into Pakistan, where required and where the supplier is not the manufacturer of those goods;
3. Documentary evidence establish that the goods and related services to be supplied by the Bidder are eligible goods and services, and conform to the Bidding Documents;
4. Bid security or Bid Securing Declaration furnished in accordance with **ITB 18**.

12. Documents Establishing Eligibility of the Goods and Conformity to Bidding documents

12.1 To establish the conformity of the bidder to the Bidding document, the Bidder shall furnish as part of its Bids the documentary evidence that Goods provided conform to the technical specifications and standards.

13. Documents Establishing Eligibility and Qualification of the Bidder

13.1 The Bidder shall furnish, as part of its Bid, all those documents establishing the Bidder's eligibility to participate in the Bidding process and/or its qualification to perform the contract if its Bid is accepted.

14. Form of Bids

14.1 The Bidder shall fill the Form of Bid furnished in the Bidding documents. The Bids Form must be completed without any alterations to its format and no substitute shall be accepted.

15. Bids Prices

15.1 The Bids Prices quoted by the Bidder in the Form of Bid and in the Price Schedules shall conform to the requirements specified below or exclusively mentioned hereafter in the Bidding documents.

15.2 All items in the Schedule of Requirement must be listed and priced separately in the Price Schedule(s). If a Price Schedule shows items listed but not priced and neither explicitly denied, their prices shall be construed to be included in the prices of other items.

15.3 Items not listed in the Price Schedule shall be assumed not to be included in the Bid, and provided that the Bid is still substantially responsive in their absence or due to their nominal nature, the corresponding average price of the respective item(s) of the remaining substantially responsive Bidder(s) shall be construed to be the price of those missing item(s).

15.4 The Bid price to be quoted in the Form of Bid in accordance with **ITB 14.1** shall be the total price of the Bid.

15.5 The Bidder shall indicate on the appropriate Price Schedule, the unit prices (where applicable) and total Bid price of the Goods it proposes to provide under the contract.

15.6 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account. A Bid submitted with an adjustable price will be treated as non-responsive and shall be rejected.

16. Bids Currencies

16.1 Prices shall be quoted in Pakistani Rupees unless otherwise specified in the BDS in accordance with Rule 30 (2) of the Public Procurement Rules, 2004.

17. Bids Validity Period

17.1 Bids shall remain valid for the period specified in the **BDS** after the Bid submission deadline prescribed by the Procuring Agency. A Bid valid for a shorter period shall be rejected by the Procuring Agency as non-responsive. The period of Bid validity will be determined from the complementary Bid securing instrument, i.e. the expiry period of Bid Security or Bids Securing Declaration as the case may be.

17.2 The procuring agency shall ordinarily be under an obligation to process and evaluate the bid and to issue letter of award within the stipulated bid validity period.

17.3 Under exceptional circumstances, prior to the expiration of the initial Bid validity period, the Procuring Agency may request the Bidders' consent to an extension of the period of validity of their Bids only once through **EPADS v2.0**, for the period not more than the period of initial bid validity. The Bid Security provided under **ITB 18** shall also be suitably extended. A Bidder may refuse the request without forfeiting its Bid security or causing to be executed its Bid Securing Declaration. A Bidder agreeing to the request will not be required nor permitted to modify its Bid, but will be required to extend the validity of its Bid Security or Bid Securing Declaration for the period of the extension.

18. Bid Security or Bid Securing Declaration

18.1 The Bidder shall furnish as part of its Bid, a Bid Security in accordance with Rule 25 of the Public Procurement Rules, 2004.

18.2 The original Bid Security shall be enclosed within the sealed envelope and to be submitted physically before closing time for submission of bids. Whereas, scanned copy of bid security shall be uploaded electronically through EPADS v2.0 before closing hours for submission of bids.

18.3 The Bidder who failed to submit the original Bids security before the submission deadline shall be disqualified straightaway.

18.4 The Bid Security or Bid Securing Declaration is required to protect the Procuring Agency against the risk of Bidder's conduct which would warrant the security's forfeiture, pursuant to **ITB 18.7**.

18.5 The Bid Security shall be denominated in the local currency, and it shall be a Bank Draft in the name of the Procuring Agency and valid for twenty-eight (28) days beyond the end of the validity of the Bid. This shall also apply if the period

for Bids/Bid Validity is extended. In either case, the form must include the complete name of the Bidder.

18.6 The Bid Security shall be payable promptly upon written demand by the Procuring Agency in case any of the conditions listed in **ITB 18** are invoked.

18.7 Unsuccessful Bidders' Bid Security will be discharged or returned as promptly as possible, however in no case later than thirty (30) days after the expiration of the period of Bids Validity prescribed by the Procuring Agency pursuant to **ITB 17**. The Procuring Agency shall make no claim to the amount of the Bid Security, and shall promptly return the Bid Security document, after whichever of the following that occurs earliest:

- a. the expiry of the Bid Security;
- b. the entry into force of a procurement contract and the provision of a Performance Guarantee, for the performance of the contract if such a guarantee, is required by the Bid documents;
- c. the rejection by the Procuring Agency of all Bids;
- d. the withdrawal of the Bids prior to the deadline for the submission of Bids, unless the Bids documents stipulate that no such withdrawal is permitted.

18.8 The successful Bidder's Bids Security will be discharged upon the Bidder signing the contract, or furnishing the Performance Guarantee.

18.9 The Bid Security may be forfeited or the Bid Securing Declaration executed:

- a. if a Bidder:
- b. withdraws its Bid during the period of Bid Validity as specified by the Procuring Agency, and referred by the Bidder on the Form of Bids except as provided for in **ITB 17.2**; or
- c. does not accept the correction of errors; or
- d. in the case of a successful Bidder, if the Bidder fails:
- e. to sign the contract; or
- f. to furnish Performance Guarantee.

19. Withdrawal, Substitution, and Modification of Bid

19.1 Before Bid submission deadline, any Bidder may withdraw, substitute, or modify its Bid after it has been submitted through EPADS v2.0. Bids requested to be withdrawn, shall be returned unopened to the Bidders through **EPADS v2.0**.

20. Format and Signing of Bid

20.1 The Bidder shall prepare and submit Bids with due diligence after carefully reading all the terms and condition **before bid submission deadline** through EPADS v2.0.

D. Submission of Bids

21. Submission of Bids through EPADS v2.0

21.1 The Technical and Financial Bids if required to submitted, shall be submitted on **EPADS v2.0**.

22. Deadline for Submission of Bids

22.1 Bids shall be received by the Procuring Agency through **EPADS v2.0** before bid submission deadline.

22.2 The Procuring Agency may, under exceptional circumstances, extend the deadline for the submission of Bids, after recording reasons in writing and in an equal opportunity manner.

In such case, all rights and obligations of the Procuring Agency and the Bidders that were previously governed by the original deadline shall thereafter be subject to the revised deadline.

E. Opening and Evaluation of Bids

23. Opening of Bids

23.1 The Bid Evaluation Committee of the Procuring Agency shall open all Bids through the EPADS v2.0, on the date and time specified in the Bid Data Sheet (BDS).

23.2 The Bid Evaluation Committee **shall generate minutes through EPADS v2.0 containing brief details of bid opening process.** The record of the Bid opening shall include, as a minimum: the name of the Bidder, the Bid price if applicable, and the presence or absence of a Bid Security or Bid Securing Declaration.

23.3 The procuring agency shall live broadcast the opening of bids on national media or on their website or digital channels, if the volume of procurement exceeds five hundred million rupees in case of goods and services and one thousand million rupees in case of works.

23.4 In case the date of opening of bid has been declared as public holiday or the procuring agency fail to open bid due to any EPADS v2.0 related issues, the submission and opening of bids shall be shifted to the next working day on the same time.

23.5 In case of Single Stage One Envelope Procedure, the Bidders names, the Bid prices, the total amount of each Bid and, the presence or absence of Bid Security, Bid Securing Declaration and such other details as the Procuring Agency may consider appropriate, will be announced by the Bid Evaluation Committee.

24. Clarification of Bids

24.1 To assist in the examination, evaluation and comparison of Bids of the Bidders, the Procuring Agency may, ask any Bidder for a clarification of its Bid including breakdown of prices.

24.2 The request for clarification and the response shall be sought through EPADS v2.0 **before three days prior to the deadline for submission of bids.** No change in the prices or substance of the Bids shall be sought, offered, or permitted.

24.3 The alteration or modification in the BIDS which in any way affect the following parameters will be considered as a change in the substance of a Bids:

1. evaluation & qualification criteria;
2. required scope of work or specifications;
3. all securities requirements;
4. tax requirements;

5. terms and conditions of Bidding documents.

6. change in the ranking of the Bidder

24.4 From the time of Bids opening to the time of Contract award if any Bidder wishes to contact the Procuring Agency on any matter related to the Bids it should do so through **EPADS v2.0**.

25. Preliminary Examination of Bids

25.1 Prior to the detailed evaluation of Bids, the Procuring Agency will determine whether each Bid:

1. meets the eligibility criteria defined in **ITB 3**;
2. has been prepared as per the format and contents defined by the Procuring Agency in the Bidding documents;
3. is accompanied by the required securities; and
4. is substantially responsive to the requirements of the Bidding documents.

25.2 The Procuring Agency's determination of a Bid's responsiveness will be based on the contents of the Bid itself.

25.3 A substantially responsive Bid is one which conforms to all the terms, conditions, and specifications of the Bidding documents, without material deviation or reservation. A material deviation or reservation is one that: -

1. affects in any substantial way the scope, quality, or performance of the Goods;
2. limits in any substantial way, inconsistent with the Bidding documents, the Procuring Agency's rights or the Bidders obligations under the Contract; or
3. if rectified, would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.

25.3 If a Bids is not substantially responsive, it will be rejected by the Procuring Agency and may not subsequently be evaluated for complete technical responsiveness.

26. Examination of Terms and Conditions; Technical Evaluation

26.1 The Procuring Agency shall examine the Bids to confirm that all terms and conditions specified in the **GCC** and the **SCC** have been accepted by the Bidder without any material deviation or reservation.

26.2 The Procuring Agency shall evaluate the technical aspects of the Bids submitted, to confirm that all requirements specified in Schedule of Requirements and Technical Specifications of the Bidding documents have been met without material deviation or reservation.

26.3 If after the examination of the terms and conditions and the technical evaluation, the Procuring Agency determines that the Bid is not substantially responsive in accordance with **ITB 25.2**, it shall reject the Bid.

27. Correction of Errors

27.1 Bids determined to be substantially responsive will be checked for any arithmetic errors. Errors will be corrected as follows: -

1. if there is a discrepancy between unit prices and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected, unless in the opinion of the Procuring Agency there is an obvious misplacement of the decimal point in the unit price, in which the total price as quoted shall govern and the unit price shall be corrected;
2. if there is an error in a total corresponding to the addition or subtraction of sub-totals, the sub-totals shall prevail and the total shall be corrected; and
3. where there is a discrepancy between the amounts in figures and in words, the amount in words will govern.
4. Where there is discrepancy between grand total of price schedule and amount mentioned on the Form of Bids, the amount referred in Price Schedule shall be treated as correct subject to elimination of other errors.

27.2 The amount stated in the Bid will, be adjusted by the Procuring Agency in accordance with the above procedure for the correction of errors and, with the concurrence of the Bidder, shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount, its Bid will then be rejected, and the Bid Security may be forfeited or the Bids Securing Declaration may be executed.

28. Conversion to Single Currency

28.1 To facilitate evaluation and comparison, the Procuring Agency will convert all Bids prices expressed in the amounts in various currencies in which the Bids prices are payable. For the purposes of comparison of bids quoted in different currencies, the price shall be converted into a single currency specified in the bidding documents. The rate of exchange shall be the selling rate prevailing on the date of opening of financial bids specified in the bidding documents, in accordance with weighted average customer exchange rates list issued by the State Bank of Pakistan on that day.

29. Evaluation of Bids

29.1 The Bids, quotations, or proposals shall be evaluated by the respective evaluation committees as per evaluation criteria described in the Bidding Documents in accordance with Rule 29 and 30 of the Public Procurement Rules, 2004.

1. Least Cost Based Selection (LCBS)

After meeting the requirements of eligibility, qualification and substantial responsiveness, the bid in compliance with all the mandatory (technical) specifications/requirements and/or requisite quality threshold (if any), and having lowest evaluated cost (or financial proposal) shall be considered Successful Bid.

2. Quality and Cost Based Selection (QCBS)

In such combination, there shall be some specific weightage of both the technical features and financial aspects of the proposal. The financial marks shall be awarded on the basis of inverse proportion calculations. The successful bid shall be declared, on the basis of combined evaluation.

3. Quality Based Selection (QBS)

After meeting the requirements of eligibility, qualification and substantial responsiveness the bid in compliance with all the mandatory (technical) specifications/requirements and attaining highest marks in the Technical Evaluation considering all other qualitative and/or quantitative parameters (or point rated criteria) for technical proposal(s) such as working methodology, implementation plan, resource allocation, additional functionalities, risk management approach, knowledge transfer techniques, post implementation methodology etc. shall be treated as highest ranked bid. Later on, the financial proposal of highest ranked bidder shall be opened, however, in case of failure to proceed further with such a bidder, the procuring agency may resort to second

highest bidder and so on.

29.2 In case of tie of bids, the bidders shall be provided an opportunity to offer their best and final monetary offer through EPADS v2.0. However, in no case the rates shall be higher than the original financial bids.

30. Domestic Preference

30.1 The procuring agency shall evaluate and compare bids, allow for preference to domestic bidders, while competing with the international bidders in accordance with the policies of Federal Government.

The percentage of preference, to be accorded shall be clearly mentioned in the bidding documents under the bid evaluation criteria.

31. Determination of Successful Bid

31.1 Selection technique will be adopted for determining the Successful Bid in accordance with the criteria referred in the BDS or prescribed in the separate section titled as Evaluation Criteria.

31.2 In case where the Procuring Agency adopts the Cost Based Evaluation Technique and, the Bid with the lowest evaluated price from amongst those which are eligible, compliant and substantially responsive shall be the Successful Bid.

31.3 The Procuring Agency may adopt the Quality & Cost Based Selection Technique due to the following two reasons:

1. Where the Procuring Agency knows about the main features, usage and output of the products; however not clear about the complete features, technical specifications and functionalities of the goods to be procured and requires the bidders to submit their proposals defining those features, specifications and functionalities; or
2. Where the Procuring Agency, in addition to the mandatory requirements and mandatory technical specifications, requires parameters specified in Evaluation Criteria to be evaluated while determining the quality of the goods.

31.4 In such cases, the Procuring Agency may allocate certain weightage to these factors as a part of Evaluation Criteria, and may determine the ranking of the bidders on the basis of combined evaluation in accordance with provisions of Rule 2(1)(h) of the Public Procurement Rules, 2004.

32. Abnormally Low Financial Bids

32.1 Where the Bid price is considered to be abnormally low, the Procuring Agency shall perform price analysis either during determination of Successful Bids or as a part of the post-qualification process.

32.2 The Procuring Agency may reject an Abnormally low financial bids.

32.3 In order to identify the Abnormally Low Bids (ALB) following approaches can be considered to minimize the scope of subjectivity:

1. Comparing the Bids price with the cost estimate;
2. Comparing the Bids price with the Bids offered by other Bidders submitting substantially responsive Bids; and
3. Comparing the Bids price with prices paid in similar contracts in the recent past either government- or development partner-funded.

32.4 The Procuring Agency will determine to its satisfaction whether the Bidder that is selected as having submitted the successful bid is qualified to perform the contract satisfactorily.

32.5 The determination will take into account the Bidder's financial, technical, and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, as well as such other information as the Procuring Agency deems necessary and appropriate. Factors not included in these Bidding documents shall not be used in the evaluation of the Bidders' qualifications.

32.6 Procuring Agency may seek "Certificate for Independent Price Determination" from the Bidder and the results of reference checks may be used in determining an award of contract.

Explanation: The Certificate shall be furnished by the Bidder. The Bidder shall certify that the price is determined keeping in view of all the essential aspects such as raw material, its processing, value addition, optimization of resources due to economy of scale, transportation, insurance and margin of profit etc.

32.7 An affirmative determination will be a prerequisite for award of the contract to the Bidder. A negative determination will result in rejection of the Bidder's Bids, in which event the Procuring Agency will proceed to the next ranked Bidder to make a similar determination of that Bidder's capabilities to

perform satisfactorily.

F. Award of Contract

33. Criteria of Award

33.1 The Procuring Agency will award the Contract to the Bidder whose Bids has been determined to be substantially responsive to the Bidding documents and who has been declared as Most Advantageous Bidder.

34. Negotiations

34.1 The procuring agency shall not engage in negotiations with respect to scope and price with the bidder except when the procuring agency conducts a procurement using direct **or negotiated** contracting or a request for proposals with evaluation based on quality alone.

34.2 The procuring agency may negotiate with the most advantageous bid with a view to streamline the work or task execution, at the time of contract finalization on methodology, work plan, staffing, finalizing payment arrangements, delivery arrangements, minor amendments to the special conditions of the contract.

35. Procuring Agency Right to reject all bids

35.1 The Procuring Agency reserves the right to reject all bids or proposals at any time prior to the issuance of the Letter of Award, without incurring any liability, in accordance with Rule 33 of the Public Procurement Rules, 2004.

36. Procuring Agency's Right to Vary Quantities at the Time of Award

36.1 The Procuring Agency reserves the right at the time of contract award to increase or decrease the **quantity of** Goods originally specified in these Bidding documents provided this does not exceed **by** 15%, without any change in unit price or other terms and conditions of the Bids and Bidding documents.

37. Notification of Award

37.1 Prior to the award of contract, the procuring agency shall announce and publish the result of bid evaluation on **EPADS v2.0** in accordance with Rule 35

of the Public Procurement Rules, 2004.

37.2 The Bidder whose Bids has been accepted will be notified of the award by the Procuring Agency prior to expiration of the Bids/Bid Validity period. The Letter of Award will state the sum that the Procuring Agency will pay the successful Bidder in consideration for the delivery of Goods as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price).

37.3 The Letter of award will constitute the formation of the Contract, subject to the Bidder furnishing the Performance Guarantee and signing of the contract.

38. Signing of Contract

38.1 Promptly after issuance of Letter of award, Procuring Agency shall send the successful Bidder the draft Contract, incorporating all terms and conditions as agreed by the parties to the contract.

38.2 Immediately after the Redressal of grievance by the GRC (if any), mandatory standstill period in accordance with Rule 35 of the Public Procurement Rules, 2004 and **after fulfillment of all condition's precedent** of the Contract Form, the successful Bidder and the Procuring Agency shall sign the Contract.

39. Corrupt & Fraudulent Practices

39.1 Procuring Agencies (including beneficiaries of Government funded projects and procurement) as well as Bidders/Contractors under Government financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts, and will avoid to engage in any corrupt and fraudulent practices.

F. Grievance Redressal & Complaint Review Mechanism

40. Constitution of Grievance Redressal

40.1 The Grievance Redressal Committee shall address the grievance, if any submitted by any party, including the bidder, in accordance with Rule 48 of the Public Procurement Rules, 2004 to be read with Redressal of Grievances Regulations, 2021.

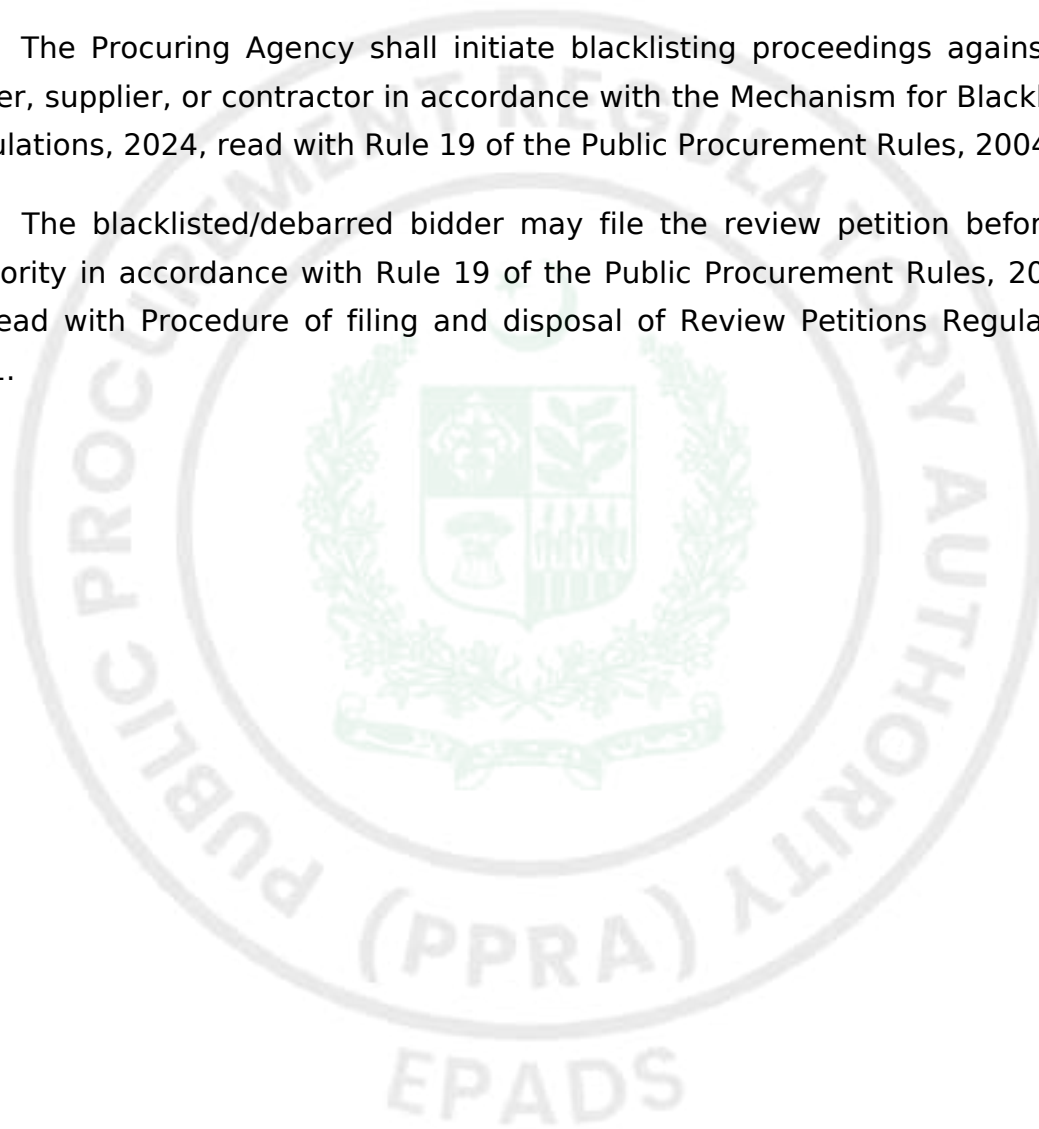
40.2 In case if any party or the bidder is not satisfied with the decision of the GRC or if it fails to decide within ten days, the bidder or the party may file an appeal before the Appellate Committee of the Authority in accordance with Rule 48 of the Public Procurement Rules, 2004 to be read with Redressal of Grievances Regulations, 2021.

G. Mechanism of Blacklisting

41. Mechanism of Blacklisting

41.1 The Procuring Agency shall initiate blacklisting proceedings against any bidder, supplier, or contractor in accordance with the Mechanism for Blacklisting Regulations, 2024, read with Rule 19 of the Public Procurement Rules, 2004.

41.2 The blacklisted/debarred bidder may file the review petition before the Authority in accordance with Rule 19 of the Public Procurement Rules, 2004 to be read with Procedure of filing and disposal of Review Petitions Regulations, 2021.





Bid Data Sheet

Bids Data Sheet (BDS)

The following specific data for the procurement of Goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

BDS Clause Number

ITB Number

Amendments of, and Supplements to, Clauses in the Instruction to Bidders

A. Introduction

BDS Clause Number 1

ITB Number 1.1

Name of Procuring Agency: **Infrastructure Development Authority, Punjab (Establishment of Federal Government Polyclinic (PGMI-II), Islamabad)**

The subject of procurement is: **PROVISION, INSTALLATION, TESTING & COMMISSIONING OF IT EQUIPMENT (CAMPUS LAN, VOICE COMMUNICATION, SERVER STORAGE) FOR ESTABLISHMENT OF FEDERAL GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3, ISLAMABAD**

Expected commencement date: **Tuesday, November 17, 2026**

BDS Clause Number 2

ITB Number 2.1

Financial year for the operations of the Procuring Agency: **2026-27**

Name and identification number of the Contract: **P121132**

BDS Clause Number 3

ITB Clause Number 3.1

JV/Consortium or Association Allowed: **Yes**

Number of JV/Consortium Members: **2**

see section of eligibility criteria.

B. Bidding Documents

BDS Clause Number 4

ITB Number 8.1

The Bidders may seek clarifications through **EPADS v2.0** : Clarification Date: Tuesday, October 6, 2026

Pre-Bid Meeting: Tuesday, September 29, 2026 11:00 AM

Venue: 50, B-III, Gulberg-III

C. Preparation of Bids

BDS Clause Number 5

ITB Number 10.1

The Language of all correspondences and documents related to the Bids shall be in: **English**

List of documents required along with the bid: No

BDS Clause Number 6

ITB Number 11.1

Items/Lots and threre related documents:

See section items and Lots

BDS Clause Number 7

ITB Number 12.1

Items / Lots Specifications:

see section of items specifications.

BDS Clause Number 8

ITB Number 15.6

The price shall be **Fixed**.

BDS Clause Number 9

ITB Number 16.1

Currency of the Bids shall be : **PKR**

BDS Clause Number 10

ITB Number 17.1

The Bids/Bid Validity period shall be: **120 Days**

BDS Clause Number 11

ITB Number 18.1

The amount of Bid Security shall be as defined in Bid Security Section for items and lots given in **BDS 6**

The Bid Security shall be in the form of: **Pay Order, Banker's Cheque, Call at Deposit, Bank Guarantee**

D. Submission of Bids

BDS Clause Number 12

ITB Number 20.1

Bid shall be submitted online on EPADS v2.0 whereas hard copy of the bid security should be submitted to the following;

50, B-III, Gulberg-III, Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). before bid submission deadline.

Bids that are not submitted on EPADS v2.0 shall be disqualified.

The deadline for Bids submission is: **Friday, October 9, 2026 03:00 PM**

E. Opening and Evaluation of Bids

BDS Clause Number 13

ITB Number 23.1

The Bids opening shall take place on **EPADS v2.0**.

Day : **Friday**

Date: **Friday, October 9, 2026**

Time : **03:30 PM**

BDS Clause Number 14

ITB Number 31.1

Selection technique adopted will be: **Least Cost Based Selection (LCBS)**
see Evaluation Criteria

F. Review of Procurement Decisions

BDS Clause Number 15

ITB Number 41.1

Grievence against this procurement shall be submitted online on EPADS v2.0.

Arbitrator shall be appointed by mutual consent of the both parties.



Eligibility Criteria

Bidder's Type	Required Registration
Individual / Individual Consultant	NADRA CITIZENSHIP (CNIC/NICOP)
Sole Proprietorship	FBR (NTN)
Partnership Firm	FBR (GSTN)
Company (Private Limited)	Punjab (PRA)
Company (Public Limited)	SECP
State Owned Enterprise (Private Limited)	Registrar of Firms
State Owned Enterprise (Public Limited)	

Eligibility Criteria	Document
Registration of Applicant (Company/Firm) Incorporation under the laws of Pakistan.	Yes
Valid Income Tax Registration	Yes
Valid General Sales Tax Registration Status = Active with FBR	Yes
The bidder shall furnish the original bid security as part of/along with Technical Bid in Rupees in shape of Bank Guarantee/CDR/Pay Order	Yes

Affidavit declaring on stamp paper that the company/firm has never been blacklisted by any Government Department/ Authority/ Agency/ Company/firm.	Yes
Bidder must attach complete signed & stamped tender document with the technical bid.	Yes
Provide Authorization letter from the OEM (Where Applicable).	Yes
Provide Separate undertaking/affidavit (of value PKR 100/-) that information provided by the firm is correct	Yes
Valid legal entity of the applicant (Company/firm) e.g. Certificate of registration from SECP (along with latest certified copy of Form 29 and Form "A") or Registrar of firms (along with Certified copy of Partnership Deed) for Local Firm. Foreign firms must attach similar certificate of registration from the respective registration body of their home country.	Yes
Affidavit on stamp paper (of value PKR 100/-) that non-performance of a contract has not occurred within the last seven (07) years	Yes

Evaluation Criteria

Eligible bidder(s) with substantially responsive bid(s) offering **Least Cost Based Selection (LCBS)** shall be consider for the award of contract(s).

Least Cost Based Selection (LCBS)

Weightage

Technical Evaluation %	
100	
Technical Marks	100
Passing Marks	70
Technical Evaluation Criteria	
Years of Establishment: Full Marks will be given if "A" is 10 Years or more. For 'A' less than 10 Years, marks will be awarded as: $(A/10)*20$ No Marks will be given if "A" is less than 05 Years *A = Experience of firms in years Provide the copy of the Certificate of Incorporation /Partnership Deed (Qualitative)(Doc Required)	20
No. of Clients/Services Provided in Last 05 years. (Govt/Semi Govt/ Private Company/multinational Clients): 30 points will be given if the number of services provided by the bidder are 10 or more. If the number of services provided are less than 10, points will be awarded as: $\{(number\ of\ projects/10) *30\}$ No points will be given if number of services provided is less than 05. (Minimum 50% Marks are Mandatory to Qualify) Provide proof for the provision of specific goods related to tender (Qualitative)(Doc Required)	30

Lot # 1,3 Technical ICT Staff: 10 Marks will be given if bidder has at least 3 or more Expert Level Certified Engineers of relevant technologies. For less than 03 Expert Level Certified Engineers Marks shall be given as: (No of Expert Level Certified Engineers /03) x 10 Lot # 2 Technical ICT Staff: 10 Marks will be given if bidder has at least 4 or more trained Engineers of relevant technologies. For less than 04 trained Engineers Marks shall be given as: (No of trained Engineers /04) x 10 Lot# 1,3 Provide CV's and Valid Expert Level Certificate of Engineers of Quoted Brand Lot # 2 Provide CV's and Training / Participation certificates of Engineers of Quoted Brand (Qualitative)(Doc Required)	10
Cumulative Annual Turnover in last three financial years: Full Marks will be given if "A" is PKR 50 Million or above. For 'A' less than PKR 50 Million, marks will be awarded as: (A/50) *30 No Marks will be given if "A" is less than PKR 25 Million. *A= Cumulative Annual Turnover in last three financial years (in PKR Million) (Minimum 50% Marks are Mandatory to Qualify) Provide copy of audited financial statements (Qualitative)(Doc Required)	30
List of Operation & Maintenance Team Members: 10 or Greater = 10 Marks 9 to 7 = 7.5 Marks 6 to 5 = 5 Marks Less than 5 = 0 Marks Provide company staff details/CVs (Qualitative)(Doc Required)	10

Items/Lots

Lot Title : ICT Campus LAN Solution

Bid Security : 850000 PKR

Item	UNSPSC	Delivery Schedule	Quantity	Manufacturer / Dealer Authorization	Warranty
Item #1 - Core Switch 48 Port	Network switches	Address: Federal Government Polyclinic (PGMI-II), Islamabad Schedule: 75 Days Quantity: 02/Qty	2 / Qty	Manufacturer Authorization form	1 Years
Item #2 - Access Switch - 48 Port	Network switches	Address: Federal Government Polyclinic (PGMI-II), Islamabad Schedule: 75 Days Quantity: 26/Qty	26 / Qty	Manufacturer Authorization form	1 Years
Item #3 - Access Switch - 24 Port	Network switches	Address: Federal Government Polyclinic (PGMI-II), Islamabad Schedule: 75 Days Quantity: 05/Qty	5 / Qty	Manufacturer Authorization form	1 Years
Item #4 - Access Switch - 48 Port PoE	Network switches	Address: Federal Government Polyclinic (PGMI-II), Islamabad Schedule: 75 Days Quantity: 47/Qty	47 / Qty	Manufacturer Authorization form	1 Years
Item #5 - Access Switch - 24 Port PoE	Network switches	Address: Federal Government Polyclinic (PGMI-II), Islamabad Schedule: 75 Days Quantity: 03/Qty	3 / Qty	Manufacturer Authorization form	1 Years

Item	UNSPSC	Delivery Schedule	Quantity	Manufacturer / Dealer Authorization	Warranty
Item #6 - SFP 1GE Copper	Transceivers and media converters	Address: 50, B-III, Gulberg-III, Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 75 Days Quantity: 20/Qty	20 / Qty	--	1 Years
Item #7 - SFP+ 10GE Copper OR SFP+ 10G AOC Cable	Transceivers and media converters	Address: 50, B-III, Gulberg-III, Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 75 Days Quantity: 20/Qty	20 / Qty	--	1 Years
Item #8 - SFP 1G Fiber	Transceivers and media converters	Address: 50, B-III, Gulberg-III, Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 75 Days Quantity: 60/Qty	60 / Qty	--	1 Years
Item #9 - SFP+ 10G Fiber	Transceivers and media converters	Address: 50, B-III, Gulberg-III, Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 75 Days Quantity: 96/Qty	96 / Qty	--	1 Years
Item #10 - Outdoor Access Switches	Network switches	Address: 50, B-III, Gulberg-III, Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 75 Days Quantity: 18/Qty	18 / Qty	Manufacturer Authorization form	1 Years

Lot Title : Voice Communication Solution

Bid Security : 185000 PKR

Item	UNSPSC	Delivery Schedule	Quantity	Manufacturer / Dealer Authorization	Warranty
Item # 1 -Telephone Exchange	Private branch exchange PBX equipment	Address: 50, B-III, Gulberg-III, Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 75 Days Quantity: 01/Qty	1 / Qty	--	1 Years
Item # 2 - IP Phones	IP phones	Address: 50, B-III, Gulberg-III, Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 75 Days Quantity: 388/Qty	388 / Qty	--	1 Years

Lot Title : Computer Server, Storage & Rack

Bid Security : 300000 PKR

Item	UNSPSC	Delivery Schedule	Quantity	Manufacturer / Dealer Authorization	Warranty
Item # 1 - Computer Server (Rack Mount)	Computer server	Address: 50, B-III, Gulberg-III, Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 75 Days Quantity: 02/Qty	2 / Qty	Manufacturer Authorization form	1 Years

Item	UNSPSC	Delivery Schedule	Quantity	Manufacturer / Dealer Authorization	Warranty
Item # 2 - Computer Storage Server (Rack Mount)	Storage device controller	Address: 50, B-III, Gulberg-III, Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 75 Days Quantity: 02/Qty	2 / Qty	Manufacturer Authorization form	1 Years
Item # 3 - Floor Standing Server Rack	Network system cabinet or enclosure	Address: 50, B-III, Gulberg-III, Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 75 Days Quantity: 01/Qty	1 / Qty	Manufacturer Authorization form	1 Years

Related Services of Goods:

No



Items/Lot Specification

Lot Title : ICT Campus LAN Solution

Item: Item #1 - Core Switch 48 Port

UNSPSC: Network switches

Specifications / Requirements:

Technical Specification for LOT #1 – Item #1 (Core Switch)		
Sr.Spec	Description	Compliance Status (Yes/No)
1 Cooling System	Cooling system to operate between 0°C to 45°C	
	Front to Rear / Side to Rear / Side to Side air flows are acceptable	
2 Power Supply	AC 220V	
3 Port density	48x 10G SFP+ (compatible with 10/100/1000 SFP Transceivers)	
3 Throughput Requirements	960 Gbps or higher	
4 Throughput Requirements	Non-Blocking switch Ports	
	Switching at Wire Speed	

Technical Specification for LOT #1 – Item #1 (Core Switch)

5	Packet rate Requirements	714 Mpps or higher (64Byte IP Packet, untagged)	
6	Installation	Should be mountable on Standard 19" Rack	
7	Stacking or Clustering	Core switches will be configured in a Stack or clustering setup	
		Stacking cable length: Contractor to ensure that HA/Stacking/HeartBeat cables are long enough to allow for Core Switch installation in adjacent racks (where applicable)	
		All related modules/cables for stacking or clustering to be provided for a fully operational solution	
		The bidder must provide switches from a single OEM only and shall not propose any switch model that can be stacked exclusively with identical models; all proposed PoE and Non- PoE switch models must be mutually interoperable and capable of forming a common stack with each other.	
8	Port Aggregation	Support Link Aggregation (LACP or equivalent)	
9	VLANs	Two types of interfaces: Access, Trunk	
		VLAN switching	
		Support for 512 or more SVI/RVI (Virtual Interfaces for VLANs)	
10	Mac Address	MAC address table size: 16k or higher	
		MAC address learning and aging	
		Static and dynamic MAC address entries	

Technical Specification for LOT #1 – Item #1 (Core Switch)

Limit
on
the
number
of
MAC
addresses
learned
on
ports

MAC
address
filtering

11 IP Routing	IPv4 routing protocols, such as RIPv1/v2, OSPFv2, BGP, PIM	
	IPv6 dynamic routing protocols	
12 DHCP	DHCP Relay Support	
	DHCP Snooping protection	
13 Switching	Support for per VLAN Rapid STP configuration	
	Support for STP Root Protection	
	Support for STP Loop Protection	
	Support for STP Unidirectional Link Detection and loop prevention	

Technical Specification for LOT #1 – Item #1 (Core Switch)

Storm
Control
-
block
BUM
traffic
(Broadcast,
unknown,
Multicast)

Support
for
STP
Edge
Port:

Auto-
MDI/MDIX
feature

14 Configuration

Fully Managed Switch

Console connectivity

SSH based secure remote connectivity

Remote File uploading and downloading using FTP and TFTP OR SCP

USB OR SD Card port for files / config transfer etc.

Technical Specification for LOT #1 – Item #1 (Core Switch)

16 Security and Management	802.1x authentication	
	Command Line OR GUI based authentication	
	Authentication based on RADIUS, TACACS and Local users	
	Different user levels for commands, preventing unauthorized users from using certain commands	
	Network management protocols, such as SNMP v1/v2c/v3	
	Defense against: MAC Flooding attack DHCP Spoofing ARP Spoofing ICMP broadcast attack (Smurf) TCP Syn Flood UDP Flood Broadcast storms Attacks against STP	
	Network flow information capability (NetFlow, sFlow, jFlow, NetStream or equivalent)	
17 Power Cable	Compatible with IEC 60320 C13 Socket / Universal 3 Pin Socket	
Solution	The Contractor is required to carefully read entire "IDAP Enterprise Network Design Guidelines (NSS)" document to understand design requirements of the project	
18 Implementation following Technical Guidelines	"Based on the design guidelines the Contractor shall submit a 'Detailed Design Document'. Detailed design will include low level details about the proposed solution. Detailed design will be delivered for approval before solution deployment starts. "	
	"The Contractor is required to fully deploy and configure the solution according to approved detailed design document. Delivery of a fully operational solution is part of Project deliverable"	
19 MAL	OEM Authorization Letter from the Manufacturer Required	

Technical Specification for LOT #1 – Item #1 (Core Switch)		
20 Licenses	Licenses for delivered HW, software inclusive of all required features must be valid for at least 1 year from start of operations	
21 Warranty	1 Year Local Warranty along with Parts and Labor warranty for all components on site.	

Item: Item #2 - Access Switch - 48 Port

UNSPSC: Network switches

Specifications / Requirements:

Technical Specification for LOT #1 – Item #2 (Access Switch - 48 Port)			
Sr. Spec		Description	Compliance Status (Yes/No)
1	Cooling System	Cooling system to operate between 0°C to 45°C	
		Front to Rear / Side to Rear / Side to Side air flows are acceptable	
2	Power Supply	AC 220V	
3	Port density	x48 10/100/1000BaseT ports x2 10G SFP+ (backward compatible with 1G SFP)	
4	Throughput Requirements	136 Gbps minimum (full duplex)	
		Non-Blocking switch Ports	
		Switching at Wire Speed	

Technical Specification for LOT #1 – Item #2 (Access Switch - 48 Port)

5	Packet rate Requirements	101 Mpps (64 Byte IP Packet, untagged)	
6	Installation	Should be mountable on Standard 19" Rack	
		All mounting rails, cage nuts, trays etc to be provided for installation	
7	Stacking or Clustering	Access switches will be configured in a Stack or clustering setup	
		Stacking cable length: Contractor to ensure that HA/Stacking/HeartBeat cables are long enough to allow for Access Switch installation in adjacent racks where applicable	
		All related modules/cables for stacking or clustering to be provided for a fully operational solution	
		The bidder must provide switches from a single OEM only and shall not propose any switch model that can be stacked exclusively with identical models; all proposed PoE and Non- PoE switch models must be mutually interoperable and capable of forming a common stack with each other.	
9	Port Aggregation	Support Link Aggregation (LACP or equivalent)	
10	VLANs	Two types of interfaces: Access, Trunk	
		VLAN switching	
		Support for RVI/SVI (Virtual Interfaces for VLANs)	
11	Mac Address	MAC address learning and aging	
		MAC address table size: 8k or higher	

Technical Specification for LOT #1 – Item #2 (Access Switch - 48 Port)

Static and dynamic MAC address entries		
Limit on the number of MAC addresses learned on ports and VLANs		
MAC address filtering		
12 IP Routing	IPv4 Gateway assignment	
13 DHCP	DHCP Snooping protection	
14 Switching	Support for per VLAN Rapid STP configuration	

Technical Specification for LOT #1 – Item #2 (Access Switch - 48 Port)

Support for STP Root Protection		
Support for STP Loop Protection		
Support for STP Unidirectional Link Detection and loop prevention		
15 Configuration	Storm Control - block BUM traffic (Broadcast, unknown, Multicast)	
	Support for STP Edge Port	
	Auto-MDI/MDIX feature	
	Fully Managed Switch	

Technical Specification for LOT #1 – Item #2 (Access Switch - 48 Port)

Console
connectivity

SSH
based
secure
remote
connectivity

Remote
File
uploading
and
downloading
using
FTP
and
TFTP
OR
SCP.



Technical Specification for LOT #1 – Item #2 (Access Switch - 48 Port)

USB or SD card port or Ethernet port for files transfer etc.		
16 Security and Management	802.1x authentication	
	Command Line OR GUI based authentication	
	Authentication based on RADIUS, TACACS and Local users	
	Different user levels for commands, preventing unauthorized users from using certain commands	
	Network management protocols, such as SNMP v1/v2c/v3	
	Defense against: MAC Flooding attack DHCP Spoofing ARP Spoofing ICMP broadcast attack (Smurf) TCP Syn Flood UDP Flood Broadcast storms Attacks against STP	
	Network flow information capability (NetFlow, sFlow, jFlow, NetStream or equivalent)	
17 Power Cable	Compatible with IEC 60320 C13 Socket / Universal 3 Pin Socket	

Technical Specification for LOT #1 – Item #2 (Access Switch - 48 Port)

18	Solution Implementation following Technical Guidelines	The Contractor is required to carefully read entire "IDAP Enterprise Network Design Guidelines (NSS)" document to understand design requirements of the project	
		"Based on the design guidelines the Contractor shall submit a 'Detailed Design Document'. Detailed design will include low level details about the proposed solution. Detailed design will be delivered for approval before solution deployment starts. "	
		"The Contractor is required to fully deploy and configure the solution according to approved detailed design document. Delivery of a fully operational solution is part of Project deliverable"	
20	MAL	OEM Authorization Letter from the Manufacturer Required	
21	Warranty	1 Year Local Warranty along with Parts and Labor warranty for all components on site.	

Item: Item #3 - Access Switch - 24 Port

UNSPSC: Network switches

Specifications / Requirements:

Technical Specification for LOT #1 – Item #3 (Access Switch - 24 Port)

Sr.	Spec	Description	Compliance Status (Yes/No)
1	Cooling System	Cooling system to operate between 0°C to 45°C	
		Front to Rear / Side to Rear / Side to Side air flows are acceptable	

Technical Specification for LOT #1 – Item #3 (Access Switch - 24 Port)

2	Power Supply	AC 220V	
3	Port density	x24 10/100/1000BaseT ports x2 10G SFP+ (backward compatible with 1G SFP)	
4	Throughput Requirements	88 Gbps minimum (full duplex)	
		Non-Blocking switch Ports	
		Switching at Wire Speed	
5	Packet rate Requirements	65.4 Mpps (64Byte IP Packet, untagged)	
6	Installation	Should be mountable on Standard 19" Rack	
		All mounting rails, cage nuts, trays etc to be provided for installation	
7	Stacking or Clustering	Access switches will be configured in a Stack or clustering setup	
		Stacking cable length: Contractor to ensure that HA/Stacking/HeartBeat cables are long enough to allow for Access Switch installation in adjacent racks where applicable	
		All related modules/cables for stacking or clustering to be provided for a fully operational solution	
		The bidder must provide switches from a single OEM only and shall not propose any switch model that can be stacked exclusively with identical models; all proposed PoE and Non-PoE switch models must be mutually interoperable and capable of forming a common stack with each other.	

Technical Specification for LOT #1 – Item #3 (Access Switch - 24 Port)

8	Port Aggregation	Support Link Aggregation (LACP or equivalent)	
9	VLANs	Two types of interfaces: Access, Trunk	
		VLAN switching	
		Support for RVI/SVI (Virtual Interfaces for VLANs)	
10	Mac Address	MAC address learning and aging	
		MAC address table size: 8k or higher	
		Static and dynamic MAC address entries	
		Limit on the number of MAC addresses learned on ports and VLANs	
		MAC address filtering	
11	IP Routing	IPv4 Gateway assignment	
12	DHCP	DHCP Snooping protection	
13	Switching	Support for per VLAN Rapid STP configuration	
		Support for STP Root Protection	
		Support for STP Loop Protection	
		Support for STP Unidirectional Link Detection and loop prevention	
		Storm Control - block BUM traffic (Broadcast, unknown, Multicast)	
		Support for STP Edge Port	
		Auto-MDI/MDIX feature	

Technical Specification for LOT #1 – Item #3 (Access Switch - 24 Port)

14	Configuration	Fully Managed Switch	
		Console connectivity	
		SSH based secure remote connectivity	
15	Security and Management	Remote File uploading and downloading using FTP and TFTP OR SCP	
		USB or SD card port or Ethernet port for files transfer etc.	
		802.1x authentication	
		Command Line OR GUI based authentication	
		Authentication based on RADIUS, TACACS and Local users	
		Different user levels for commands, preventing unauthorized users from using certain commands	
		Network management protocols, such as SNMP v1/v2c/v3	
		Defense against: MAC Flooding attack DHCP Spoofing ARP Spoofing ICMP broadcast attack (Smurf) TCP Syn Flood UDP Flood Broadcast storms Attacks against STP	
16	Power Cable	Network flow information capability (NetFlow, sFlow, jFlow, NetStream or equivalent)	
		Compatible with IEC 60320 C13 Socket / Universal 3 Pin Socket	
17	Solution Implementation following Technical Guidelines	The Contractor is required to carefully read entire "IDAP Enterprise Network Design Guidelines (NSS)" document to understand design requirements of the project	
		"Based on the design guidelines the Contractor shall submit a 'Detailed Design Document'. Detailed design will include low level details about the proposed solution. Detailed design will be delivered for approval before solution deployment starts. "	

Technical Specification for LOT #1 – Item #3 (Access Switch - 24 Port)

"The Contractor is required to fully deploy and configure the solution according to approved detailed design document. Delivery of a fully operational solution is part of Project deliverable"

18	MAL	OEM Authorization Letter from the Manufacturer Required
19	Warranty	1 Year Local Warranty along with Parts and Labor warranty for all components on site.

Item: Item #4 - Access Switch - 48 Port PoE

UNSPSC: Network switches

Specifications / Requirements:

Technical Specification for LOT #1 – Item #4 (Access Switch - 48 Port PoE)

Sr.	Spec	Description	Compliance Status (Yes/No)
1	Cooling System	Cooling system to operate between 0°C to 45°C	
		Front to Rear / Side to Rear / Side to Side air flows are acceptable	

Technical Specification for LOT #1 – Item #4 (Access Switch - 48 Port PoE)

2	Power Supply	AC 220V Power Budget and Power Supply Sizing: Power Supply must be sized to ensure the switch can support max load for attached PoE+ devices. Bidder will deploy dual-power-supply for switches that have higher power requirements. It is Bidder's responsibility to ensure correct power supply sizing to meet site requirements.	
3	Port density	x48 10/100/1000BaseT PoE+ (802.3at) or better ports	
		x2 10G SFP+ (backward compatible with 1G SFP)	
4	Throughput Requirements	136 Gbps minimum (full duplex)	
		Non-Blocking switch Ports	
		Switching at Wire Speed	
5	Packet rate Requirements	101 Mpps (64Byte IP packet, untagged)	
6	Installation	Should be mountable on Standard 19" Rack	
		All mounting rails, cage nuts, trays etc to be provided for installation	
7	Stacking or Clustering	Access switches will be configured in a Stack or clustering setup	
		Stacking cable length: Contractor to ensure that HA/Stacking/HeartBeat cables are long enough to allow for Access Switch installation in adjacent racks where applicable	
		All related modules/cables for stacking or clustering to be provided for a fully operational solution	

Technical Specification for LOT #1 – Item #4 (Access Switch - 48 Port PoE)

The bidder must provide switches from a single OEM only and shall not propose any switch model that can be stacked exclusively with identical models; all proposed PoE and Non-PoE



Technical Specification for LOT #1 – Item #4 (Access Switch - 48 Port PoE)

8	Port Aggregation	Support Link Aggregation (LACP or equivalent)	
9	VLANs	Two types of interfaces: Access, Trunk	
		VLAN switching	
		Support for RVI/SVI (Virtual Interfaces for VLANs)	
10	Mac Address	MAC address learning and aging	
		MAC address table size: 8k or higher	
		Static and dynamic MAC address entries	
		Limit on the number of MAC addresses learned on ports and VLANs	
		MAC address filtering	
11	IP Routing	IPv4 Gateway assignment	
12	DHCP	DHCP Snooping protection	
13	Switching	Support for per VLAN Rapid STP configuration	
		Support for STP Root Protection	
		Support for STP Loop Protection	
		Support for STP Unidirectional Link Detection and loop prevention	
		Storm Control - block BUM traffic (Broadcast, unknown, Multicast)	
		Support for STP Edge Port	
		Auto-MDI/MDIX feature	

Technical Specification for LOT #1 – Item #4 (Access Switch - 48 Port PoE)

14	Configuration	Fully Managed Switch	
		Console connectivity	
		SSH based secure remote connectivity	
		Remote File uploading and downloading using FTP and TFTP OR SCP	
		USB or SD card port or Ethernet port for files transfer etc.	
15	Security and Management	802.1x authentication	
		Command Line OR GUI based authentication	
		Authentication based on RADIUS, TACACS and Local users	
		Different user levels for commands, preventing unauthorized users from using certain commands	
		Network management protocols, such as SNMP v1/v2c/v3	
		Defense against: MAC Flooding attack DHCP Spoofing ARP Spoofing ICMP broadcast attack (Smurf) TCP Syn Flood UDP Flood Broadcast storms Attacks against STP	
		Network flow information capability (NetFlow, sFlow, jFlow, NetStream or equivalent)	
16	Power Cable	Compatible with IEC 60320 C13 Socket / Universal 3 Pin Socket	
17	Solution Implementation following Technical Guidelines	The Contractor is required to carefully read entire "IDAP Enterprise Network Design Guidelines (NSS)" document to understand design requirements of the project	
		"Based on the design guidelines the Contractor shall submit a 'Detailed Design Document'. Detailed design will include low level details about the proposed solution. Detailed design will be delivered for approval before solution deployment starts. "	

Technical Specification for LOT #1 – Item #4 (Access Switch - 48 Port PoE)

"The Contractor is required to fully deploy and configure the solution according to approved detailed design document. Delivery of a fully operational solution is part of Project deliverable"



Technical Specification for LOT #1 – Item #4 (Access Switch - 48 Port PoE)

18	MAL	OEM Authorization Letter from the Manufacturer Required	
19	Warranty	1 Year Local Warranty along with Parts and Labor warranty for all components on site.	

Item: Item #5 - Access Switch - 24 Port PoE

UNSPSC: Network switches

Specifications / Requirements:**Technical Specification for LOT #1 – Item #5 (Access Switch - 24 Port PoE)**

Sr.	Spec	Description	Compliance Status (Yes/No)
1	Cooling System	Cooling system to operate between 0°C to 45°C	
		Front to Rear / Side to Rear / Side to Side air flows are acceptable	
2	Power Supply	AC 220V Power Budget and Power Supply Sizing: Power Supply must be sized to ensure the switch can support max load for attached PoE+ devices. Bidder will deploy dual-power-supply for switches that have higher power requirements. It is Bidder's responsibility to ensure correct power supply sizing to meet site requirements.	
3	Port density	x24 10/100/1000BaseT PoE+ (802.3at) or better ports	
		x2 10G SFP+ (backward compatible with 1G SFP)	
4	Throughput Requirements	88 Gbps minimum (full duplex)	
		Non-Blocking switch Ports	

Technical Specification for LOT #1 – Item #5 (Access Switch - 24 Port PoE)

Switching at Wire Speed			
5	Packet rate Requirements	65.4 Mpps (64 Byte IP Packet, untagged)	
6	Installation	Should be mountable on Standard 19" Rack	
		All mounting rails, cage nuts, trays etc to be provided for installation	
7	Stacking or Clustering	Access switches will be configured in a Stack or clustering setup	
		Stacking cable length: Contractor to ensure that HA/Stacking/HeartBeat cables are long enough to allow for Access Switch installation in adjacent racks where applicable	
		All related modules/cables for stacking or clustering to be provided for a fully operational solution	
		The bidder must provide switches from a single OEM only and shall not propose any switch model that can be stacked exclusively with identical models; all proposed PoE and Non-PoE switch models must be mutually interoperable and capable of forming a common stack with each other.	
8	Port Aggregation	Support Link Aggregation (LACP or equivalent)	
9	VLANs	Two types of interfaces: Access, Trunk	
		VLAN switching	
		Support for RVI/SVI (Virtual Interfaces for VLANs)	

Technical Specification for LOT #1 – Item #5 (Access Switch - 24 Port PoE)

10	Mac Address	MAC address learning and aging	
		MAC address table size: 8k or higher	
		Static and dynamic MAC address entries	
		Limit on the number of MAC addresses learned on ports and VLANs	
		MAC address filtering	
11	IP Routing	IPv4 Gateway assignment	
12	DHCP	DHCP Snooping protection	
13	Switching	Support for per VLAN Rapid STP configuration	
		Support for STP Root Protection	
		Support for STP Loop Protection	
		Support for STP Unidirectional Link Detection and loop prevention	
		Storm Control - block BUM traffic (Broadcast, unknown, Multicast)	
		Support for STP Edge Port	
		Auto-MDI/MDIX feature	
14	Configuration	Fully Managed Switch	
		Console connectivity	
		SSH based secure remote connectivity	
		Remote File uploading and downloading using FTP and TFTP OR SCP	

Technical Specification for LOT #1 – Item #5 (Access Switch - 24 Port PoE)

USB or SD card port or Ethernet port for files transfer etc.			
15	Security and Management	802.1x authentication	
		Command Line OR GUI based authentication	
		Authentication based on RADIUS, TACACS and Local users	
		Different user levels for commands, preventing unauthorized users from using certain commands	
		Network management protocols, such as SNMP v1/v2c/v3	
		Defense against: MAC Flooding attack DHCP Spoofing ARP Spoofing ICMP broadcast attack (Smurf) TCP Syn Flood UDP Flood Broadcast storms Attacks against STP	
		Network flow information capability (NetFlow, sFlow, jFlow, NetStream or equivalent)	
16	Power Cable	Compatible with IEC 60320 C13 Socket / Universal 3 Pin Socket	
17	Solution Implementation following Technical Guidelines	The Contractor is required to carefully read entire "IDAP Enterprise Network Design Guidelines (NSS)" document to understand design requirements of the project	
		"Based on the design guidelines the Contractor shall submit a 'Detailed Design Document'. Detailed design will include low level details about the proposed solution. Detailed design will be delivered for approval before solution deployment starts. "	

Technical Specification for LOT #1 – Item #5 (Access Switch - 24 Port PoE)

"The Contractor is required to fully deploy and configure the solution according to approved detailed design document. Delivery of a fully operational solution is part of Project deliverable"

18	MAL	OEM Authorization Letter from the Manufacturer Required	
19	Warranty	1 Year Local Warranty along with Parts and Labor warranty for all components on site.	

Item: Item #6 - SFP 1GE Copper

UNSPSC: Transceivers and media converters

Specifications / Requirements:

Technical Specification for LOT #1 – Item #6 (1G SFP Copper)

Sr.	Spec	Description	Compliance Status (Yes/No)
1	OEM Hardware	SFP will be OEM and supplied by HW (Switch, Router, Server, WLC, etc) manufacturer	
2	Specifications	Industry Standard Small Form Factor pluggable (SFP)	
		1 Gigabit Interface - connection over electrical cable	
		Hot-swappable operation	
		1GBASE- Electrical	
		lengths up to 100 MTR	
		8P8C connector	
3	Licenses	Licenses for delivered HW, software inclusive of all required features must be valid for at least 1 year from the start of operations	
4	Warranty	1 Year Local Warranty along with Parts and Labor warranty for all components on site.	

Item: Item #7 - SFP+ 10GE Copper OR SFP+ 10G AOC Cable

UNSPSC: Transceivers and media converters

Specifications / Requirements:

Technical Specification for LOT #1 – Item #7-A (SFP+ 10G AOC Cable)

Sr.	Spec	Description	Compliance Status (Yes/No)
1	OEM Hardware	OEM Hardware: SFP based will be OEM and supplied by HW (Switch, Router, Server, WLC etc.) manufacturer	
2	Specifications	Form Factor: (10G SFP+ AOC cable)	
		Media: SFP+ AOC	
		Hot swapable operation	
		Specifications: 10GBASE (SFP+) AOC	
		Transmission Distance: Cable link length 10m or above	
		Licenses: Licenses for delivered HW, software inclusive of all required features must be valid for at least 1 years from start of operations	
		Warranty: 1 Year Local Warranty along with Parts and Labor warranty for all components on site.	
OR			
Technical Specification for LOT #1 – Item #7-B (SFP+ 10G Copper)			
Sr.	Spec	Description	Compliance Status (Yes/No)
1	OEM Hardware	OEM Hardware: SFP based will be OEM and supplied by HW (Switch, Router, Server, WLC etc.) manufacturer	
2	Specifications	Form Factor: (10G SFP+) OR (10G SFP+ DAC)	
		Media: SFP+ with CAT6/A or DAC cable with Twinax copper	

Hot swappable operation	
Specifications: 10GBASE-T (SFP+) OR 10GBASE-CX1 (DAC/Twinax)	
Transmission Distance: Cable link length 10m or above	
Licenses: Licenses for delivered HW, software inclusive of all required features must be valid for at least 1 years from start of operations	
Warranty: 1 Year Local Warranty along with Parts and Labor warranty for all components on site.	

Item: Item #8 - SFP 1G Fiber

UNSPSC: Transceivers and media converters

Specifications / Requirements:

Technical Specification for LOT #1 – Item #8 (1G SFP Fiber)

Sr.	Spec	Description	Compliance Status (Yes/No)
1	OEM Hardware	OEM Hardware: SFP will be OEM and supplied by HW (Switch, Router, Server, WLC etc) manufacturer	
2	Specifications	Specifications: Industry Standard Small Form Factor pluggable (SFP)	
		Specifications: Gigabit Interface Converter - connection over Single Mode Fiber Optic Cable	
		Specifications: Hot swapable operation	
		Specifications: 1000BASE-LX/1000BASE-LH (1310nm)	
		Specifications: Single Mode Fiber lengths up to 5 km	
		Specifications: Duplex LC connector	
		Licenses: Licenses for delivered HW, software inclusive of all required features must be valid for at least 1 years from start of operations	
		Warranty: 1 Year Local Warranty along with Parts and Labor warranty for all components on site.	

Item: Item #9 - SFP+ 10G Fiber

UNSPSC: Transceivers and media converters

Specifications / Requirements:

Technical Specification for LOT #1 – Item #9 (10G SFP Fiber)

Sr.	Spec	Description	Compliance Status (Yes/No)
1	OEM Hardware	SFP will be OEM and supplied by HW (Switch, Router, Server, WLC, etc.) manufacturer	
2	Specifications	Industry Standard Small Form Factor pluggable (SFP+)	
		10 Gigabit Interface - connection over Single Mode fiber optic cable	
		Hot-swappable operation	
		10GBASE-LR fiber	
		Single Mode Fiber lengths up to 10 km	
		Duplex LC connector	
3	Licenses	Licenses for delivered HW, software inclusive of all required features must be valid for at least 1 year from the start of operations	
4	Warranty	1 Year Local Warranty along with Parts and Labor warranty for all components on site.	

Item: Item #10 - Outdoor Access Switches

UNSPSC: Network switches

Specifications / Requirements:

Technical Specification for LOT #1 – Item #10 (Outdoor Switch)

Spec	Description	Compliance Status (Yes/No)
	The Bidder shall fill in below Yes/No column and submit it as part of Technical Bid	
	The bidder shall provide OEM technical product data sheets for all the IT equipment mentioned in the Technical Specifications.	
	Documentation including Datasheets, MAL, other support documents shall be uploaded to E- Procurement Portal under Section "TECHNICAL"	
	Cooling System: Support Operating Temp between 0°C to 60°C	
	Cooling System: Fanless	
	AC Power Supply: 220V	
	Port density: x8 10/100/1000BaseT PoE+ ports (PoE+ or Enhanced PoE (802.3at) or better. Type1 PoE (802.af) is NOT recommended)	
	Port density: x2 1G SFP (Uplink)	
	Throughput Requirements: 20 Gbps minimum	
	Throughput Requirements: Non-Blocking switch Ports	
	Throughput Requirements: Switching at Wire Speed	
	Packet rate Requirements: 14.8 Mpps	
	Installation: Should be mountable on Standard 19" Rack / DIN Rail Kit for Standard 19" Rack	
	Installation: All mounting rails, cage nuts, trays etc to be provided for installation	
	Port Aggregation: Support Link Aggregation (LACP or equivalent)	

VLANs: Two types of interfaces: Access, Trunk	
VLANs: VLAN switching	
VLANs: Support for RVI/SVI (Virtual Interfaces for VLANs)	
Mac Address: MAC address learning and aging	
Mac Address: MAC address table size: 8k or higher	
Mac Address: Static and dynamic MAC address entries	
Mac Address: Limit on the number of MAC addresses learned on ports and VLANs	
Mac Address: MAC address filtering	
IP Routing: IPv4 Gateway assignment	
DHCP: DHCP Snooping protection	
Switching: Support for per VLAN Rapid STP configuration	
Switching: Support for STP Root Protection	
Switching: Support for STP Loop Protection	
Switching: Support for STP Unidirectional Link Detection and loop prevention	
Switching: Support for STP Edge Port	
Switching: Auto-MDI/MDIX feature	
Configuration: Fully Managed Switch	
Configuration: Console connectivity	
Configuration: SSH based secure remote connectivity	

Configuration: Remote File uploading and downloading using FTP and TFTP	
Security and Management: 802.1x authentication	
Security and Management: Command Line OR GUI based authentication	
Security and Management: Authentication based on RADIUS, TACACS and Local users	
Security and Management: Different user levels for commands, preventing unauthorized users from using certain commands	
Security and Management: Network management protocols, such as SNMP v1/v2c/v3	
Security and Management: Defense against: MAC Flooding attack DHCP Spoofing ARP Spoofing ICMP broadcast attack (Smurf) TCP Syn Flood UDP Flood Broadcast storms Attacks against STP	
Security and Management: Network flow information capability (NetFlow, sFlow, jFlow, NetStream or equivalent)	
Power Cable: Compatible with Universal/Free Connect Socket	
The Contractor is required to carefully read entire "IDAP Enterprise Network Design Guidelines (NSS)" document to understand design requirements of the project	
Based on the design guidelines the Contractor shall submit a 'Detailed Design Document'. Detailed design will include low level details about the proposed solution. Detailed design will be delivered for approval before solution deployment starts.	
The Contractor is required to fully deploy and configure the solution according to approved detailed design document. Delivery of a fully operational solution is part of Project deliverable	
MAL: OEM Authorization Letter from the Manufacturer Required	
Warranty: 1 Year Local Warranty along with Parts and Labor warranty for all components on site.	

Lot Title : Voice Communication Solution

Item: Item # 1 -Telephone Exchange

UNSPSC: Private branch exchange PBX equipment

Specifications / Requirements:

Technical Specification for LOT # 2 – Item # 1 Telephone Exchange			
Sr.	Spec	Description	Compliance Status (Yes/No)
S. #	Items	Description	Required Qty
1.	PTA Approved	The vendor must have PTA Approved Letter of quoted model and manufacturers authorization letter	YES
2.	System General	Physical Hardware based 19” standard RACK mount with RACK rails etc. on premises IPBX Telephone Exchange with required software licenses etc. complete in all aspects.	YES
3.	High Availability	High Availability enabled with required hardware & software licenses.	YES
4.	Analog trunk Lines	Pre- Installed Analog trunk / gateway with CLI capability	16 Nos
5.	SIP trunk Lines	Pre- Installed SIP trunk with multiple channels (as per site requirement) with DID and DOD	16 Nos

Technical Specification for LOT # 2 – Item # 1 Telephone Exchange

6.	ISDN LINES	PRI Supported	YES
7.	Gate way	Gate ways of same manufacturer with IP & Analog Trunks to connect with service providers	YES
8.	IP Extensions	Pre-Installed / Active IP Extensions with CLI	500
9.	System Expandability	800 or higher Ports	YES
10.	IP Phone	Non propitiatory / Third party iPhone acceptability	YES
11.	Concurrent users	Min. 120 concurrent users	YES
12.	Class of services	Different Class of services as per OEM / Manufacturer Standard for different users	YES
13.	Call Manager	Call manager + Reporting with OEM Standard features	YES
14.	Auto Attendant	Integrated Direct Inward System Access & auto attendant for simultaneous access	YES
15.	Other Features	Music on Hold, Call Hold, Call Forwarding, Call Logs, Reporting Feature	YES

Technical Specification for LOT # 2 – Item # 1 Telephone Exchange

16.	VOIP Protocols	All standard VOIP protocol support	YES
17.	System	HA Based Physical On-Premises system	YES
18.	Power backup	UPS with dry batteries backup – UPS as per above PABX power requirements with maintenance free batteries with min. 01-hour backup at full load in case of power outage.	YES
19.	Operator Console	Fully functional IP Operator Console Capability (Manufacturer recommended) Full Color, PoE, Min. 80 lines direct dial, with Hand free function with Standard OEM feature	09 Sets
20.	Training	Local, Onsite Training of the same according to requirements	YES
21.	Fault Tolerance	On-Premises AND OR remote diagnostic & fault tolerance features	YES
22.	Licensing	Solution to include all licensing cost etc.	YES
23.	Warranty	Warranty: 1-year local warranty along with Parts and Labor for all components on site. Contractor is responsible for installation, commissioning, testing, integration with other services of IP exchange.	YES

Item: Item # 2 – IP Phones

UNSPSC: IP phones

Specifications / Requirements:

Technical Specification for LOT # 2 – Item # 2 IP Phones

Spec – Description		Compliance Status (Yes/No)
IP Phones	Physical Phone with IP/ SIP 2 lines Based Telephone (Same or Equivalent Brand) Mono / color display, two port 10/100M Ethernet with integrated PoE for extended network, Full Duplex hands-free speakerphone, local phonebook entries, FTP, TFTP/HTTP/HTTPS auto provision, ROHS, ISO 9001.	
	Caller ID, Call logs, redial, call back with other standard OEM features.	
	The Contractor is required to deliver a fully operational solution, as part of Project deliverable.	
	Warranty: 1 Year Local Warranty along with Parts and Labor warranty for all components on site.	

Lot Title : Computer Server, Storage & Rack

Item: Item # 1 - Computer Server (Rack Mount)

UNSPSC: Computer server

Specifications / Requirements:

LOT # 3 - Item # 1 - Computer Server (Rack Mount) (Branded)

Specs - Description	Compliance Status (Yes/No)
The Bidder shall fill in below Yes/No column and submit it as part of Technical Bid	

LOT # 3 - Item # 1 - Computer Server (Rack Mount) (Branded)

The bidder shall provide OEM technical product data sheets for all the IT equipment mentioned in the Technical Specifications.

Documentation including Datasheets, MAL, other support documents shall be uploaded to E-Procurement Portal under Section "TECHNICAL"

Rack Mountable Chassis with atleast 8 x 3.5"/2.5" SAS/SATA Hard Drives Slot

Processor: 2 x Intel Xeon Silver 2.1G, 8 Core/16T or higher

RAM: 2 x 16GB RDIMM, 3200MHz

RAID Controller 2GB Cache, Support RAID 0,1,5,6,10

SSD for OS: 2 x 960 GB with RAID-1

Hard Drives: 3 x 8TB 7.2K RPM NLSAS 12Gbps 3.5/2.5 in Hot-plug Hard Drive with RAID-5

Network Connectivity: 4 x 1GbE BASE-T, 2 x 10G SFP+

Connectivity: 2 x USB 2.0 or higher , 2 x USB 3.0 or higher , 1 x VGA

Operating System: Windows Server 2022 Standard (Factory Installed)

Power Supply: Dual, Hot-plug, Redundant Power Supply (1+1), 750W

Accessories: OEM Rack/Sliding Rails, OEM Jumper Cord and the provided Server Machine shall be complete in all respect.

The Bidder shall configure the Server Machine for high availability and reliability, of all hardware and software.

The Contractor shall submit a detailed design document ensuring all design guidelines/requirements of the project are met, as part of Project deliverable before the delivery of Goods

LOT # 3 - Item # 1 - Computer Server (Rack Mount) (Branded)

The Contractor is required to deliver a fully operational solution, as part of Project deliverable

MAL: OEM Authorization Letter from the Manufacturer Required

1 Year Local Warranty along with Parts and Labor warranty for all components on site.

Item: Item # 2 - Computer Storage Server (Rack Mount)

UNSPSC: Storage device controller

Specifications / Requirements:

LOT # 3 - Item # 2 - Computer Storage Server (Rack Mount) (Branded)

Specs	Description	Compliance Status (Yes/No)
The Bidder shall fill in below Yes/No column and submit it as part of Technical Bid		
The bidder shall provide OEM technical product data sheets for all the IT equipment mentioned in the Technical Specifications.		
Documentation including Datasheets, MAL, other support documents shall be uploaded to E-Procurement Portal under Section "TECHNICAL"		
Rack Mountable Chassis with at least 12 x 3.5"/2.5" SAS/SATA Hard Drives Slot		
Processor: 2 x Intel Xeon Silver 2.1G, 8 Core/16T or higher		
RAM: 4 x 32GB RDIMM, 2666MHz, Dual Rank		

LOT # 3 - Item # 2 - Computer Storage Server (Rack Mount) (Branded)	
RAID Controller 4GB Cache, Support RAID 0,1,5,6,10	
SSD for OS: 2 x 960 GB with RAID-1	
Hard Drives: 6 x 10TB 7.2K RPM NLSAS 12Gbps 3.5/2.5 in Hot-plug Hard Drive with RAID-6	
Network Connectivity: 4 x 1GbE BASE-T, 2 x 10G SFP+	
Connectivity: 2 x USB 2.0 or higher, 2 x USB 3.0 or higher, 1 x VGA	
Operating System: Windows Server 2022 Standard (Factory Installed)	
Power Supply: Dual, Hot-plug, Redundant Power Supply (1+1), 750W or higher as per above requirements	
Accessories: OEM Rack/Sliding Rails, OEM Jumper Cord and the provided Server Machine shall be complete in all respect.	
The Bidder shall configure the Server Machine for high availability and reliability of all hardware and software.	
The Contractor shall submit a detailed design document ensuring all design guidelines/requirements of the project are met, as part of Project deliverable before the delivery of Goods	
The Contractor is required to deliver a fully operational solution, as part of Project deliverable	
MAL: OEM Authorization Letter from the Manufacturer Required	
1 Year Local Warranty along with Parts and Labor warranty for all components on site.	

Item: Item # 3 - Floor Standing Server Rack

UNSPSC: Network system cabinet or enclosure

Specifications / Requirements:

LOT # 3 - Item # 3 - Floor Standing Server Rack (Branded)	
Specs - Description	Compliance Status (Yes/No)
The Bidder shall fill in below Yes/No column and submit it as part of Technical Bid	
The bidder shall provide OEM technical product data sheets for all the IT equipment mentioned in the Technical Specifications.	
Documentation including Datasheets, MAL, other support documents shall be uploaded to E-Procurement Portal under Section "TECHNICAL"	
42U Universal Rack	
Width: EIA-310 Standard 19" Rack Rails	
External Width: 800mm	
Height: 2,000mm / Rack Units: 42U	
Depths: 1000mm	
Features: Rack Castors Rack Leveling Feet Removable Side Panels (tool less) Front and Rear Door (Dual Perforated Metal) Removable Doors (tool less) Adjustable Vertical Mounting Rails Roof panel with large openings for power and network cable drops Power Cables with Universal Plug Large Capacity vertical cable managers	
Accessories: Qty.2 - 24 port Copper Patch Panel with RJ45 (8P8C) I/Os Qty.8 - Horizontal Cable Managers Cable Management HW: Cable ties , Velcro Straps or equivalent Cage Nuts for the whole rack	

LOT # 3 - Item # 3 - Floor Standing Server Rack (Branded)

Cat-6 Cable Coil: Qty.1 Coil - Cat6 Coil for Structured Cabling (305m) 23 AWG, 4 Pair UTP Compliant to ISO/IEC 11801 CM Rated UL Listed

Vendor-neutral EIA-310 19 inch Rack Mounting Compatibility

Power Distribution Unit (PDU): Qty.2 - PDU Single Phase, 32 AMP. Output Plug Type: Minimum x12 IEC 60320 C13 Input Plug Type: IEC 60309 32A Mounting Position: Vertical Cord length: 10 ft Two PDUs are required per rack for redundancy

The Contractor shall ensuring all design guidelines/requirements of the project are met when installing the racks ensuring rack placement, cable drops etc is in accordance with design guidelines

The Contractor shall install and configure the equipment as per Manufacturer's guidelines and industry best practices. Contractor will be responsible to do proper cable management using Vertical and Horizontal Cable Managers. Contractor will provide any other hardware/software where required for proper commissioning and deployment of equipment. The Contractor is required to deliver a fully operational unit, as part of contract deliverable

Contractor will be responsible to install Copper Patch panels in server rack Contractor will be responsible for structured cabling between server rack and network rack(s) including patching etc

(MAL) OEM Authorization Letter from the Manufacturer Required

1 Year Local Warranty along with Parts and Labor warranty for all components on site.

Price Schedule

For Individual Items

#	Item Title	Quantity	Unit Price (PKR)	Total Price (PKR)	Delivery Location	Delivery Period / Year	Country of Origin
1							
2							

For Lots

#	Lot Title	Total Lot Price (PKR)	Country of Origin
1	[Lot 1 Title]		





General Conditions of Contract

A. General

1. Definitions

1.1 Unless the context otherwise requires, the following terms whenever used in this Contract shall have the same meaning and shall be interpreted as indicated

- a. "Applicable Law" means the laws and any other instruments having the force of law in the Government's Country, or in such other country as may be specified in the Special Conditions of the Contract (SC), as they may be issued and in force from time to time;
- b. "Procuring Agency" means:-
 - a. any Ministry, Division, Department or any Office of the Government;
 - b. any authority, corporation, body or organization established by or under a Law or which is owned or controlled by the Government;
- c. "The Contract" means an agreement enforceable by law;
- d. "The Contract Price" means the price payable to the Bidder under the Contract for the full and proper performance of its contractual obligations;
- e. "Ancillary Services" means those services ancillary to the provision of Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Bidder covered under the Contract;
- f. "GCC" means the General Conditions of Contract contained in this section;
- g. "SCC" means the Special Conditions of Contract by which the GCC may be amended or supplemented;
- h. "Day" means calendar day unless indicated otherwise.
- i. "Effective Date" means the date on which this Contract comes into force and effect.
- j. "The Bidder" means the individual or corporate body whose Bids to provide the Goods has been accepted by the Procuring Agency;
- k. "The Project Site," where applicable, means the place or places named in Bids Data Sheet and technical Specifications;
- l. "Government" means the Government of Pakistan;
- m. "Subcontractor" means any entity to which the Bidder subcontracts any part of the Goods.
- n. "Service" means any object of procurement other than goods or works;
- o. "Party" means the Procuring Agency or the Bidder, as the case may be, and "Parties" means both of them;
- p. "Foreign Currency" means any currency other than the currency of the country of the Procuring Agency;

q. "Completion Date" means the date of completion of the contract by the Bidder as certified by the Procuring Agency;

r. "In Writing" means communicated in written form with proof of receipt;

s. "Local Currency" means the currency of Pakistan;

2. Application and Interpretation

2.1 These General Conditions shall apply to the extent that they are not superseded by provisions of other parts of the Contract.

2.2 In interpreting these Conditions of Contract headings and marginal notes are used for convenience only and shall not affect their interpretations unless specifically stated; references to singular include the plural and vice versa; and masculine include the feminine. Words have their ordinary meaning under the language of the Contract unless specifically defined.

3. Applicable Law

3.1 The contract shall be governed and interpreted in accordance with the laws of Pakistan, unless otherwise specified in SCC.

4. Governing Language

4.1 The Contract as well as all correspondence and documents relating to the Contract exchanged between the Bidder and the Procuring Agency, shall be written in the **English language** unless otherwise stated in the SCC. Supporting documents and printed literature that are part of the Contract may be in another language provided these are accompanied by an accurate translation of the relevant passages in English, in which case, for purposes of interpretation of the Contract, this translation shall govern.

5. Notices

5.1 Any notice, request, or consent made pursuant to this Contract shall be in writing and shall be deemed to have been made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent by registered mail, telex, telegram, or facsimile to such Party at the address specified in the SCC.

6. Delivery/Location

6.1 The Goods shall be delivered to such locations as the Procuring Agency may approve and as specified in SCC.

7. Authorized Representatives / Authority of Member in charge

7.1 Any action required or permitted to be taken, and any document required or permitted to be executed, under this Contract by the Procuring Agency or the Bidder may be taken or executed by the officials specified in the SCC.

B. Commencement, Completion, Modification, and Termination of Contract

8. Effectiveness of Contract

8.1 This Contract shall come into effect on the date the Contract is signed by both parties and such other later date as may be stated in the SCC.

9. Commencement of Services

9.1 The Bidder shall confirm availability of Key Experts and begin carrying out the Services not later than the number of days after the Effective Date specified in the SCC.

10. Program

10.1 Before commencement of the Services, the Bidder shall submit to the Procuring Agency for approval a Program showing the general methods, arrangements, order and timing for all activities. The Services shall be carried out in accordance with the approved Program as updated.

11. Starting Date/Expiration Date

11.1 The Bidder shall start carrying out the Services Five (05) days after the date the Contract becomes effective, or at such other date as may be specified in the SCC.

11.2 Unless terminated earlier pursuant to Clause **GCC 15** hereof, this Contract shall expire at the end of such time period after the Effective Date as specified in the SCC.

12. Entire Agreement

12.1 This Contract contains all covenants, stipulations and provisions agreed by the Parties. No agent or representative of either Party has authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not set forth herein.

13. Modification

13.1 Any modification or variation of the terms and conditions of this Contract, including any modification or variation of the scope of the Services, may only be made by written agreement between the Parties. However, each Party shall give due consideration to any Bids for modification or variation made by the other Party.

13.2 In cases of any modifications or variations, the prior written consent of the Procuring Agency is required.

14. Force Majeure

14.1 Definition

For the purposes of this Contract, “Force Majeure” means an event which is beyond the reasonable control of a Party and which makes a Party’s performance of its obligations under the Contract impossible or so impractical as to be considered impossible under the circumstances.

14.2 No Breach of Contract

The failure of a Party to fulfill any of its obligations under the contract shall not be considered to be a breach of, or default under, this Contract in so far as such inability arises from an event of Force Majeure, provided that the Party affected by such an event (a) has taken all reasonable precautions, due care and reasonable alternative measures in order to carry out the terms and conditions of this Contract, and (b) has informed the other Party as soon as possible about the occurrence of such an event.

14.3 Extension of Time

Any period within which a Party shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result

of Force Majeure.

14.4 Payments

During the period of their inability to perform the Services as a result of an event of Force Majeure, the Bidder shall be entitled to continue to be paid under the terms of this Contract, as well as to be reimbursed for additional costs reasonably and necessarily incurred by them during such period for the purposes of the Services and in reactivating the Service after the end of such period.

15. Termination

15.1 By the Procuring Agency

The Procuring Agency may terminate this Contract in case of the occurrence of any of the events specified in paragraphs (a) through (e) of this Clause. In such an occurrence the Procuring Agency shall give at least thirty (30) calendar days' written notice of termination to the Bidder in case of the events referred to in (a) through (d); at least sixty (60) calendar days' written notice in case of the event referred to in (e);

- a. If the Bidder fails to remedy a failure in the performance of its obligations hereunder, as specified in a notice of suspension;
- b. If the Bidder becomes (or, if the Bidder consists of more than one entity, if any of its members becomes) insolvent or bankrupt or enter into any agreements with their creditors for relief of debt or take advantage of any law for the benefit of debtors or go into liquidation or receivership whether compulsory or voluntary;
- c. If the Bidder fails to comply with any final decision reached as a result of arbitration proceedings;
- d. If, as the result of Force Majeure, the Bidder is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days;
- e. If the Procuring Agency, in its sole discretion and for any reason whatsoever, decides to terminate this Contract;

15.2 By the Bidder

The Bidder may terminate this Contract, by not less than thirty (30) calendar days' written notice to the Procuring Agency, in case of the occurrence of any of the events specified in paragraphs (a) through (d) of this Clause.

- a. If the Procuring Agency fails to pay any money due to the Bidder pursuant to this Contract and not subject to dispute within forty-five (45) calendar days after receiving written notice from the Bidder that such payment is overdue.
- b. If, as the result of Force Majeure, the Bidder is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days.
- c. If the Procuring Agency fails to comply with any final decision reached as a result of arbitration.
- d. If the Procuring Agency is in material breach of its obligations pursuant to this Contract and has not remedied the same within forty-five (45) days (or such longer period as the Bidder may have subsequently approved in writing) following the receipt by the Procuring Agency of the Bidder's notice specifying such breach.

C. Obligations of the Bidder

16. General

16.1 Standard of Performance

1. The Bidder shall deliver the product and carry out the Services with all due diligence, efficiency and economy, in accordance with generally accepted professional standards and practices, and shall observe sound management practices, and employ appropriate technology and safe and effective equipment, machinery, materials and methods. The Bidder shall always act, in respect of any matter relating to this Contract or to the Services, as a faithful adviser to the Procuring Agency, and shall at all times support and safeguard the Procuring Agency's legitimate interests in any dealings with the third parties.

16.2 Law Applicable to Goods

The Bidder shall deliver the goods in accordance with the Contract and in accordance with the Law of Pakistan and shall take all practicable steps to ensure that any of its Experts and Sub-Bidders, comply with the Applicable Law.

17. Conflict of Interests

17.1 Bidder Not to Benefit from Commissions and Discounts.

The remuneration of the Bidder shall constitute the Bidder's sole remuneration in connection with this Contract or the Services, and the Bidder shall not accept for their own benefit any trade commission, discount, or similar payment in connection with activities pursuant to this Contract or to the Services or in the discharge of their obligations under the Contract, and the Bidder shall use their best efforts to ensure that the Personnel, any Subcontractors, and agents of either of them similarly shall not receive any such additional remuneration.

17.2 Bidder and Affiliates Not to be Otherwise Interested in Project

The Bidder agree that, during the term of this Contract and after its termination, the Bidder and its affiliates, as well as any Subcontractor and any of its affiliates, shall be disqualified from providing Goods for any project resulting from or closely related to the Services.

17.3 Prohibition of Conflicting Activities

Neither the Bidder nor its Subcontractors nor the Personnel shall engage, either directly or indirectly, in any of the following activities:

- a. during the term of this Contract, any business or professional activities in the Government's country which would conflict with the activities assigned to them under this Contract;
- b. during the term of this Contract, neither the Bidder nor their Subcontractors shall hire public employees in active duty or on any type of leave, to perform any activity under this Contract;

18. Confidentiality

18.1 Except with the prior written consent of the Procuring Agency, the Bidder and the Experts shall not at any time communicate to any person or entity any confidential information acquired in the course of the contract.

19. Insurance to be Taken Out by the Bidder

19.1 The Bidder(a) shall take out and maintain, and shall cause any Subcontractors to take out and maintain, at its (or the Subcontractors', as the case may be) own cost but on terms and conditions approved by the Procuring Agency, insurance against the risks, loss or damage, and for the coverage, as shall be specified in the SCC; and (b) at the Procuring Agency's request, shall provide evidence to the Procuring Agency showing that such insurance has been taken out and maintained and that the current premiums have been paid.

20. Bidder's Actions Requiring Procuring Agency's Prior Approval

20.1 The Bidder shall obtain the Procuring Agency's prior approval in writing before taking any of the following actions:

- (a) appointing such members of the Personnel not provided by the Bidder;
- (b) changing the Program of activities; and
- (c) any other action that may be specified in the SCC.

21. Reporting Obligations

21.1 The Bidder shall submit to the Procuring Agency the reports and documents in the numbers, and within the periods as prescribed by the Procuring Agency.

22. Liquidated Damages

22.1 If the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Procuring Agency shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the performance security (or guarantee) specified in SCC. Once the said maximum is reached, the Procuring Agency may consider termination of the Contract pursuant to **GCC Clause 15**.

22.2 Correction for Over-payment

If the Intended Completion Date is extended after liquidated damages have been paid, the Procuring Agency shall correct any overpayment of liquidated damages by the Bidder by adjusting the next payment certificate. The Bidder shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in SCC.

22.3 Lack of performance penalty

If the Bidder has not corrected a Defect within the time specified in the Procuring Agency's notice, a penalty for Lack of performance will be paid by the Bidder. The amount to be paid will be calculated as a percentage of the cost of having the Defect corrected, assessed as specified in the SCC.

23. Performance Guarantee

23.1 Within Seven (07) days from the issuance of acceptance letter from the Procuring Agency, the successful Bidder shall furnish the Performance Guarantee in shape of ----- at the discretion of the PA in the amount **specified in SCC**. In case the amount of Bids security is equal or greater than

23.2 The proceeds of the Performance Guarantee shall be payable to the Procuring agency as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

23.3 The Performance Guarantee shall be denominated in the currency of the Contract, or in a freely convertible currency acceptable to the Procuring agency and shall be in the acceptable form as specified in SCC.

23.4 The Performance Guarantee will be discharged by the Procuring agency and returned to the Supplier not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless otherwise **specified in SCC**.

24. Fraud and Corruption

24.1 The Procuring Agency requires the Supplier to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the Bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

25. Sustainable Procurement

25.1 The Bidder shall conform to the sustainable procurement contractual provisions, if and as specified in the SCC.

D. Bidder's Personnel

26. Description of Personnel

26.1 The titles, agreed job descriptions, minimum qualifications, and estimated periods of engagement in the carrying out of the Services of the Bidder's Key Personnel. The Key Personnel listed by title as well as by name are hereby approved by the Procuring Agency.

27. Removal and/or Replacement of Personnel

27.1 Except as the Procuring Agency may otherwise agree, no changes shall be made in the Key Personnel. If, for any reason beyond the reasonable control of the Bidder, it becomes necessary to replace any of the Key Personnel, the Bidder shall provide as a replacement a person of equivalent or better qualifications.

27.2 If the Procuring Agency finds that any of the Personnel have (i) committed serious misconduct or have been charged with having committed a criminal action, or (ii) have reasonable cause to be dissatisfied with the performance of any of the Personnel, then the Bidder shall, at the Procuring Agency's written request specifying the grounds thereof, provide as a replacement a person with qualifications and experience acceptable to the Procuring Agency.

27.3 The Bidder shall have no claim for additional costs arising out of or incidental to any removal and/or replacement of Personnel.

E. Obligations of the Procuring Agency

28. Assistance and Exemptions

28.1 The Procuring Agency shall use its best efforts to ensure that the Government shall provide the Bidder such assistance and exemptions as specified in the SCC.

29. Change in the Applicable Law

29.1 If, after the date of this Contract, there is any change in the Applicable Law with respect to taxes and duties which increases or decreases the cost of the related Services rendered by the Bidder, then the remuneration and reimbursable expenses otherwise payable to the Bidder under this Contract shall be increased or decreased accordingly by agreement between the Parties, and corresponding adjustments shall be made to the amounts referred in the SCC.

30. Services and Facilities

30.1 The Procuring Agency shall make available to the Bidder and the Experts, for the purposes of the Services and free of any charge, the services, facilities and property described , at the times and in the manner specified in the SCC or terms of reference.

30.2 In case that such services, facilities and property shall not be made available to the Bidder, the Parties shall agree on (i) any time extension that it may be appropriate to grant to the Bidder for the performance of the Services, (ii) the manner in which the Bidder shall procure any such services, facilities and property from other sources, and (iii) the additional payments, if any, to be made to the Bidder as a result thereof.

F. Payments to the Bidder

31. Contract Price

31.1 The price payable shall be in Pakistani Rupees unless otherwise specified in the SCC. Prices charged by the Supplier for Goods delivered under the Contract shall not vary from the prices quoted by the Supplier in its Bid.

32. Terms and Conditions of Payment

32.1 Payments will be made to the Bidder according to the payment schedule stated in the SCC and as per actual invoice submitted by the Bidder.

32.2 Unless otherwise stated in the SCC, the advance payment shall be made against the provision by the Bidder of a bank guarantee for the same amount, and shall be valid for the period stated in the SCC. Any other payment shall be made after the conditions listed in the SCC for such payment have been met, and the Bidder have submitted an invoice to the Procuring Agency specifying the amount due.

33. Currency of Payment

33.1 Any payment under this Contract shall be made in the currency(ies) specified in the SCC.

G. Quality Control

34. Identifying Defects

34.1 The principle and modalities of Inspection of the Goods by the Procuring Agency shall be as indicated in the SCC. The Procuring Agency shall check the Bidder's performance and notify him of any Defects that are found. Such checking shall not affect the Bidder's responsibilities. The Procuring Agency may instruct the Bidder to search for a Defect and to uncover and test any service that the Procuring Agency considers may have a Defect. Defect Liability Period is as defined in the SCC.

35. Correction of Defects, and

Lack of Performance Penalty

35.1 The Procuring Agency shall give notice to the Bidder of any Defects before the end of the Contract. The Defects liability period shall be extended for as long as Defects remain to be corrected.

35.2 Every time notice a Defect is given, the Bidder shall correct the notified Defect within the length of time specified by the Procuring Agency's notice.

35.3 If the Bidder has not corrected a Defect within the time specified in the Procuring Agency's notice, the Procuring Agency will assess the cost of having the Defect corrected, the Bidder will pay this amount, and a Penalty for Lack of Performance.

36. Taxes and Duties

36.1 A Supplier shall be entirely responsible for all taxes, duties, fees, etc., incurred until delivery of the contracted Goods to the Procuring Agency.

H. Settlement of Disputes

37. Alternate Dispute Resolution

37.1 The disputes between the parties to the contract may be settled in accordance with Public Procurement Rules, 2004.

37.2 The procuring agency shall refer the matter to the Chief Justice Islamabad High Court or Managing Director PPRA or the Secretary Ministry of Law & Justice for appointment of Arbitrator.

37.3 The fee for the Arbitrator shall be specified in Pak Rupees as determined by the appointing authority which shall be borne and shared equally by the contracting parties.



Special Conditions of Contract

SECTION VIII. SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the Conditions of Contract. The corresponding clause number of the GCC is indicated in parentheses.

Number of GC Clause

Amendments of, and Supplements to, Clauses in the General Conditions of Contract

Number of GC Clause 1

Definitions

The Procuring Agency is: Infrastructure Development Authority, Punjab (Establishment of Federal Government Polyclinic (PGMI-II), Islamabad), Secretary 50, B-III, Gulberg-III, Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province).

The Supplier is:

The title of the subject procurement is: PROVISION, INSTALLATION, TESTING & COMMISSIONING OF IT EQUIPMENT (CAMPUS LAN, VOICE COMMUNICATION, SERVER STORAGE) FOR ESTABLISHMENT OF FEDERAL GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3, ISLAMABAD

Number of GC Clause 3

Applicable/Governing Law:

The Contract shall be interpreted in accordance with the laws of Islamic Republic of Pakistan

Number of GC Clause 4

Language:

The language of the Contract, all correspondence and communications to be given, and all other documentation to be prepared and supplied under the Contract shall be in **English**.

Number of GC Clause 5

Notices:

The addresses for the notices are:

Procuring Agency:

Infrastructure Development Authority, Punjab (Establishment of Federal Government Polyclinic (PGMI-II), Islamabad), Secretary
50, B-III, Gulberg-III, Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province).
+92-301-851-8137
procurement@idap.pk

Contractor/ Bidder:

[Name, address and telephone number].

The Contractor/ Bidder's Representative(s)

[Name, address, telephone number and e-mail address]

Number of GC Clause 7.1

The Authorized Representatives are:

For the Procuring Agency:

Infrastructure Development Authority, Punjab (Establishment of Federal Government Polyclinic (PGMI-II), Islamabad), Secretary
50, B-III, Gulberg-III, Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province).
+92-301-851-8137
procurement@idap.pk

For the Bidder:

Name:

Designation:

Address:

Number of GC Clause 8

Effectiveness of the contract

Number of GC Clause 9

Commencement of Contract:

Number of GC Clause 11.2

Expiration of Contract:

Number of GC Clause 15

Termination

In the event of termination of the contract due to any reason as already defined in the General Conditions of Contract, the Bidder shall be responsible for providing to the Authority the Goods till the time of alternate arrangements.

Number of GC Clause 17

Conflict of Interest:

The Procuring Agency reserves the right to determine on a case-by-case basis whether the Bidder should be disqualified from providing goods or services due to a conflict of a nature described in Clause GCC 17.

Number of GC Clause 22

Liquidated Damages

If the Bidder fails to provide services as required under the contract or in case of any data loss/data breach or any incident compromising the data security or other such failures related to any services, the Bidder shall pay to the Procuring Agency as Liquidated Damages at a rate of **0.10% to 10.00%** of the Contract value, in accordance with the extent of performance failure & the cost of investigating such incidents as judged by the Authority.

Number of GC Clause 23

Performance Guarantee:

The amount of performance guarantee shall be **10.00%** of the contract price in acceptable form of **Bank Guarantee**

Number of GC Clause 32

Payment terms:

Payment will be made to the Bidder against the procured Goods and services according to the actual invoice or running bills submitted by the Bidder against the services provided within the time given in the conditions of the contract.

Number of GC Clause 33

Currency of Payment:

All the payment to be released to the contractor/Bidder shall be in Pakistani Rupees.

Number of GC Clause 34

Identifying Defects:

The Authority reserves the right at any time to inspect the premises of the provider to inspect the goods and monitor the goods being provided.

Inspections & Tests Requirements

For being Brand New, bearing relevant reference numbers of the equipment (Certificate from supplier)

For Physical Fitness having No Damages (Certificate from supplier)

For the Country of Origin as quoted by the Supplier (Certificate from manufacturer)

For conformance to specifications and performance parameters, through Prior to delivery inspection (Inspection Report by Procurement Committee / Inspection Team)

For successful operation at site after complete installation, testing and commissioning of the equipment (Installation, Testing and Commissioning Report by Procurement Committee / Inspection Team)

Delivery & Documents

Copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount;

Original and two copies of the usual transport document (for example, a negotiable bill of lading, a non-negotiable sea waybill, an inland waterway document, an air waybill, a railway consignment note, a road consignment note, or a multimodal transport document) which the buyer may require to take the goods;

Copies of the packing list identifying contents of each package;

Insurance Certificate;

Manufacturer's or Supplier's Valid Warranty Certificate;

Inspection Certificate issued by the Nominated Inspection Agency (if any), and the Supplier's Factory Inspection Report;

Certificate of Origin.

The above documents would be required even if the equipment has already been imported and is available with the supplier ex-stock

Number of GC Clause 37

Following is the guidance for Dispute Resolution

- i. If any dispute of any kind whatsoever shall arise between the Authority and the Bidder in connection with or arising out of the Contract, including without prejudice to the generality of foregoing, any question regarding its existence, validity, termination and the execution of the Contract – whether during developing phase or after their completion and whether before or after the termination, abandonment or breach of the Contract – the parties shall seek to resolve any such dispute or difference by mutual diligent negotiations in good faith within 14 (fourteen) days following a notice sent by one Party to the other Party in this regard.
- ii. At future of negotiation the dispute shall be resolved through mediation and mediator shall be appointed with the mutual consent of the both parties.
- iii. At the event of failure of mediation to resolve the dispute relating to this contract such dispute shall finally be resolved through binding Arbitration by sole arbitrator in accordance with Arbitration Act 1940. The arbitrator shall be appointed by mutual consent of the both parties. The Arbitration shall take place in Islamabad, Pakistan and proceedings will be conducted in English language.
- iv. The cost of the mediation and arbitration shall be shared by the parties in equal proportion however the both parties shall bear their own costs and lawyer's fees regarding their own participation in the mediation and arbitration. However, the Arbitrator may make an award of costs upon the conclusion of the arbitration making any party to the dispute liable to pay the costs of another party to the dispute.
- v. Arbitration proceedings as mentioned in the above clause regarding resolution of disputes may be commenced prior to, during or after completion of the contract.

Notwithstanding any reference to the arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree that the Authority shall pay the Bidder any monies due to the Bidder.

Rules of procedure for arbitration proceedings:

Any dispute between the Authority and a Bidder who is a national of the Islamic Republic of Pakistan arising in connection with the present Contract shall be referred to adjudication or arbitration in accordance with the

laws of the Islamic Republic of Pakistan including Arbitration Act 1940, however above provision shall prevail in referring the case to the Arbitrator.

Place of Arbitration and Award:

The arbitration shall be conducted in English language and place of arbitration shall be at Islamabad. The award of the arbitrator shall be final and shall be binding on the parties.





Bid Securing Declaration

Form 9: Bid Securing Declaration

Date: *[insert date (as day, month and year)]*

Bid No.: **P121132**

To: Infrastructure Development Authority, Punjab (Establishment of Federal Government Polyclinic (PGMI-II), Islamabad), Secretary 50, B-III, Gulberg-III, Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province).

We, the undersigned, declare that:

We understand that, according to your conditions, Bids must be supported by a Bid Securing Declaration.

We accept that we will be blacklisted and henceforth cross debarred for participating in respective category of public procurement proceedings for a period of (not more than) six months, if fail to abide with a bid securing declaration, however without indulging in corrupt and fraudulent practices, if we are in breach of our obligation(s) under the Bid conditions, because we:

1. have withdrawn or modified our Bid during the period of Bid Validity specified in the Form of Bid;
2. Disagreement to arithmetical correction made to the Bid price; or
3. having been notified of the acceptance of our Bid by the Procuring Agency during the period of Bid Validity, (i) failure to sign the contract if required by Procuring Agency to do so or (ii) fail or refuse to furnish the Performance Security or to comply with any other condition precedent to signing the contract specified in the Bidding Documents.

We understand this Bid Securing Declaration shall expire if we are not the successful

Bidder, upon the earlier of (i) our receipt of your notification to us of the name of the successful Bidder; or (ii) twenty-eight (28) days after the expiration of our Bid.



Contract Form

SECTION IX: CONTRACT FORMS

THIS AGREEMENT made the ____ day of _____ 20____ between **Infrastructure Development Authority, Punjab (Establishment of Federal Government Polyclinic (PGMI-II), Islamabad), Secretary 50, B-III, Gulberg-III, Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province).**

(hereinafter called “the Procuring Agency”) of the one part and [name of Bidder] of [city and country of Bidder] (hereinafter called “the Bidder”) of the other part:

WHEREAS the Procuring Agency invited Bids for provision of goods, viz., **PROVISION, INSTALLATION, TESTING & COMMISSIONING OF IT EQUIPMENT (CAMPUS LAN, VOICE COMMUNICATION, SERVER STORAGE) FOR ESTABLISHMENT OF FEDERAL GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3, ISLAMABAD (P121132)** and has accepted a Bids by the Bidder for the provision of Goods in the sum of [contract price in words and figures] (hereinafter called “the Contract Price”).

NOW THIS CONTRACT WITNESSETH AS FOLLOWS:

1. In this Contract words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Contract, In the event of any ambiguity or conflict between the Contract Documents listed below, the order of precedence shall be the order in which the Contract Documents are listed below:-

1. This form of Contract;
2. the Form of Bids and the Price Schedule submitted by the Bidder;
3. the Schedule of Requirements;
4. the Technical Specifications;
5. the Special Conditions of Contract;
6. the General Conditions of the Contract;
7. the Procuring Agency’s Letter of Acceptance; and
8. [add here: any other documents]

3. In consideration of the payments to be made by the Procuring Agency to the Bidder as hereinafter mentioned, the Bidder hereby covenants with the Procuring Agency to provide the Goods related services and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Procuring Agency hereby covenants to pay the Bidder in consideration of the provision of Goods and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the contract at the times and in the manner prescribed by the contract.

IN WITNESS whereof the parties hereto have caused this Contract to be executed in accordance with their respective laws the day and year first above written.

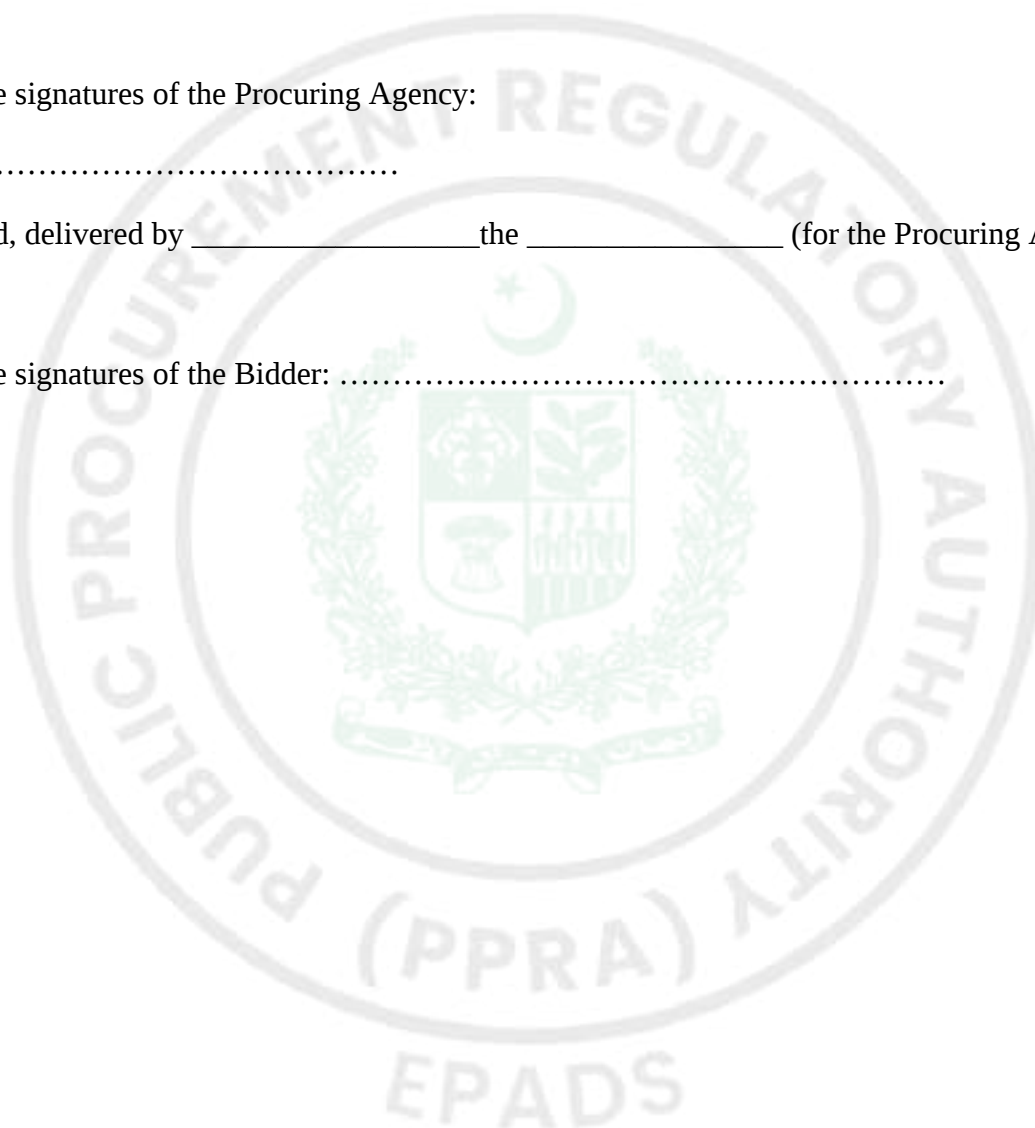
Signed, sealed, delivered by _____ the _____ (for the Procuring Agency)

Witness to the signatures of the Procuring Agency:

.....

Signed, sealed, delivered by _____ the _____ (for the Procuring Agency)

Witness to the signatures of the Bidder:





Integrity Pact

Integrity Pact

DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC. PAYABLE BY THE SUPPLIERS OF GOODS, SERVICES & WORKS IN CONTRACTS WORTH RS.10.00 MILLION OR MORE

Contract

Number: Contract

Value: Contract Title:

Dated:

[Name of Supplier] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan or any administrative subdivision or agency thereof or any other entity owned or controlled by it (GoP) through any corrupt business practice.

Without limiting the generality of the foregoing [Name of Supplier] represents and warrants that it has fully declared the brokerage, commission, fee etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultations fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

[Name of Supplier] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoP and has not taken any action or will not take any action to circumvent the above declaration, representative or warranty.

[Name of Supplier] accepts full responsibility and strict liability for making and false declaration, not making full disclosure, misrepresenting fact or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other right and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, [Name of Supplier] agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by [Name of Supplier] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP.



Performance Guarantee Form

Performance Guarantee Form

To: **Infrastructure Development Authority, Punjab (Establishment of Federal Government Polyclinic (PGMI-II), Islamabad), Secretary 50, B-III, Gulberg-III, Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province).**

WHEREAS *[name of Bidder]* (hereinafter called “the Bidder”) has undertaken, in pursuance of Contract No. *[reference number of the contract]* dated *[insert date]* for provision of Goods (hereinafter called “the Contract”).

AND WHEREAS it has been stipulated by you in the said Contract that the Bidder shall furnish you with a Bank Guarantee by a reputable bank for the sum specified therein as security for compliance with the Bidder’s performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Bidders guarantee:

THEREFORE, WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Bidder, up to a total of *[amount of the guarantee in words and figures]*, and we undertake to pay you, upon your first written demand declaring the Bidder to be in default under the Contract and without cavil or argument, any sum or sums within the limits of *[amount of guarantee]* as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the: *[insert date]*

Signature and seal of the Guarantors

[name of bank or financial institution]

[address]

[date]





Annexure

Instruction to Bidders (Annex-A)

Information (Read-Only)

See Form Under Additional Forms and Documents: **Instruction to Bidders (Annex-A)** (page number: 115)

Bid Data Sheet (Annex-B)

Information (Read-Only)

See Form Under Additional Forms and Documents: **Bid Data Sheet (Annex-B)** (page number: 129)

Appendices and Forms to Bid

Information (Read-Only)

See Form Under Additional Forms and Documents: **Appendices and Forms to Bid** (page number: 133)

Schedules to Bid

Information (Read-Only)

See Form Under Additional Forms and Documents: **Schedules to Bid** (page number: 154)

Standard Forms

Information (Read-Only)

See Form Under Additional Forms and Documents: **Standard Forms** (page number: 162)

Conditions of Contract

Information (Read-Only)

See Form Under Additional Forms and Documents: **Conditions of Contract** (page number: 170)

Active Network Design - Polyclinic

Information (Read-Only)

See Form Under Additional Forms and Documents: **Active Network Design - Polyclinic** (page number: 181)

Bill of Quantities

Information (Read-Only)

See Form Under Additional Forms and Documents: **Bill of Quantities** (page number: 242)

Technical Specifications

Information (Read-Only)

See Form Under Additional Forms and Documents: **Technical Specifications** (page number: 247)

Technical Bid

Technical Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Technical Bid** (page number: 269)

Financial Bid

Financial Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Financial Bid** (page number: 288)



Procurement Forms

Past Experience and Completed Contracts

Applicant and each Member of a Joint Venture applying for Tender is required to complete the information in this form.

See Form Under Additional Forms and Documents: **Past Experience and Completed Contracts** (page number: 290)

Historical Contract Non-Performance, and Pending Litigation and Litigation History

In the event there is no litigation/dispute and/or settlement history then provide an affidavit on non-judicial stamp paper (of value PKR 100/-) that non-performance of a contract did not occur within the last ten years.

See Form Under Additional Forms and Documents: **Historical Contract Non-Performance, and Pending Litigation and Litigation History** (page number: 291)

Average Annual Turnover

Applicant (Lead Member of a Joint Venture, in case of JV) applying for Tender is required to provide financial information to demonstrate that they meet the requirements of Evaluation Criteria. If necessary, use separate sheets to provide complete information. A copy of the audited financial statements of the past three (3) financial years must be attached.

Summarize documented information in Pak Rupees (equivalent at the current rate of exchange at the end of each year) for the previous three years.

See Form Under Additional Forms and Documents: **Average Annual Turnover** (page number: 293)





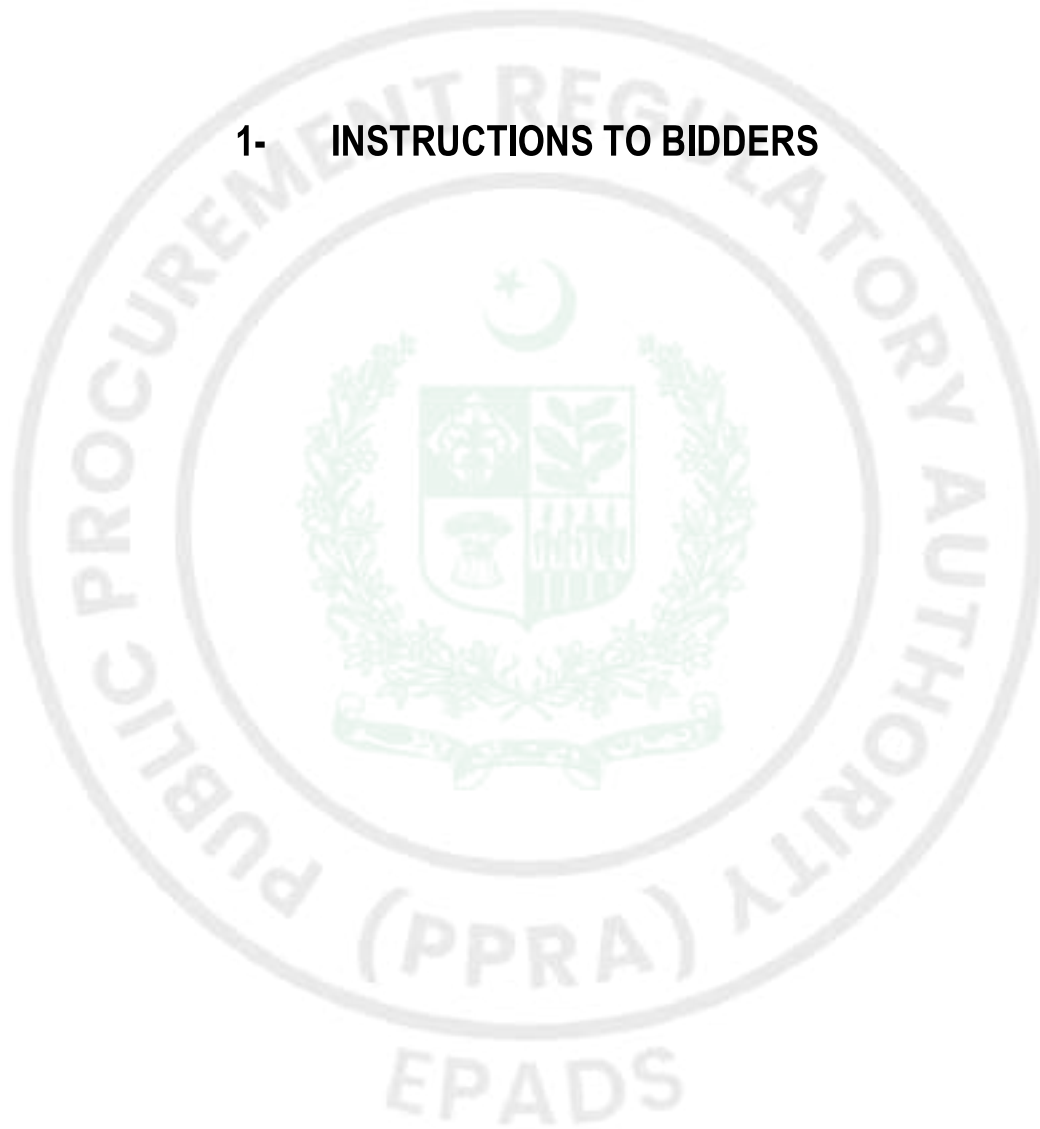
Additional Forms and Documents

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

1- INSTRUCTIONS TO BIDDERS



INSTRUCTIONS TO BIDDERS

GENERAL

Scope of Bid

- 1.1 The Purchaser as defined in the Bidding Data hereinafter called "the Purchaser" wishes to receive bids for the supply of Goods as described in these Bidding Documents and summarized in the Bidding Data hereinafter referred to as the "Goods".
- 1.2 The successful Bidder will be expected to supply the Goods within the time specified in the Bidding Documents.
- 1.3 All Goods to be supplied under the Contract shall have as their country of origin an eligible country as per Appendix-A to Bid.
- 1.4 For purposes of this Clause, the term "Goods" includes commodities, raw material, machinery, equipment, and industrial plants.
- 1.5 The term "country of origin" means the country where the goods have been mined, grown, cultivated, produced, manufactured, or processed; or through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its imported components.
- 1.6 The nationality of the firm that produces, assembles, distributes, or sells the goods shall not determine their origin.
- 1.7 The bidding is open to National Competitive Bidding. **This Procurement shall be conducted through e-Pak Acquisition & Disposal System (EPADS 2.0)**

Source of Funds

- 2.1. The source of fund is mentioned in bidding data.

Eligible Bidders

- 3.1 This Invitation for Bids is open to all Bidders meeting the Eligibility requirements of Appendix-H:

One Bid per Bidder

- 4.1 Each bidder shall submit only one bid against each Lot either by himself or as a partner in a joint venture, However, a bidder can participate in more than one lot(s) of this tender. A bidder who submits or participates in more than one bid in one lot will be disqualified.

Cost of Bidding

- 5.1 The bidders shall bear all costs associated with the preparation and submission of their respective bids and The Purchaser will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

Site Visit

- 6.1 The Bidders are advised to visit and inspect the Location of Delivery and its surroundings and obtain for themselves on their own responsibility all information that may be necessary for preparing the bid and entering into a Contract for Supply of Goods. All cost in this respect shall be at the bidder's own expense.
- 6.2 The bidders and any of their personnel or agents will be granted permission by The Purchaser to enter upon his premises and lands for the purpose of such inspection, but only upon the express condition that the bidders, their personnel and agents, will release and indemnify The Purchaser, his personnel and agents 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.

BIDDING DOCUMENTS

Contents of Bidding Documents

- 7.1 The Bidding Documents, in addition to invitation for bids, are those stated below and should be read in conjunction with any Addenda and response to Queries issued in accordance with Clause IB.9.
1. Instructions to Bidders
 2. Bidding Data
 3. Form of Bid and Appendices to Bid
 4. Schedules to Bid
 - Schedule A: Price Schedule for Goods to be offered from within the Purchaser's country
 - Schedule B: Price Schedule for Goods to be offered from outside the Purchaser's country (Not Used)
 - Schedule C: Manufacturer's Authorization (Where Applicable)
 - Schedule D: List of Engineering Goods to be supplied (Not Used)
 - Schedule E: Delivery and Completion Schedule
 - Schedule F: Inspection and Tests to be carried out

5. General Conditions of Contract (GCC), Part-I
6. Particular Conditions of Contract (PCC), Part-II
7. Standard Forms
 - Form of Bid Security
 - Form of Performance Security
 - Form of Contract Agreement
 - Form of Advance Payment Security
8. Specifications (Where Provided).....Special & Technical Provisions
9. Drawings

- 7.2 The bidders are expected to examine carefully the contents of all the above documents. Failure to comply with the requirements of bid submission will be at the Bidder's own risk. Pursuant to Clause IB.30, bids which are not substantially responsive to the requirements of the Bidding Documents will be rejected.

Clarification of Bidding Documents

- 8.1 Any prospective bidder requiring any clarification(s) in respect of the Bidding Documents may notify The Purchaser through EPADS 2.0. The Purchaser will respond to Bidder's Queries received by any Bidder for clarification which he receives earlier than 3 days prior to the deadline for submission of bids.

Amendment of Bidding Documents

- 9.1 At any time prior to the deadline for submission of bids, The Purchaser may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective bidder, modify the Bidding Documents by issuing **addendum**.
- 9.2 Any addendum and/or Response to Queries thus issued shall be part of the Bidding Documents pursuant to Sub- Clause 7.1 hereof and shall be available to all purchasers of the Bid Documents.
- 9.3 To afford prospective bidders reasonable time in which to take an addendum into account in preparing their bids, The Purchaser may extend the deadline for submission of bids in accordance with Clause IB.24 which shall be updated on EPADS 2.0.

PREPARATION OF BIDS

Language of Bid

- 10.1 The bid and all correspondence and documents related to the bid exchanged by a bidder and The Purchaser shall be in the bid language stipulated in the Bidding Data and Particular Conditions of Contract. Supporting documents and printed literature furnished by the bidders may be in any other

language provided the same are accompanied by an accurate translation of the relevant parts in the bid language, in which case, for purposes of evaluation of the bid, the translation in bid language shall prevail.

Documents Comprising the Bid

- 11.1 The Bid shall comprise two envelopes submitted simultaneously, one called the Technical Bid and the other the Price Bid containing the documents listed in Bidding Data Sheet under the heading of IB 11.1 A & B respectively. Each bidder shall furnish all the documents as specified in Bidding Data Sheet 11.1 A& B.
- 11.2 Bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all partners. The role to be played by each partner to be specified therein. Bids submitted by a joint venture of two (2) or more firms shall comply with the following requirements:-
- a) One of the joint venture partners shall be nominated as being in charge; and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the joint venture partners;
 - b) The partner-in-charge shall always be duly authorized to deal with the Purchaser regarding all matters related with and/or incidental to the execution of Works as per the terms and Conditions of JV Agreement and in this regard to incur any and all liabilities, receive instructions, give binding undertakings and receive payments on behalf of the joint venture;
 - c) All partners of the joint venture shall at all times and under all circumstances be liable jointly and severally for the execution of the Contract in accordance with the Contract terms and a statement to this effect shall be included in the authorization mentioned under Sub-Para (a) above as well as in the Form of Bid and in the Form of JV Agreement; and
 - d) No amendments / modifications whatsoever in the joint venture agreement shall be agreed to between the joint venture partners without prior written consent of the Purchaser
- 11.3 The Bidder shall furnish, as part of the Technical Bid, a Technical Proposal including supply and transportation methods and schedule and any other information as stipulated Bidding Forms, in sufficient detail to demonstrate the adequacy of the Bidders' proposal to meet the work requirements and the completion time referred to in Sub-Clause 1.2 hereof.

Bid Prices

- 12.1 The Bidder shall submit the Form of Bid. This form must be completed without any alterations to its format, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested.

- 12.2 The Bidder shall submit the Price Schedules for Goods, according to their origin as appropriate, using the forms furnished in Appendices to Bid along with Manufacturer's Authorization (on the format provided) in case the Bidder is not himself the manufacturer
- 12.3 Unless stated otherwise in the Bid Documents, the Contract shall be for the whole of the Lot.
- 12.4 The Bidders shall fill the BOQ form(s). Items against which no rate or price is entered by a Bidder will not be paid by the Purchaser when executed and shall be deemed covered by rates and prices for other items in the Bill of Quantities.
- 12.5 All duties, taxes and other levies payable by the Contractor under the Contract, or for any other cause, as on the date 28 days prior to the deadline for submission of bids shall be included in the rates and prices and the total Bid Price submitted by a Bidder.
- Additional/reduced duties, taxes and levies due to subsequent additions or changes in legislation shall be dealt as per Clause 17 of the General Conditions of Contract.
- 12.6 The rates and prices quoted by the Bidders are subject to adjustment during the performance of the Contract in accordance with the provisions of Clause 15 of the General Conditions of Contract. The Bidders shall furnish the prescribed information for the price adjustment formulae if required under Sub-Clause 15.2 of General Conditions of Contract, and shall submit with their bids such other supporting information as required under the said Clause.
- 12.7 Bidder can participate in any or all Lots (if applicable). However, in any particular lot rate of all items must be filled.

Currencies of Bid and Payment

- 13.1 The unit rates and the prices shall be quoted by the bidder entirely in Pak rupees.

Documents Establishing the Eligibility of the Bidder

- 14.1 To establish their eligibility in accordance with ITB 4, Bidders shall:
- (a) Provide the eligibility documents as per ITB Clause 3; and
 - (b) If the Bidder is JV in accordance with 11.2, submit a copy of the JV Agreement, The respective document shall be signed by all legally authorized signatories of all the parties to the existing or intended JV, as appropriate.

Documents Establishing the Eligibility of the Goods

- 15.1 Not Used

Documents Establishing the Conformity of the Goods to the Bidding Document

- 16.1 To establish the conformity of the Goods to the Bidding Document, the Bidder shall furnish as part of its Bid the documentary evidence that the Goods and be supplied conform to the specified requirements.
- 16.2 The documentary evidence may be in the form of literature, drawings or data, and shall consist of a detailed item-by-item description of the essential technical and performance characteristics of the Goods.

Documents Establishing the Qualification of the Bidder

- 17.1 The documentary evidence of the Bidder's qualifications to perform the contract, if its bid is accepted, shall establish to the Purchaser's satisfaction that the Bidder meets each of the qualification criterion specified in the Appendix -I of Bidding Documents.
- 17.2 If so required in the Bidding Data, a Bidder that does not manufacture or produce the Goods it offers to supply shall submit the Manufacturer's Authorization using the appended form to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods to supply these Goods in the Purchaser's country.

Bid Validity

- 18.1 Bids shall remain valid for the period stipulated in the Bidding Data after the Date of Bid Opening specified in Clause IB.27.
- 18.2 In exceptional circumstances, prior to expiry of the original bid validity period, The Purchaser may request that the bidders extend the period of validity for a specified additional period which shall in no case be more than the original bid validity period. The request and the responses thereto shall be made in writing. A bidder may refuse the request without forfeiting his Bid Security. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of his Bid Security for the period of the extension, and in compliance with Clause IB.19 in all respects.

Bid Security

- 19.1 Each bidder shall furnish, as part of his bid, a Bid Security in the amount stipulated in the Bidding Data in Pak Rupees. **Scanned Copy of bid Security to be uploaded on EPADS 2.0 with Technical Bid & Original should be submitted to the office as specified in bidding data before the Bid Submission deadline, failing which bid shall be rejected.**
- 19.2 The Bid Security shall be, at the option of the bidder, in the form of Deposit at Call or a Bank Guarantee issued by a Scheduled Bank in Pakistan or from a foreign bank duly counter guaranteed by a Scheduled Bank in Pakistan in favour of The Purchaser valid for a period 28 days beyond the Bid Validity date.

- 19.3 Any bid not accompanied by an acceptable Bid Security shall be rejected by The Purchaser as non-responsive.
- 19.4 The bid securities of unsuccessful bidders will be returned as promptly as possible, after the expiry of grievance period, but not later than 28 days after the expiration of the period of Bid Validity.
- 19.5 The Bid Security of the successful bidder will be returned when the bidder has furnished the required Performance Security and signed the Contract Agreement.
- 19.6 The Bid Security may be forfeited:
- (a) if the bidder withdraws his bid except as provided in Sub-Clause 26.1;
 - (b) if the bidder does not accept the correction of his Bid Price pursuant to Sub-Clause 31.2 hereof; or
 - (c) In the case of successful bidder, if he fails within the specified time limit to:
 - i. furnish the required Performance Security; or
 - ii. sign the Contract Agreement.

Alternate Proposals by Bidder

- 20.1 Not Used
- 20.2 Not Used

Pre-Bid Meeting

- 21.1 The Purchaser may, on his own motion or at the request of any prospective bidder(s), hold a pre-bid meeting to clarify issues and to answer any questions on matters related to the Bidding Documents. The date, time and venue of pre-bid meeting, if convened, is as stipulated in the Bidding Data or any other date as communicated by The Purchaser. All prospective bidders or their authorized representatives shall be invited to attend such a pre-bid meeting.
- 21.2 The bidders are requested to submit questions, if any, in writing so as to reach The Purchaser not later than one (01) day before the proposed pre-bid meeting.
- 21.3 Minutes of the pre-bid meeting in shape of response to queries of the bidders, including the text of the questions raised and the replies given, will be available to all bidders
- 21.4 Any modification of the Bidding Documents listed in Sub-Clause 7.1 hereof which may become necessary as a result of the pre-bid meeting shall be made by The Purchaser exclusively through the issue of an Addendum and/or Response to Queries pursuant to Clause IB.9.
- 21.5 Absence at the pre-bid meeting will not be a cause for disqualification of a bidder.

Format and Signing of Bid

- 22.1 Bidders are particularly directed that the amount entered on the Form of Bid shall be for performing the Contract strictly in accordance with the Bidding Documents.
- 22.2 All appendices to Bid are to be properly completed and signed.
- 22.3 No alteration is to be made in the Form of Bid nor in the Appendices thereto except in filling up the blanks as directed. If any such alterations be made or if these instructions be not fully complied with, the bid may be rejected.
- 22.4 Each Bidder shall prepare Bid by filling out (by hand) the forms comprising the Bid as described in Clause 5. After filling out the forms, all the documents should be signed & stamped by Bidder and will be uploaded on EPADS 2.0.
- 22.5 The forms of the bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the bidder. All pages of the bid shall be initialed and stamped by the person or persons signing the bid.
- 22.6 The bid shall contain no alterations, omissions or additions, except to comply with instructions issued by The Purchaser, or as are necessary to correct errors made by the bidder, in which case such corrections shall be initialed by the person or persons signing the bid.
- 22.7 Bidders shall indicate in the space provided in the Form of Bid their full and proper addresses at which notices may be legally served on them and to which all correspondence in connection with their bids and the Contract is to be sent.
- 22.8 Bidders should retain a copy of the Bidding Documents as their file copy.

SUBMISSION OF BIDS

Submission of Bids

- 23.1 Bidders are required to submit Technical Proposal and Financial Proposals on EPADS 2.0. Bid will be submitted only on EPADS 2.0.
- 23.2 The Bid Security shall:
- (a) be submitted to the Purchaser at the address provided in the Bidding Data;
 - (b) bear the name and identification number of the Contract as defined in the Bidding Data; and
 - (c) provide a warning not to open before the time and date for bid opening, as specified in the Bidding Data.

Deadline for Submission of Bids

- 24.1 (a) Bids must be received by the Purchaser through EPADS 2.0 no later than the time and date stipulated in the Bidding Data.
- (b) Bidders shall bear all expenses incurred in the preparation and submission of Bids. No claims will be entertained for refund of such expenses.
- 24.2 The Purchaser may, at his discretion, extend the deadline for submission of bids by issuing an amendment in accordance with Clause IB.9, in which case all rights and obligations of the Purchaser and the Bidders previously subject to the original deadline will thereafter be subject to the deadline as extended.
- 24.3 Bids shall be submitted at EPADS 2.0 on or before Bid Submission deadline.

Late Bids

- 25.1 (a) Bid will not be accepted by the EPADS 2.0 after the deadline for submission of bids prescribed in Clause IB.24

Modification, Substitution and Withdrawal of Bids

- 26.1 Any Bidder may modify, substitute or withdraw his bid after bid submission prior to the deadline for submission of bids.
- 26.2 No bid may be modified by a Bidder after the deadline for submission of bids except in accordance with Sub-Clauses 26.1 and 31.2.
- 26.3 Withdrawal of bid during the interval between the deadline for submission of bids and the expiration of the period of bid validity specified in the Form of Bid may result in forfeiture of the Bid Security in accordance with subclause 19.6.

BID OPENING AND EVALUATION

Bid Opening

- 27.1 The Purchaser will open the Technical Bids on EPADS 2.0, venue, date and time specified in the Bidding Data Sheet in the presence of Bidder/ Bidders' designated representatives and anyone who choose to attend. The Price Bids will remain unopened on EPADS 2.0 until the specified time of its opening.
- 27.2 Financial Proposal of only technically qualified bidders (As per Eligibility and Evaluation Criteria) will be opened.

- 27.3 At the end of the evaluation of the Technical Proposal, the Purchaser will invite only those bidders who have submitted substantially responsive Technical Proposal and who have been determined as being qualified to attend the opening of the Financial Proposal. The date, time, and venue for the Opening of Financial Proposal will be communicated to only technically qualified bidders.
- 27.4 The Purchaser will notify Bidders who have been rejected on the grounds of their Technical Bids being substantially non-responsive to the requirements of the Bidding Document and their Financial Proposal will remain unopened in EPADS 2.0.
- 27.5 The Purchaser shall conduct the opening of Financial Proposal of all Bidders who submitted substantially responsive Technical Bids, publicly in the presence of Bidders' representatives who choose to attend at the address, date and time as communicated by the Purchaser.
- 27.6 Financial Proposal shall be opened at the date & time intimated after evaluation of Technical Proposal by the Purchaser. The following shall be read out and recorded:
- (a) The name of the Bidder;
 - (b) The bid prices, including any discounts; and
 - (c) Any other details as the Purchaser may consider appropriate.

Process to be Confidential

- 28.1 Information relating to the examination, clarification, evaluation and comparison of bid and recommendations for the award of a Contract shall not be disclosed to Bidders or any other person not officially concerned with such process before the announcement of bid evaluation report which shall be done at least fifteen (15) days prior to issue of Notification of Award. The announcement to all Bidders will include table(s) comprising read out prices, discounted prices, price adjustments made, final evaluated prices and recommendations against all the bids evaluated. Any effort by a Bidder to influence the Purchaser's processing of bids or award decisions may result in the rejection of such Bidder's bid. Whereas any Bidder feeling aggrieved may lodge a written complaint not later than five (05) days after the announcement of the bid evaluation report; however mere fact of lodging a complaint shall not warrant suspension of the procurement process.

Clarification of Bids

- 29.1 To assist in the examination, evaluation and comparison of bids, the Purchaser may, at his discretion, ask any Bidder for clarification of his bid, including breakdowns of unit rates. The request for clarification and the response shall be in writing, but no change in the price or substance of the bid shall be sought, offered or permitted discovered by the Purchaser in the evaluation of the bids in accordance with Clause IB.32.

Examination of Bids and Determination of Responsiveness

- 30.1 Prior to the detailed evaluation of bids, the Purchaser will determine whether each bid is substantially responsive to the requirements of the Bidding Documents.
- 30.2 A substantially responsive bid is one which (i) meets the eligibility criteria;(ii) has been properly signed; (iii) is accompanied by the required Bid Security; and (iv) conforms to all the terms, conditions and specifications (Where Provided) of the Bidding Documents, without material deviation or reservation. A material deviation or reservation is one (i) which affect in any substantial way the scope, quality or performance of the Goods; (ii) which limits in any substantial way, inconsistent with the Bidding Documents, the Purchaser's rights or the Bidder's obligations under the Contract; or (iii) adoption/rectification whereof would affect unfairly the competitive position of other Bidders presenting substantially responsive bids.
- 30.3 If a bid is not substantially responsive, it will be rejected by the Purchaser, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

Correction of Errors

- 31.1 Bids determined to be substantially responsive will be checked by the Purchaser for any arithmetic errors. Errors will be corrected by the Purchaser as follows:
- (a) where there is a discrepancy between the amounts in figures and in words, the amount in words will govern; and
 - (b) 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, unless in the opinion of the Purchaser there is an obviously gross misplacement of the decimal point in the unit rate, in which case the line item total as quoted will govern and the unit rate will be corrected.
- 31.2 The amount stated in the Form of Bid will be adjusted by the Purchaser in accordance with the above procedure for the correction of errors and with the concurrence of the Bidder, shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected Bid Price, his Bid will be rejected, and the Bid Security shall be forfeited in accordance with Sub-Clause 19.6(b) hereof.

Evaluation and Comparison of Bids

- 32.1 The Purchaser will evaluate and compare only the Bids determined to be substantially responsive in accordance with Clause IB.30.
- 32.2 In evaluating the Bids, the Purchaser will determine for each Bid the evaluated Bid Price by adjusting the Bid Price as follows:
- (a) making any correction for errors pursuant to Clause IB.31;
 - (b) excluding Provisional Sums and the provision, if any, for contingencies; and

(c) making an appropriate adjustment for any other acceptable variation or deviation from specification (Where Provided) or performance criteria

- 32.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in Bid evaluation.

Post Qualification of the Bidder

- 33 Not Used

AWARD OF CONTRACT

Award

- 34.1 Subject to Clauses IB.35 and IB.39, the Purchaser will award the Contract to the Bidder whose bid has been determined to be substantially responsive to the Bidding Documents and who has offered the lowest evaluated Bid Price, provided that such Bidder has been determined to be eligible in accordance with the provisions of Clause IB.3 and qualify pursuant to Sub-Clause IB 33.2.
- 34.2 Not Used
- 34.3 Not Used

Purchaser's Right to Accept any Bid and to Reject any or all Bids

- 35.1 Notwithstanding Clause IB.34, the Purchaser reserves the right to accept or reject any Bid, and to annul the bidding process and reject all bids, at any time prior to award of Contract, without thereby incurring any liability to the affected Bidders or any obligation except that the grounds for rejection of all bids shall upon request be communicated to any Bidder who submitted a bid, without justification of grounds. Rejection of all bids shall be notified to all Bidders promptly.
- 35.2 At the time the Contract is awarded, the Purchaser reserves the right to increase or decrease the quantity of Goods originally specified in Delivery and Completion Schedules, without any change in the unit prices or other terms and conditions of the Bid and the Bidding Document.

Notification of Award

- 36.1 Prior to expiration of the period of bid validity prescribed by the Purchaser, the Purchaser will notify the successful Bidder in writing ("Notification of Award") that his Bid has been accepted. This Notice shall name the sum which the Purchaser will pay the Contractor in consideration of the delivery of Goods by

the Contractor as prescribed by the Contract (hereinafter and in the Conditions of Contract called the "Contract Price").

- 36.2 No Negotiation with the Bidder having evaluated as lowest responsive or any other Bidder shall be permitted, however, Purchaser may seek clarification in writing to clarify any item in the bid evaluation report; and response of the Bidder shall also be in writing.
- 36.3 The notification of award and its acceptance by the Bidder will constitute the formation of the Contract, binding the Purchaser and the Bidder till signing of the formal Contract Agreement.

Performance Security

- 37.1 The successful Bidder shall furnish to the Purchaser a Performance Security in the form and the amount stipulated in the Bidding Data and the Conditions of Contract within a period of 28 days or as such period as extended by the Purchaser, after the receipt of Notification of Award.
- 37.2 Failure of the successful Bidder to comply with the requirements of Sub-Clause IB.37.1 or Clauses IB.38 or IB.40 shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security.

Signing of Contract Agreement

- 38.1 Upon furnishing of acceptable Performance Security under the Conditions of Contract, formal Agreement between The Purchaser and the successful bidder shall be executed.

General Performance of the Bidders

- 39.1 The Purchaser reserves the right to obtain information regarding performance of the bidders on their previously awarded contracts/works. The Purchaser may in case of consistent poor performance of any Bidder as reported by The Purchasers of the previously awarded contracts, interalia, reject his bid.

Integrity Pact

- 40.1 The Bidder shall sign and stamp the Integrity Pact provided at Appendix-G to Bid in the Bidding Documents for all Federal / Provincial Government procurement contracts exceeding Rupees ten million.

Instructions not Part of Contract

- 41.1 Bids shall be prepared and submitted in accordance with these Instructions which are provided to assist bidders in preparing their bids, and do not constitute part of the Bid or the Contract Documents.

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

2- BIDDING DATA

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

BD-1

BIDDING DATA

The following specific data for the Works to be bidden shall complement, amend, or supplement the provisions in the Instructions to Bidders. Wherever there is a conflict, the provisions herein shall prevail over those in the Instructions to Bidders.

ITB Clause Reference:

- 1.1 Name and address of The Purchaser: The Purchaser is **Infrastructure Development Authority of the Punjab located at 50 B-3, Gulberg III, Lahore, Pakistan**, represented through **Chief Engineer**

Name of the Project & Summary of the Works:

'PROVISION, INSTALLATION, TESTING & COMMISSIONING OF IT EQUIPMENT (CAMPUS LAN, VOICE COMMUNICATION, SERVER STORAGE) FOR ESTABLISHMENT OF FEDERAL GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3, ISLAMABAD'

Scope of work is provided in Bill of Quantities (BOQ), Specifications (Where Provided), Drawings and other documents forming part of the Contract.

- 1.7 Bidding is open to all eligible bidders.

- 2.1 Name of the Borrower/Source of Financing/Funding Agency:

The Project is funded by Government of Pakistan.

- 10.1 Bid language:

The language is English.

- 11.1

A) The Bidder shall submit with its Technical Bid the following documents:

- (a) Letter of Technical Bid
- (b) Bid Security (IB 19)
- (c) Written confirmation authorizing signatory of the bid to commit the Bidder. IB 22.5
- (d) Method of Assuring Quality of Goods Appendix-C
- (e) List of Quality Control/Laboratory Equipment Appendix-D
- (f) List of Manufacturers/Sub Contractors Appendix-E
- (g) Organization Chart for Supervisory Staff Appendix-F

- (h) Integrity Pact Appendix-G
- (i) Eligibility Criteria Appendix-H
- (j) Qualification Criteria Appendix-I
- (k) manufacturer's Authorization Schedule-C
- (l) Delivery and Completion Schedule Schedule-E
- (m) Inspection and Test to be carried out Schedule-F

B) The Bidder shall submit with its Price Bid the following documents:

- (a) Letter of Price Bid
- (b) Price Schedule for Goods Schedule-A

13.1 Bidders to quote entirely in Pak Rupees.

18.1 Period of Bid Validity:

The Bids shall be valid for a period of **120 days** from the date of opening of bids.

19.1 Amount of Bid Security:

Amount For Lot-1: **PKR 850,000/-** (Pak Rupees Eight Hundred and Fifty Thousand Only)

Amount For Lot-2: **PKR 185,000/-** (Pak Rupees One Hundred and Eighty-Five Thousand Only)

Amount For Lot-3: **PKR 300,000/-** (Pak Rupees Three Hundred Thousand Only)

Original Bid Security shall be submitted to the office of GM (P&C).

19.2 Bid Security shall be in the favour of **"Infrastructure Development Authority of the Punjab Fund"**

21.1 Venue, time, and date of the pre-Bid meeting:

September 29th 2026 at 1100 hours

Infrastructure Development Authority of the Punjab

Committee Room, 3rd floor

50 B-3, Gulberg III, Lahore, Pakistan.

22.4 Number of copies of the Bid to be completed and returned:

*One Original**

23.1 (a) Purchaser's address for the purpose of Bid submission:

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

<https://EPADS 2.0.gov.pk>

23.2 (a) Purchaser's address for the purpose of Bid Security submission:

The Purchaser's address is:

General Manager (Procurement & Contract),

Infrastructure Development Authority of the Punjab

50 B-3, Gulberg III, Lahore, Pakistan.

23.2 (b) Name and Number of the Contract:

'PROVISION, INSTALLATION, TESTING & COMMISSIONING OF IT EQUIPMENT (CAMPUS LAN, VOICE COMMUNICATION, SERVER STORAGE) FOR ESTABLISHMENT OF FEDERAL GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3, ISLAMABAD'

Tender No # 2026/BID/63

24.1 (a) Deadline for submission of bids:

October 09, 2026 at 1500 hours

27.1 Venue, time, and date of Bid opening:

Bids shall be opened on EPADS 2.0.

October 09, 2026 at 1530 Hours

37.1 Standard form and amount of Performance Security acceptable to The Purchaser:

The Performance Security shall be Ten (10%) of Contract price stated in "Notification of Award" (or as increased under IB 28.4) on the prescribed form (PS-1) in shape of Bank Guarantee from any Scheduled Bank in Pakistan or from a bank located outside Pakistan duly counter guaranteed by a Scheduled Bank in Pakistan in favour of The Purchaser.

PURCHASER:

INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT**PROJECT:**

PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

3- FORM OF BID AND APPENDICES TO BID

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

Letter of Technical Bid

Date:

Bid Reference No:

(Name of Contract/Works)

To:

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda;
- (b) We offer to execute and complete in conformity with the Bidding Documents the following Works:

Our Bid consisting of the Technical Bid and the Price Bid shall be valid for a period of days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

- (c) As security for due performance of the under takings and obligations of our bid, we submit here with a Bid security, in the amount specified in Bidding Data Sheet, which is valid (at least) 28 days beyond validity of Bid itself.
- (d) We are not participating, as a Bidder or as a subcontractor, in more than one bid in this bidding process.
- (e) We agree to permit Purchaser or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors. This permission is extended for verification of any information provided in our Technical Bid which comprises all documents enclosed herewith in accordance with IB.11.1 of the Bidding Data Sheet.

Name

In the capacity of

Signed

.....
Duly authorized to sign the Bid for and on behalf of

Date

Address.....

Letter of Price Bid

Date:

Bid Reference No:

(Name of Contract/Works)

To:

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued;
- (b) The total price of our Bid, excluding any discounts offered in item (c) below is:
- (c) The discounts offered and the methodology for their application are:
- (d) Our Bid shall be valid for a period of days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (e) If our Bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents;
- (f) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed and we do hereby declare that the Bid is made without any collusion, comparison of figures or arrangement with any other bidder for the Works.
- (g) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.
- (h) We agree to permit Purchaser or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors. This permission is extended for verification of any information provided in our Technical Bid which comprises all documents enclosed herewith in accordance with IB.11.1 of the Bidding Data Sheet.
- (i) If awarded the contract, the person named below shall act as Contractor's Representative.

Name

In the capacity of

Signed

Duly authorized to sign the Bid for and on behalf of

Date

Address

PURCHASER:

INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT**PROJECT:**

PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

Appendix-A to Bid**NAME OF ELIGIBLE COUNTRIES**

All countries of the World with whom Islamic Republic of Pakistan has commercial relations.



PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

Appendix-B To Bid

FOREIGN CURRENCY REQUIREMENTS

NOT USED



Appendix-C to Bid

METHOD OF ASSURING QUALITY OF GOODS

[The Bidder is required to submit a narrative outlining the method of assuring quality of Goods. The narrative should indicate in detail and include but not be limited to:

1. Organization Chart indicating head office and field office personnel involved in quality assurance.
2. Mobilization in Pakistan, the type of facilities including personnel accommodation, office accommodation, provision for maintenance and for storage, communications, security and other services to be used.
2. The procedures for transportation of Goods to delivery site.]

PURCHASER:

INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT**PROJECT:**

PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

**Appendix-D to Bid
Sheet 1 of 2****LIST OF QUALITY CONTROL/LABORATORY EQUIPMENTS**

[The Bidder will provide on Sheet 2 of this Appendix a list of all equipment and related items, under separate heading for items owned, to be purchased or to be arranged on lease by him to carry out the quality control tests. The information shall include make, type, capacity, and anticipated period of utilization for all equipment which shall be in sufficient detail to demonstrate fully that the equipment will meet all requirements of the Specifications (Where Provided).]



PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

**Appendix-D to Bid
Sheet 2 of 2**

LIST OF QUALITY CONTROL/LABORATORY EQUIPMENTS

Owned Purchased or Leased	Description of Unit (Make, Model, Year)	Purpose of Utilization	Condition	Present Location or Source	Date of Availability	Period of Utilization
1	2	3	4	5	6	7
a. Owned						
b. To be Purchased						
c. To be arranged on Lease						

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

Appendix-E to Bid

LIST OF MANUFACTURERS / SUBCONTRACTORS

I/We intend to supply Goods from the following manufactures or engage the following subcontractors for supply of Goods. In my/our opinion, the manufacturers/ subcontractors named hereunder are reliable and competent to supply of Goods for which each is listed.

Enclosed are documentation outlining experience of manufacturers/subcontractors, the curriculum vitae and experience of their key personnel who will be assigned to the Contract, Goods to be supplied or transportation to be done, size, location and type of contracts performed in the past.

Description of Goods (Give Details)	Manufacturers/Subcontractors (With Complete Address)
1	2

NOTE:

IN CASE, THE BIDDER IS ITSELF EITHER MANUFACTURER OR TRANSPORTER OR BOTH, THE ABOVE TABLE SHOULD BE FILLED AND REQUISITE DOCUMENTATION BE SUBMITTED ACCORDINGLY.

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

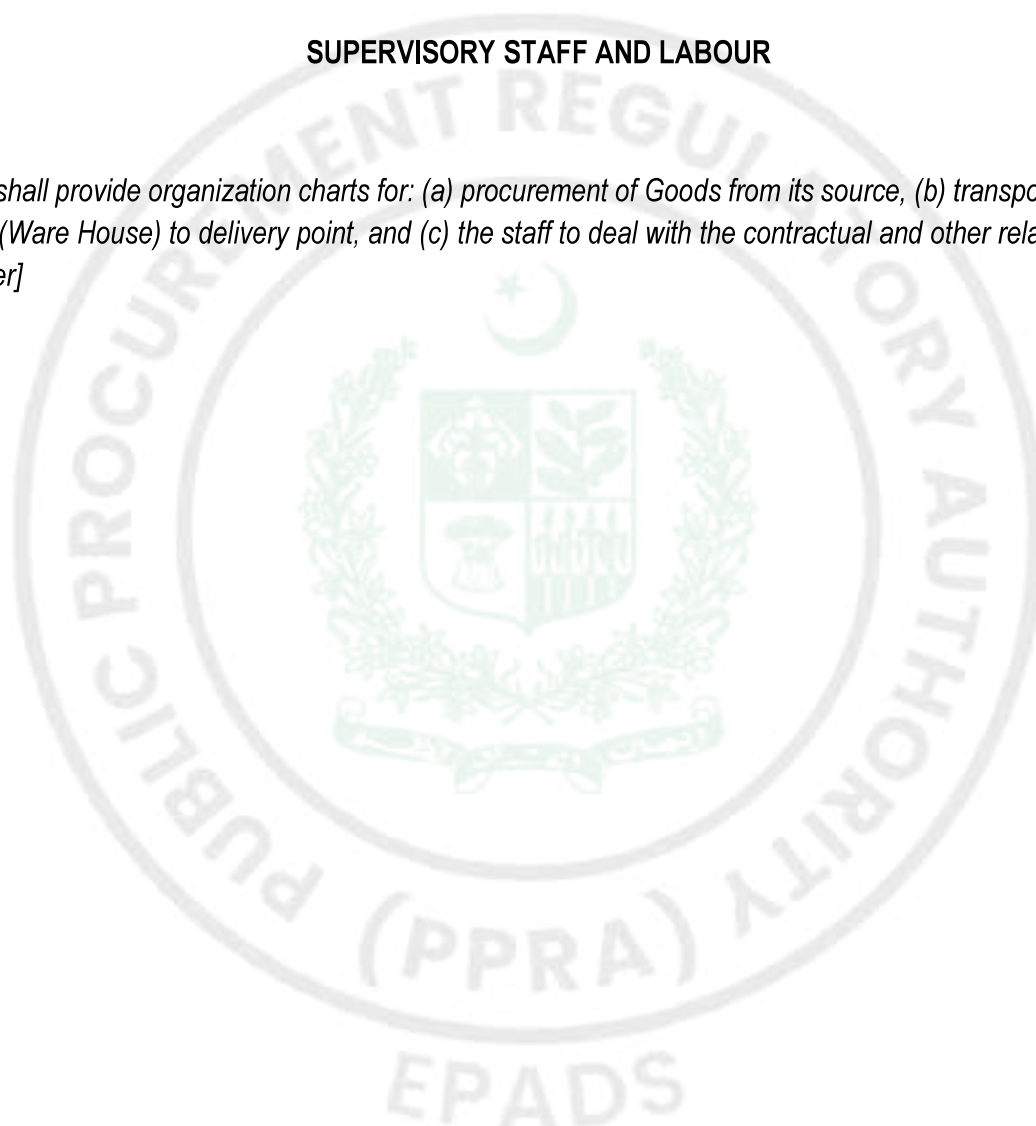
TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

Appendix-F to Bid

**ORGANIZATION CHART
FOR THE
SUPERVISORY STAFF AND LABOUR**

[The Bidder shall provide organization charts for: (a) procurement of Goods from its source, (b) transportation of Goods from source (Ware House) to delivery point, and (c) the staff to deal with the contractual and other related matters with the Purchaser]



(INTEGRITY PACT)

**DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC.
PAYABLE BY THE SUPPLIERS OF GOODS, SERVICES & WORKS IN
CONTRACTS WORTH RS. 10.00 MILLION OR MORE**

Contract No. _____ Dated _____
Contract Value: *[To be filled in at the time of signing of Contract]*
Contract Title: _____

..... [name of Supplier] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan (GoP) or any administrative subdivision or agency thereof or any other entity owned or controlled by GoP through any corrupt business practice.

Without limiting the generality of the foregoing, [name of Supplier] represents and warrants that it has fully declared the brokerage, commission, fees etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

[name of Supplier] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoP and has not taken any action or will not take any action to circumvent the above declaration, representation or warranty.

[name of Supplier] accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other rights and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, [name of Supplier] agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by [name of Supplier] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP.

Name of Buyer:

Name of Seller/Supplier:

Signature:

Signature:

[Seal]

[Seal]

ELIGIBILITY CRITERIA

Applicants (Firm/ Joint Venture) fulfilling the following basic eligibility criteria shall only be considered for further evaluation. All the members have to meet the mentioned eligibility criteria in case of Joint Venture (relevant documents to be attached):

Category	Description	Requirement
Legal (Mandatory)	Registration/ Incorporation of Applicant under the laws of Pakistan.	MANDATORY
	Valid Income Tax Registration = Active Taxpayer List (ATL) of FBR	MANDATORY
	Valid General Sales Tax Registration Status = Active with FBR	MANDATORY
	The bidder shall furnish the original bid security as part of/along with Technical Bid in Rupees in shape of Bank Guarantee/CDR/Pay Order in favor of "Infrastructure Development Authority of the Punjab". - LOT 1 = PKR 900,000/- - LOT 2 = PKR 185,000/- - LOT 3 = PKR 305,000/-	MANDATORY
	Affidavit on non-judicial stamp paper (of value PKR 100/-) declaring "The company/firm has never been blacklisted by any Government Department/ Authority/ Agency/ Company/firm"	MANDATORY
	Bidder must attach complete signed & stamped tender document with the technical bid.	MANDATORY
	Provide Authorization letter from the OEM (Where Applicable).	MANDATORY
	Valid legal entity of the applicant (Company/firm) e.g. Certificate of registration from SECP (along with latest certified copy of Form 29 and Form "A") or Registrar of firms (along with Certified copy of Partnership Deed) for Local Firm. Foreign firms must attach similar certificate of registration from the respective registration body of their home country.	MANDATORY
	a. Provide separate affidavit on non-judicial stamp paper (of value PKR 100/-) that the information supplied by the firm is correct. b. Affidavit on non-judicial stamp paper (of value PKR 100/-) that non-performance of a contract has not occurred within the last seven (07) years. The Employer may in case of poor performance of any Bidder as reported by the employers of the previously awarded contracts, interalia, reject his proposal and/or refer the case to the concerned forum(s). Upon such reference, the concerned forum(s) in accordance with its rules, procedures and relevant laws of the land take such action as may be deemed appropriate under the circumstances of the case including black listing of such Bidder and debarring him from participation in future bidding for similar works.	MANDATORY

All the documents mentioned in eligibility criteria are to be attached with the "Technical Bid" on EPADS

Appendix-I to Bid

QUALIFICATION CRITERIA

Sr. No.	Criteria	Max. Marks	Requirement
1	Years of Establishment: Full Marks will be given if "A" is 10 Years or more. For 'A' less than 07 Years, marks will be awarded as: $(A/10)*20$ No Marks will be given if "A" is less than 05 Years *A = Experience of firms in years	20	Provide the copy of the Certificate of Incorporation /Partnership Deed
2	No. of Clients/Services Provided in Last 05 years. (Govt/Semi Govt/ Private Company/multinational Clients): 30 points will be given if the number of services provided by the bidder are 10 or more. If the number of services provided are less than 10, points will be awarded as: $\{(number\ of\ projects/10) *30\}$ No points will be given if number of services provided is less than 05. (Minimum 50% Marks are Mandatory to Qualify)	30	Provide proof for the provision of specific goods related to tender. Proof must be duly signed by Client
3	Lot-1 and Lot-3: Technical ICT Staff: 10 Marks will be given if bidder has at least 3 or more Expert Level Certified Engineers of relevant technologies. For less than Expert Level Certified Engineers Marks shall be given as: $(No\ of\ Expert\ Level\ Certified\ Engineers/03) \times 10$ Lot-2: Technical ICT Staff: 10 Marks will be given if bidder has at least 4 or more trained Engineers of relevant technologies. For less than 04 trained Engineers Marks shall be given as: $(No\ of\ trained\ Engineers /04) \times 10$	10	Lot# 1,3 Provide CV's and Valid Expert Level Certificate of Engineers of Quoted Brand Lot # 2 Provide CV's and Training / Participation certificates of Engineers of Quoted Brand
4	Cumulative Annual Turnover in last three financial years: Full Marks will be given if "A" is PKR 50 Million or above. For 'A' less than PKR 50 Million, marks will be awarded as: $(A/50) *30$ No Marks will be given if "A" is less than PKR 25 Million. *A= Cumulative Annual Turnover in last three financial years (in PKR Million) (Minimum 50% Marks are Mandatory to Qualify Individual LOTs)	30	Provide copy of audited financial statements
5	List of Operation & Maintenance Team Members: 10 or Greater = 10 Marks 9 to 7 = 7.5 Marks 6 to 5 = 5 Marks Less than 5 = 0 Marks	10	Provide company staff details/CVs
Total		100	

NOTE:

For technical qualification, It is mandatory to achieve 50% Marks in Each Sr # 2 & 4 and collective 70% Marks. Along with this it is mandatory to comply the Specification Requirement provided in the Specification attached with this Tender Document.

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

Form -T-1

General Information

Applicant (or each Member of a Joint Venture) applying for qualification is required to complete the information in this form. Nationality information is also to be provided for foreign owners or Firms who are forming part of the Joint Venture as required under the PEC Bye-Laws for Joint Venture.

1.	Name of Firm	
2.	Head Office Address	
3.	Telephone	
4.	Fax	
5.	Type of Organization	
6.	Place of Incorporation/Registration	Year of incorporation/registration
7.	NTN#	
8.	Name, Designation and Mobile Number of Firm's Representative	

Detail of Owners/ Directors

Name		Designation	Nationality
1.			
2.			
3.			
4.			
5.			

Form -T-2

Financial Soundness

Name of Applicant (Lead Member of a Joint Venture, in case of JV)

*Applicant (Lead Member of a Joint Venture, in case of JV) applying for Tender is required to provide financial information to demonstrate that they meet the requirements of Evaluation Criteria. If necessary, use separate sheets to provide complete information. **A copy of the audited financial statements of the past three (3) financial years must be attached.***

Banker	Name of banker	
	Address of banker	
	Credit Line/Cash Limit:	
	Telephone	Contact name and title
	Fax	Telex

Summarize documented information in Pak Rupees (equivalent at the current rate of exchange at the end of each year) for the previous three years.

Financial information in Pak Rupees	FY 2022-2023	FY 2023-2024	FY 2024-2025
Annual Turnover			
Total Assets (at year end)			
Total Liabilities (at year end)			
Net Worth (at year end)			
Working Capital (at year end)			
Current assets (at year end)			
Current liabilities (at year end)			
Profits before taxes			
Profits After taxes			
Total Debt (at year end)			
Total Equity (at year end)			
Total Revenue			

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

Form -T-3

LIST OF SERVICES PROVIDED IN LAST 05 YEARS

Name of Applicant or Member of a Joint Venture

Applicant and each Member of a Joint Venture applying for Tender is required to complete the information in this form.

Use a separate sheet for each Member of a Joint Venture.

Name of Client	Service Provided	Year of Completion	Value in PKR (Million)

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

Form -T-4

LITIGATION HISTORY FOR THE LAST TEN (10) YEARS

Name: _____
(Applicant or Member of Joint Venture)

Description of Contract	Year	Name of Client, Cause of litigation and matter in dispute	Disputed amount (Current value in PKR or US\$ equivalent)	Award FOR or AGAINST Applicant	Remarks by Applicant

In the event there is no litigation/dispute and/or settlement history then provide an affidavit on non-judicial stamp paper (of value PKR 100/-) that non-performance of a contract did not occur within the last ten years.

Form -T-5

AFFIDAVIT FOR CORRECTNESS OF INFORMATION

(To be printed on non-judicial Stamp Paper of value PKR 100/- and attested by a designated oath commissioner)

Name of Applicant: _____

(Applicant or Each Member of Joint Venture)

I, the undersigned, do hereby solemnly affirm and declare that all the statements made in the Tendering Forms and in the supporting documents are true, correct and valid to the best of my knowledge and belief and may be verified by Employer if the Employer, at any time, deems it necessary.

The undersigned hereby authorize and request the bank, person, firm or corporation to furnish any additional information requested by the Infrastructure Development Authority of the Punjab (IDAP) deemed necessary to verify this statement regarding my (our) competence and general reputation.

The undersigned understands and agrees that further qualifying information may be requested and agrees to furnish any such information at the request of IDAP.

[Signed by an authorized Officer of the firm]

Name of Deponent Officer: _____

Title of Deponent Officer: _____

Name of Firm: _____

Date: _____

VERIFICATION:

Verified on oath at _____ [name of place where deponent took this oath] on this ____ day of the month of _____, 2026 that all information provided above is true and nothing has been concealed therefrom.

[Signed by an authorized Officer of the firm]

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

Form -T-6

List of Technical ICT Staff

Name of

Applicant:

(Applicant or Member of Joint Venture)

1	Title of Position	
	Name of Candidate	
2	Title of Position	
	Name of Candidate	
3	Title of Position	
	Name of Candidate	
4	Title of Position	
	Name of Candidate	
5	Title of Position	
	Name of Candidate	

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

Form -T-7

**Summary of Technical ICT
Staff**

Name of Applicant: _____

*(Applicant or Member
of Joint Venture)*

Position	Candidate	
	Prime	Alternate
Candidate Information	Name of Candidate	Date of Birth
	Professional Qualification:	
Present Employer	Name of Employer:	
	Address of Employer	
	Telephone:	Fax:
	Job Title of Candidate	Years with Present Employer

Summarize professional experience in reverse chronological order.

From	To	Company	Project	Position	Relevant Technical & Management Experience

Signature of Candidate:

Signature of Authorized Representative of Firm:

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

Form -T-8

List of O&M Staff

Name of

Applicant:

(Applicant or Member of Joint Venture)

1	Title of Position	
	Name of Candidate	
2	Title of Position	
	Name of Candidate	
3	Title of Position	
	Name of Candidate	
4	Title of Position	
	Name of Candidate	
5	Title of Position	
	Name of Candidate	
6	Title of Position	
	Name of Candidate	
7	Title of Position	
	Name of Candidate	
8	Title of Position	
	Name of Candidate	
9	Title of Position	
	Name of Candidate	
10	Title of Position	
	Name of Candidate	

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

4- SCHEDULES TO BID

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD



PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

Schedule-A

Price Schedule for Goods

to be offered from within the Purchaser's country

Attached as Separate Volume
"Bill of Quantities & Technical Specifications"



PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

Schedule-B

Price Schedule for Goods

to be offered from outside the Purchaser's country



PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

Schedule-C

Manufacturer's Authorization



PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

Schedule-D

List of Engineering Goods to be supplied

NOT USED



PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

Schedule-E

DELIVERY AND COMPLETION SCHEDULE

Item No.	Description of Goods	Delivery Schedule (Duration)	Location	Required Arrival Date of Goods
1	PROVISION, INSTALLATION, TESTING & COMMISSIONING OF IT EQUIPMENT (CAMPUS LAN, VOICE COMMUNICATION, SERVER STORAGE) FOR ESTABLISHMENT OF FEDERAL GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3, ISLAMABAD	For All Lots: Seventy-Five (75) days for all Lots, from the date of issuance of notification of award	Project Site	

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

Schedule F

INSPECTION AND TESTS TO BE CARRIED OUT

**[PURCHASER SHALL LIST DOWN THE INSPECTION AND TESTS TO BE CARRIED OUT UNDER
CLAUSE 26 AND SUB-CLAUSE 26.2]**

AS PER "SPECIFICATIONS"



PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

STANDARD FORMS

**BID SECURITY
PERFORMANCE SECURITY
CONTRACT AGREEMENT
ADVANCE PAYMENT SECURITY**



FORM OF BID SECURITY

(Bank Guarantee)

Security Executed on _____
(Date)

Name of Surety (Bank) with Address: _____
(Scheduled Bank in Pakistan)

Name of Principal (Bidder) with Address _____

Penal Sum of Security Rupees . _____(Rs. _____)

Bid Reference No. _____

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the terms of the Bid and at the request of the said Principal (Bidder) we, the Surety above named, are held and firmly bound unto

_____ (hereinafter called the 'Purchaser') in the sum stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Bidder has submitted the accompanying Bid dated _____ for Bid No. _____ for _____ (Particulars of Bid) to the said Purchaser; and

WHEREAS, the Purchaser has required as a condition for considering said Bid that the Bidder furnishes a Bid Security in the above said sum from a Scheduled Bank in Pakistan or from a foreign bank duly counter-guaranteed by a Scheduled Bank in Pakistan, to the Purchaser, conditioned as under:

- (1) that the Bid Security shall remain in force up to and including the date 28 days after the deadline for validity of bids as stated in the Instructions to Bidders or as it may be extended by the Purchaser, notice of which extension(s) to the Surety is hereby waived;
- (2) that the Bid Security of unsuccessful Bidders will be returned by the Purchaser after expiry of its validity or upon signing of the Contract Agreement; and
- (3) that in the event of failure of the successful Bidder to execute the proposed Contract Agreement and furnish the required Performance Security, the entire said sum be paid immediately to the said Purchaser pursuant to Clause 19.6 of the Instruction to Bidders for the successful Bidder's failure to perform.

NOW THEREFORE, if the successful Bidder shall, within the period specified therefor, on the prescribed form presented to him for signature enter into a formal Contract with the said Purchaser in accordance with his Bid as accepted and furnish within Twenty-Eight (28) days of the notification of award, a Performance Security with good and sufficient surety, as may be required, upon the form prescribed by the said Purchaser for the faithful performance and proper fulfilment of the said Contract or in the event of non-withdrawal of the said Bid within the time specified for its validity then this obligation shall be void and of no effect, but otherwise to remain in full force and effect.

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

PROVIDED THAT the Surety shall forthwith pay the Purchaser the said sum upon first written demand of the Purchaser (without cavil or argument) and without requiring the Purchaser to prove or to show grounds or reasons for such demand, notice of which shall be sent by the Purchaser by registered post duly addressed to the Surety at its address given above.

PROVIDED ALSO THAT the Purchaser shall be the sole and final judge for deciding whether the Principal (Bidder) has duly performed his obligations to sign the Contract Agreement and to furnish the requisite Performance Security within the time stated above, or has defaulted in fulfilling said requirements and the Surety shall pay without objection the said sum upon demand from the Purchaser forthwith and without any reference to the Principal (Bidder) or any other person.

IN WITNESS WHEREOF, the above bounden Surety has executed the instrument under its seal on the date indicated above, the name and seal of the Surety being hereto affixed and these presents duly signed by its undersigned representative pursuant to authority of its governing body.

WITNESS: SURETY (Bank)
Signature _____

1. Name _____
_____ Title _____
Corporate Secretary (Seal) Corporate Guarantor (Seal)

2. _____

Name, Title & Address

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

FORM OF PERFORMANCE SECURITY

Guarantee No. _____
Executed on _____
Expiry date _____

Name of Guarantor (Bank) with address: _____
(Scheduled Bank in Pakistan)

Name of Principal (the Supplier) with address: _____
Penal Sum of Security (express in words and figures) _____

Contract No. _____ Dated _____

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the terms of the Bidding Documents and above said Contract (hereinafter called the Documents) and at the request of the said Principal we, the Guarantor above named, are held and firmly bound unto the M/s Infrastructure Development Authority of the Punjab (hereinafter called the Purchaser) in the penal sum of the amount stated above for the payment of which sum well and truly to be made to the said Purchaser, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has entered into a contract for Provision of _____ with the Purchaser.

NOW THEREFORE, if the Principal (the Supplier) shall well and truly perform and fulfill all the undertakings, covenants, terms and conditions of the said Documents during the original terms of the said Documents and any extensions thereof that may be granted by the Purchaser, with or without notice to the Guarantor, which notice is, hereby, waived and shall also well and truly perform and fulfill all the undertakings, covenants terms and conditions of the Contract and of any and all modifications of said Documents that may hereafter be made, notice of which modifications to the Guarantor being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue till all requirements of Clause 28, Performance Security, of Conditions of Contract are fulfilled.

Our total liability under this Guarantee is limited to the sum stated above and it is a condition of any liability attaching to us under this Guarantee that the claim for payment in writing shall be received by us within the validity period of this Guarantee, failing which we shall be discharged of our liability, if any, under this Guarantee.

We, _____ (the Guarantor), waiving all objections and defences under the Contract, do hereby irrevocably and independently guarantee to pay to the Purchaser without delay upon the Purchaser's first written demand without cavil or arguments and without requiring the

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

Purchaser to prove or to show grounds or reasons for such demand any sum or sums up to the amount stated above, against the Purchaser's written declaration that the Principal has refused or failed to perform the obligations under the Contract which payment will be effected by the Guarantor to Purchaser's designated Bank & Account Number.

PROVIDED ALSO THAT the Purchaser shall be the sole and final judge for deciding whether the Principal (the eligible

Supplier) has duly performed his obligations under the Contract or has defaulted in fulfilling said obligations and the Guarantor shall pay without objection any sum or sums up to the amount stated above upon first written demand from the Purchaser forthwith and without any reference to the Principal or any other person.

IN WITNESS WHEREOF, the above-bounden Guarantor has executed this Instrument under its seal on the date indicated above, the name and corporate seal of the Guarantor being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Guarantor (Bank)

Witness:

1. _____ Signature _____

Name _____

Corporate Secretary (Seal)

Title _____

2. _____

Name, Title & Address

Corporate Guarantor (Seal)

FORM OF CONTRACT

THIS CONTRACT AGREEMENT (hereinafter called the "Contract") made on the _____ day of _____, 2025

By & Between

M/S INFRASTRUCTURE DEVELOPMENT AUTHORITY OF THE PUNJAB having office at 50-B-III, Gulberg III, Lahore, Pakistan (hereafter called the "Purchaser" which expression shall include the successors, legal representatives and assigns) of the one part, and

M/S _____ having head office at _____ (hereafter called the "Supplier" which expression shall include the successors, legal representatives and permitted assigns) of the other part.
(the Purchaser and the Supplier are, hereinafter, individually referred to as "Party" and collectively as "Parties")

WHEREAS the Purchaser is desirous for procurement of certain IT equipment described in the Specifications (hereinafter referred to as the "Goods") from the Supplier and has accepted the bid by the Supplier for Completion of Delivery of the Goods and the remedying of any defects therein.

NOW this Contract witnesseth as follows:

2. In this Contract words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
3. The following documents after incorporating addenda and response to queries, if any, shall be deemed to form and be read and construed as part of this Contract, viz:
 - a. This Contract Agreement;
 - b. Conditions of Contract;
 - c. Specifications; and
 - d. Bill of Quantities.
3. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the Goods and remedy defects therein in conformity and in all respects in accordance with the provisions of the Contract.
4. The Purchaser hereby covenants to pay the Supplier, in consideration of provisions of the Goods as per provisions of the Contract, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS WHEREOF the Parties hereto have caused this Contract to be executed on the day, month and year first before written in accordance with laws of Islamic Republic of Pakistan.

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

For and on behalf of

M/S INFRASTRUCTURE DEVELOPMENT AUTHORITY OF THE PUNJAB

Witness

Signature _____

Name _____

Title _____

CNIC _____

Address _____

Signature _____

Name _____

Title _____

(Seal)

For and on behalf of

Witness

Signature _____

Name _____

Title _____

CNIC _____

Address _____

Signature _____

Name _____

Title _____

(Seal)

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

Form of Advance Payment Security (if applicable)

Date: _____

Contract Name and No. : _____

To: _____

In accordance with the payment provision included in the Contract, in relation to advance payments, _____ (hereinafter called "the Supplier") shall deposit with the Purchaser a security consisting of _____, to guarantee its proper and faithful performance of the obligations imposed by said Clause of the Contract, in the amount of _____.

We, the undersigned _____, legally domiciled in _____ (hereinafter "the Guarantor"), as instructed by the Supplier, agree unconditionally and irrevocably to guarantee as primary obligor and not as surety merely, the payment to the Purchaser on its first demand without whatsoever right of objection on our part and without its first claim to the Supplier, in the amount not exceeding _____.

This security shall remain valid and in full effect from the date of the advance payment received by the Supplier under the Contract until _____, _____.

Name _____

In the capacity of _____

Signed _____

Duly authorized to sign the security for and on behalf of _____

Date _____

PURCHASER:
INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB (IDAP)
GOVERNMENT OF THE PUNJAB

TENDER DOCUMENT

PROJECT:
PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT (CAMPUS
LAN, VOICE COMMUNICATION, SERVER
STORAGE) FOR ESTABLISHMENT OF FEDERAL
GOVERNMENT POLYCLINIC (PGMI)-II AT G/11/3,
ISLAMABAD

CONDITIONS OF CONTRACT



CONDITIONS OF CONTRACT

1. Definitions

1.1 The following words and expressions shall have the meanings hereby assigned to them:

- (a) "Completion" means the fulfillment of the supply of Goods by the Supplier in accordance with the terms and conditions set forth in the Contract. The Project will be considered complete when the following conditions are met.
 - (i) Goods are delivered in Site
 - (ii) Installation and Commissioning is complete as per design document.
 - (iii) Integration (with existing IP system)
 - (iv) Goods are handed over to the Purchaser and TOC Is issued
 - (v) Warranty period is elapsed as mentioned in the Contract
- (b) "Contract" means the Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, schedules and all documents incorporated by reference therein.
- (c) "Contract Documents" means the documents listed in the Agreement, including any amendments thereto.
- (d) "Contract Price" means the price payable to the Supplier as specified in the Agreement, subject to such deductions therefrom, as may be made pursuant to the Contract.
- (e) "Day" means calendar day.
- (f) "Delivery" means the transfer of the Goods from the Supplier to the Purchaser in accordance with the terms and conditions set forth in the Contract.
- (g) "Goods" means all of the commodities, raw material, machinery and equipment, and/or other materials/ Licenses that the Supplier is required to supply to the Purchaser under the Contract as per required specifications.
- (h) "Purchaser" means the Infrastructure Development Authority of the Punjab.
- (i) "Supplier" means the natural person, private or government entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Agreement and includes the legal successors or permitted assigns of the Supplier.
- (j) "Site," is Government Polyclinic (PGMI)-II At G/11-3, Islamabad
- (k) "Warranty Period" means the time period for warranty of the Goods required in technical specifications. This period will start from the date mentioned in Taking-over Certificate.

- 2. Contract Document** All documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory.
- 3. Interpretation**
- 3.1 If the context so requires it, singular means plural and vice versa where the context requires.
- 3.2 Entire Agreement
- The Contract constitutes the entire agreement between the Purchaser and the Supplier and supersedes all communications, negotiations and agreements (whether written or oral) of parties with respect thereto made prior to the date of Contract.
- 3.3 Amendment
- No amendment or other variation of the Contract shall be valid unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party thereto.
- 3.4 Nonwaiver
- (a) Subject to Clause 3.4(b) below, no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, neither shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.
- (b) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.
- 3.5 Severability
- If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.
- 4. Language**
- 4.1 The Contract as well as all correspondence and documents relating to the Contract exchanged by the Supplier and the Purchaser, shall be written in English language. Supporting documents and printed literature for the Goods offered by the Supplier may be in another language provided they are accompanied by an accurate translation

of the relevant passages in English language. For the purpose of interpretation, the translation in English language shall prevail.

- 4.2 The Supplier shall bear all costs of translation to English language and all risks of the accuracy of such translation.

5. Joint Venture, Consortium or Association

- 5.1 If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfillment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.

6. Notices

- 6.1 Any Notice given by one party to the other pursuant to the Contract shall be in writing to the address specified below:

The Purchaser:
Chief Technology Officer,
Infrastructure Development Authority of the Punjab,
50-B-III, Gulberg, III, Lahore.

The Supplier:

The term "in writing" means communicated in written form with proof of receipt.

- 6.2 A Notice shall be effective when delivered or on the Notice's effective date, whichever is later.

7. Governing Law

- 7.1 The Contract shall be governed by and interpreted in accordance with the laws of Islamic Republic of Pakistan.

8. Settlement of Disputes

- 8.1 The Purchaser and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.
- 8.2 If the parties fail to resolve such a dispute or difference by mutual consultation within twenty-eight (28) days from the commencement of such consultation, either party may require that the dispute be referred for resolution under Pakistan Arbitration Act, 1940. The place of arbitration shall be Lahore and the Courts of Lahore shall have

exclusive jurisdiction to adjudicate upon any matter related to or arising out of this Contract.

9. Scope of Supply

- 9.1 The Goods to be supplied shall be as specified in the Specifications and of the best quality as per applicable international standards.
- 9.2 The Scope of Supply shall include all such items not specifically mentioned in the Contract but that can be reasonably inferred from the Contract as being required for attaining Delivery and Completion of the Goods as if such items were expressly mentioned in the Contract without any additional cost to the Purchaser.

10. Delivery

- 10.1 Subject to Clause 24, the Delivery of the Goods shall be made within Seventy-Five (75) days for all lots, from the date of issuance of notification of award.
- 10.2 Goods shall be considered delivered after a 'Material Inspection Report (MIR)' have been signed by the Purchaser. Inspection shall be conducted on location, date and time agreed by the Purchaser and the Supplier. The signing of the MIR does not constitute handover to the Client.
- 10.3 If the Site is not ready for receipt of Goods then Supplier shall stage/configure the Goods at his premises/warehouse, on the date and time decided by the Purchaser, until the Site gets ready for installation and commissioning of the Goods. No separate payment shall be made to the Supplier for configuration of equipment at his premises or delivery, installation and commissioning afterwards at the Site.
- 10.4 Installation and Commissioning shall be carried out at Site and will be considered complete after following conditions are met.
- (i) Design document for installation of Goods are submitted by the Supplier and approved by the Purchaser.
 - (ii) Goods are installed and configured at Site as per approved design.
 - (iii) Goods are active and tested.
 - (iv) Goods are in use at Site as per their scope.
- 10.5 A 'Taking Over Certificate (TOC)' shall be issued by the Purchaser to the Supplier after Delivery, Installation and Commissioning of Goods at the Site.

11. Supplier's Responsibilities

- 11.1 The Supplier shall supply all the Goods included in the Scope of Supply in accordance with Clause 09 and Clause 10.

**12. Purchaser's
Responsibilities**

12.1 Wherever the supply of Goods requires that the Supplier obtain permits, approvals, and import and other licenses from local public authorities, the Purchaser shall, if so requested by the Supplier, make its best effort to assist the Supplier in complying with such requirements in a timely and expeditious manner. However, obtaining such permits, approvals, and licenses shall remain the sole responsibility of the Supplier.

**13. Terms of
Payment**

13.1 Payment shall be released as per the following schedule.

- (i) 90% of the Contract Price shall be released after delivery at Site and MIR is signed by the Purchaser
- (ii) 10% of the Contract Price shall be released after installation, configuration and commissioning as per design documents.

13.2 Payments shall be made promptly by the Purchaser, no later than Thirty (30) days after submission of an invoice or request for payment by the Supplier, and the Purchaser has accepted it.

13.3 In case this Contract is terminated before Completion and Delivery of the Goods, part payment shall be made to the Supplier subject to acceptance of the portion of the Goods supplied to and accepted by the Purchaser.

13.4 Notwithstanding the terms of this clause or any other clause of the Contract no payment shall be made to the Supplier, until the performance security has been provided by the Supplier and approved by the Purchaser.

**14. Taxes and
Duties**

14.1 For Goods supplied from either within or outside of Pakistan, the Supplier shall be entirely responsible for all taxes, duties including stamp duties, license fees, and other such levies incurred until delivery of the Goods to the Purchaser imposed as per law.

**15. Confidential
Information**

15.1 The Purchaser and the Supplier shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract, except as required under the law.

16. Subcontracting

The Supplier shall not subcontract supply of any or all Goods to any other person except with the approval of the Purchaser.

- 17. Specifications** 17.1 The Supplier shall ensure that the Goods comply with the technical specifications and other provisions of the Contract.
- 18. Packing and Documents** 18.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. During transit, the packing shall be sufficient to withstand, without limitation, rough handling and exposure to extreme temperatures, salt and precipitation, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the final destination of the Goods and the absence of heavy handling facilities at all points in transit.
- 18.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including any other instructions given by the Purchaser without any additional cost to the Purchaser.
- 19. Liquidated Damages** 19.1 Except as provided under Clause 23, if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, the Purchaser may without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to an amount of One-tenth per cent (0.1 %) of the Contract Price for each day of delay, subject to a maximum deduction of Ten per cent (10 %) of the Contract Price. Once the maximum limit of liquidated damages is reached and the Supplier is still delaying Delivery of the Goods, the Purchaser may either at the risk and cost of the Supplier:
- a) purchase the Goods from open market and charge the difference between the price quoted by the Supplier and the price on which such Goods were purchased from open market, to the Supplier; or
 - b) terminate the Contract pursuant to Clause 26.
- 20. Warranty** 20.1 The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials.
- 20.2 Subject to Clause 17, the Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in Pakistan.

20.3 The warranty shall remain valid for the period mentioned in the Specifications. Warranty period and software licenses shall start after issuance of Taking-over Certificate.

20.4 The Purchaser shall give Notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.

20.5 Upon receipt of such Notice, the Supplier shall, within five (05) working days, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.

20.6 If having been notified, the Supplier fails to remedy the defect within the period specified in Sub-Clause 20.5, the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under this Contract.

21. Patent Indemnity

21.1 The Supplier shall, subject to the Purchaser's compliance with Sub-Clause 21.2, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of the Delivery of the Goods by the Supplier or the use of the Goods in Pakistan.

21.2 If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to in Sub-Clause 21.1, the Purchaser shall promptly give the Supplier a notice thereof, and the Supplier shall at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

21.3 If the Supplier fails to notify the Purchaser within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Purchaser shall be free to conduct the same on its own behalf at the sole risk and cost of the Supplier.

21.4 The Purchaser shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim,

and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.

- 22. Change in Laws and Regulations**
- 22.1 Unless otherwise specified in the Contract, if after the date of invitation for Bids, law related to Sales Tax only have been changed in the place of the Purchaser's country where the Site is located (which shall be deemed to include any change in interpretations or application by the competent authorities) that subsequently affects the Delivery Date and/or the Contract Price, then such Delivery Date and/ or Contract Price shall be correspondingly increased or decreased, to the extent that the Supplier has thereby been affected in the performance of any of its obligations under the Contract.
- 23. Force Majeure**
- 23.1 The Supplier shall not be liable for forfeiture of liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- 23.2 For purposes of this Clause, "Force Majeure" means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, wars or revolutions, floods, epidemics, quarantine restrictions, and freight embargoes.
- 23.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.
- 24. Change Orders and Contract Amendments**
- 24.1 The Purchaser may at any time instruct the Supplier through Notice to make changes within the general scope of the Contract in any one or more of the following:
- (a) any increase or decrease in the quantity of the Goods;
 - (b) the method of packing;
 - (c) the place of delivery; and
 - (d) Any other
- 24.2 If any such change causes an increase or decrease in the time required for the Supplier's performance under the Contract, an equitable adjustment shall be made in the Delivery and Completion time and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this Clause must be asserted within

Seven (07) days from the date of the Supplier's receipt of the Purchaser's change order.

25. Extensions of Time

- 25.1 If at any time during performance of the Contract, the Supplier should encounter conditions impeding timely Delivery of the Goods, the Supplier shall promptly notify the Purchaser in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, in which case the extension shall be ratified by the parties by amendment of the Contract.
- 25.2
- 25.3 Except in case of Force Majeure, as provided under Clause 23, a delay by the Supplier in the performance of its Delivery and Completion obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to Clause 19, unless an extension of time is agreed upon, pursuant to Sub-Clause 25.1.

26. Termination

26.1 Termination for Default

(a) The Purchaser, without prejudice to any other remedy for breach of Contract, by Notice of default sent to the Supplier, may terminate the Contract in whole or in part:

- (i) if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to Clause 25; or
- (ii) if the Supplier fails to perform any other obligation under the Contract.

(b) In the event the Purchaser terminates the Contract in whole or in part, pursuant to Clause 25.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods and / or related services similar to those undelivered and / or not performed, and the Supplier shall be liable to the Purchaser for any additional costs for such similar Goods and / or related services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

(c) if the Supplier, in the judgment of the Purchaser has engaged in corrupt and fraudulent practices in competing for or in executing the Contract.

26.2 Termination for Insolvency

The Purchaser may at any time terminate the Contract by giving Notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In such event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of

action or remedy that has accrued or will accrue thereafter to the Purchaser.

26.3 Termination for Convenience

(a) The Purchaser, by Notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The Notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.

(b) The Goods that are complete and ready for shipment within Seven (07) days after the Supplier's receipt of the Notice of termination shall be accepted by the Purchaser at the Contract terms and prices.

27. Assignment

27.1 The Supplier shall not assign, in whole or in part, its obligations under this Contract, except with prior written consent of the Purchaser.

28. Performance Security

28.1 The Supplier shall, within Twenty-Eight (28) days of notification of Contract award or such other period as decided by the Purchaser, provide a Performance Security for the due performance of the Contract of an amount equal to Ten per cent (10 %) of the Contract Price. The performance security shall be issued by a Scheduled Bank in Pakistan or from a bank located outside Pakistan duly counter-guaranteed by a Scheduled Bank in Pakistan.

28.2 The proceeds of the Performance Security shall be payable to the Purchaser as compensation for the Supplier's failure to complete its obligations under the Contract.

28.3 The Performance Security shall be denominated in the Pakistan Rupees and shall be in the form provided by the Purchaser in the Bidding Documents, or in another form acceptable to the Purchaser.

28.4 The Performance Security shall be discharged by the Purchaser and returned to the Supplier not later than twenty-eight (28) days following the date of Completion of the Supplier's performance obligations under the Contract, including any warranty obligations, if any.

IDAP – Enterprise Network Design Guidelines (NSS Active)

For

**PROVISION, INSTALLATION, TESTING &
COMMISSIONING OF IT EQUIPMENT
(CAMPUS LAN, VOICE COMMUNICATION,
SERVER STORAGE) FOR ESTABLISHMENT OF
FEDERAL GOVERNMENT POLYCLINIC (PGMI)-
II AT G/11/3, ISLAMABAD**



Table of Contents

DEFINITIONS.....	5
INTRODUCTION	8
Design Philosophy	8
Service Availability	8
Design Considerations.....	9
PART-I SITE DEPLOYMENT GUIDE	11
Storage Area and Staging of ICT Equipment	12
Prerequisites	12
Racking, Cabling and Labelling	14
PART-II PHYSICAL LAYER DESIGN GUIDE	16
Two-Tier STAR Topology - Small and Medium Sites	17
Three-Tier Hybrid Topology - Large or Distributed Sites.....	17
Vertical Connections - Interconnecting IT Rooms.....	18
High Level Wiring Diagram.....	20
Methods of Connecting Switches in a Rack	21
Stacking/Clustering/Virtual Chassis (Recommended method)	23
VLAN Tagging (802.1q) with Link Aggregation (LACP/802.3ad/802.1ax).....	24
Switch interconnect with 802.1q Tagging without Link Aggregate (Least Preferred).....	24
PART-III SWITCHING DESIGN GUIDE	26
Introduction	27
WAN to Firewall Switching Layer	27
Firewall to Core Switching Layer	28
Core to Access Layer	28
Access Layer and End User Devices	29
Spanning-Tree Design	29
STP Protocol Selection	30
STP Root	



Root Protection	30
Loop Prevention	30
Unidirectional Link Detection and Loop Prevention	31
Access Ports and STP Edge Protection	31
VLAN assignments.....	31
Switching/Layer2 Services	31
VLAN Management	31
Discovery Protocols.....	32
Dynamic Link Negotiation	33
Port Configurations	33
Core Switches – Technical specifications	33
Core Switch Capacity Projection	34
Core switch HA Setup.....	34
Core switch Racking, Cabling and Labeling.....	34
Access Switches – Technical specifications	35
Access switch HA Setup	35
Access switch Racking, Cabling and Labeling.....	36
PART-IV ROUTING DESIGN GUIDE	37
Introduction	38
Core and Access Layer.....	38
FW, WAN (ISP) and CORE – BGP / Static / OSPF.....	39
Client Public IP address Advertisements.....	39
High Throughput Traffic	39
TCP/IP Features	40
IPv4 Plan.....	41
PART-VI Security Design Guide.....	41
Introduction	42
Physical security policy.....	



Identity, access and authorization policy	42
Network SECURITY POLICY	43
Security Traffic Classes	44
Security User Classes	45
Security Domains	45
Security Domains and Cross-Domain Traffic	46
Security Consideration for High Throughput by-pass Traffic	46
PART-VII Firewall Design	48
introduction	49
Firewall Specifications	49
Firewall – High Availability	49
Active/Passive HA Design	49
Active/Active HA Design	50
Firewall Racking, Cabling and Labeling	51
Firewall Throughput Requirements	51
Firewall Port Count	52
PART-ix Network Management Services	54
Introduction	55
Management VLAN	55
SNMP	55
DHCP scope	56
DNS	57
NTP	57
NMS	57
Appendix A – VLAN and IP Allocation Plan	59



DEFINITIONS

1. IP Hosts: Includes any device that connects to the IP network. This could be Wireless or Wired. End user devices like printers, scanners, Nurse call systems, IP Phones, smart phones, tablets etc. are all IP Hosts.
2. Site: A geographical location with actual or planned structure or set of structures. For example, in case of Net Zero Building, a main building, auxiliary buildings, guard rooms, dormitories, energy centre etc will together constitute a site. Site usually has a well-defined parameter wall or boundary.
3. POC: Point of Contact
4. RE: Resident Engineer
5. ICT (Information and Communications Technology)
6. Server Room
7. LAN (Local Area Network)
8. SW (Switch and one time used as software)
9. Core SW (Core Switch)
10. WAN (Wide Area Network)
11. AS Switches (Access Switches)
12. CCTV (Closed Circuit Television)
13. ACS (Access Control System)
14. IBMS (IP Based Building Management System)
15. VPN (Virtual Private Networks)
16. HW (Hardware)
17. UPS (Uninterrupted Power Supply)
18. OS (Operating System)
19. RMA (Return Merchandise Authorization)
20. AC (Air Conditioning)
21. PDU (Power Distribution Unit)
22. LAG (Link Aggregation Groups)
23. FW (Firewall)
24. ISP (Internet Service Provider)
25. HA (High Availability)
26. VC (Virtual Chassis)
27. STP (Spanning Tree Protocol)
28. LACP (Link Aggregation Control Protocol)



29. BPDU (Bridge Protocol Data Unit)
30. DLDAP (Device link detection protocol)
31. VTP (VLAN Trunking Protocol)
32. SNMP (Simple Network Management Protocol)
33. DHCP (Dynamic Host Configuration Protocol)
34. BGP (Border Gateway Protocol)
35. LLDP (Link Layer Discovery Protocol)
36. ISDP (Industry Standard Discovery Protocol)
37. LDAP (Lightweight Directory Access Protocol)
38. RIP (Routing Information Protocol)
39. ICMP (Internet Control Message Protocol)
40. HTTP (Hypertext Transfer Protocol)
41. TCP (Transmission Control Protocol)
42. UDP (User Datagram Protocol)
43. NTP (Network Time Protocol)
44. OSPF (Open Shortest Path First)
45. BW (Bandwidth)
46. MC-LAG (Multi-chassis Link Aggregation)
47. VIP (Virtual IP Address)
48. GW (Gateway)
49. MAC Address (Media Access Control Address)
50. UDLD (Unidirectional Link Detection)
51. PoE (Power over Ethernet)
52. MTU (Maximum Transmission Unit)
53. MDI (Medium Dependent Interface)
54. NAT (Network Address Translation)
55. TLS (Transport Layer Security)
56. SSL (Secure Sockets Layer)
57. IDS (Intrusion Detection System)
58. NGFW (Next Generation Firewall)
59. GUI (Graphical User Interface)
60. RPF (Reverse-path Forwarding)
61. NMS (Network Monitoring System)



- 62. DNS (Domain Name System)
- 63. SOE (Service Over Ethernet)
- 64. GC (General Contractor)



INTRODUCTION

The following design instructions are a guideline for the Contractor to build an enterprise grade ICT Network for the project. These are high-level design instructions. Final detailed design will be dictated by selected make/model/vendor of networking equipment selected by the Contractor.

Based on below guidelines and vendor technologies the Contractor is required to submit a detailed Design for review and approval for implementation.

This document covers active part of the Network Design including Network Switching, Routing, Network Management, Support services and Security.

Design Philosophy

1. Highly Available
2. Secure
3. Cost Efficient
4. Ease of Operation
5. Scalable

Service Availability

Service Availability is the time period through which a Services is available to end users. It is the key parameter that determines the quality of the network. A well designed and configured network results in high Service Availability. Network with high service availability result in increased productivity of end users.

It is critical that a network maintains high service availability of around 99.5%. To achieve 99.5% service availability all components (Campus LAN, Core SW, Routing, Firewall, WAN, Internet and all other sw/hw components) must meet the SLA target. The proposed design guidelines are built to ensure 99.5% service availability of all critical systems of the network.

Contractor is required to ensure the in-scope deployed solution meets a service availability target of 99.5% over a month [3.65 hours downtime in a month].

Availability is calculated using Mean Time Between Failure (MTBF) and Mean Time to Repair (MTTR):



$$A = \text{MTBF} / (\text{MTTR} + \text{MTBF})$$

Example

If a switch has a MTBF value of 4000 hours, and avg fix time of 20 hours then Availability is 99.5%:

$$\text{Availability} = 4000 / (4000 + 20) = 99.5\%$$

Design Considerations

1. Detailed Design

Contractor is responsible to review and understand the design requirements in this guide. Contractor is required to produce a detailed design document for each element of the network. This detailed design will be reviewed and approved before deployment can commence.

2. Solution Lifespan

Hardware and Software selection must be made to ensure principal vendor cover for the solution is available for a minimum period of 3 years after start of operation. Any Hardware, Software or technology procured must be valid and not end-of-life or end-of-support for up to three (3) years from Start of Operations.

3. Licensing Cover

HW, software licenses inclusive of all required features must be valid for at least 1 years from start of operations.

4. Switching hardware (core switches, AS switches etc.) must come from a **single HW manufacturer**. This is required to ensure consistent features and interoperability between components across the network.

5. Contractor is required to assist with integration of all IP based services deployed on site until network is fully Handed over to client. Service might include (but not limited to) Fire panel, NCS, CCTV, ACS, iBMS, Remote Site VPN links, Remote User VPN connections etc. With service integration **contractor scope of work is limited to:**



1. Network Configuration of switches/routes/firewalls etc.
2. Allocating IP addresses for the service
3. Creating and allocating VLANs for the service
4. Allocating switched or routed ports for connectivity
5. Firewall Ruleset
6. Routing changes
7. Provide assistance and guidance with troubleshooting



PART-I

SITE DEPLOYMENT GUIDE



Storage Area and Staging of ICT Equipment

It is responsibility of the Contractor to arrange proper storage for ICT equipment. Storage area must provide a dry and secure space where ICT equipment can be stored before and during solution deployment. It is preferred that storage area is made on or close to the project site for ease of transport and deployment.

It is responsibility of the Contractor to provide a staging area to prepare and pre-configure all ICT equipment. Staging area will provide UPS backed clean power, adequate lighting, temperature control and necessary equipment and tools required to stage the ICT equipment before installation on-site. Staging of ICT equipment include activities like:

2. Standard OS version

OS will be selected by Contractor based on manufacturer recommendations. OS version must be stable, free of major security bugs and widely deployed and tested in industry. All devices will run uniform OS version

3. Factory rest of equipment to bring it to base state. This step is necessary to ensure configuration file is blank and free from unwanted/unexpected features and parameters. Factory rest will ensure all HW is at baseline before configuration
4. Remove any un-necessary software feature that are not required. Bloatware and unnecessary software packages that are not needed for HW function and operation must be removed before commissioning.
5. Pre-config HW with standard and agreed configuration
6. HW and License checks must be performed and documented for reference
7. Other relevant steps required to make sure HW is ready for deployment and commissioning on site

Prerequisites

Active components of ICT Infrastructure (switches, routers, firewalls, servers etc.) are sensitive and complex systems. Active components have stringent environmental parameters within which they are designed to operate. These parameters are well documented by Manufacturers. These parameters include requirements around dust protection, temperature control, air flow, clean power etc. If environmental parameters are not met this leaves IT systems vulnerable to failure leading to service degradation or outage. Not meeting environmental requirements will also lead to warranties getting void and vendors refusing to provide RMA for any failed components.



Before Active components of ICT Infrastructure are deployed the Contractor must verify that following prerequisites are met. Installation, deployment, or commissioning of active components might be considered void unless below conditions are met:

1. IT Room Civil work must be completed in full

1. Complete block work with no holes or gaps.

All gaps around cable ladder/trays and risers must be blocked by sealant and gromets as per design

2. Complete room finishing including paint work, floor finishes, ceiling finishes etc.
3. IT Room must be weather tight as per design.
4. There must be minimum chances of dust or debris moving into the room

If conditions are not met contact site RE. Completion of Civil works is the responsibility of the Civil team.

2. IT Room Door and Locking mechanism

1. IT room must be fitted with door as-per-design
2. Door must have a locking mechanism as per design
3. Doors must have dust brush and rubber strip installed to seal openings against dust where applicable

If conditions are not met contact site RE. Completion of Door/Lock is the responsibility of GC/Civil team.

3. IT Room Fixtures

1. Electrical fixtures must be fully installed and functional. This including all lights, face plates cable works etc. as per design



If conditions are not met contact site RE. Completion of Elec works is the responsibility of GC/Elec team.

4. IT Room Passive network

1. All passive networking components must be fully deployed including cable ladders, conduit and pipe work etc.
2. Cable drops must be complete
3. Patching of fibre/copper cables in Racks must be completed and tested

If conditions are not met contact site RE. Completion of Passive works is the responsibility of the General Contractor (GC)/IT team.

5. UPS backed power

1. Room must have clean power source backed by UPS as per design
2. Industrial sockets in IT Rooms must be available and tested
3. PDU must be tested and installed in the racks

If conditions are not met contact site RE. Completion of Elec works is the responsibility of the Elec team.

6. Temperature Control

1. IT must have an active and operational AC for temperature control as per design

If conditions are not met contact site RE. Completion of AC works is the responsibility of the HVAC team.

Racking, Cabling and Labelling



Contractor is expected to rack all HW in a professional manner following manufacturer guidelines. HW must be delivered with all racking accessories including rails, trays and nuts/bolts.

Racking will be done at the correct RU as per approved detailed design.

Inter and intra rack Cabling will be done using approved method. All patch leads will be managed neatly in cable managers.

Installed HW will be labelled and tagged following industry standards. Contractor is expected to have access to good quality labelling tape and labelling machine:

7. Adhesive must not come off in hot weather
8. Label should not come loose after extended use
9. Must use ink that is hard-wearing. Cheap labelling machines/tapes use ink that simply peels off by rubbing. Such labels are not acceptable

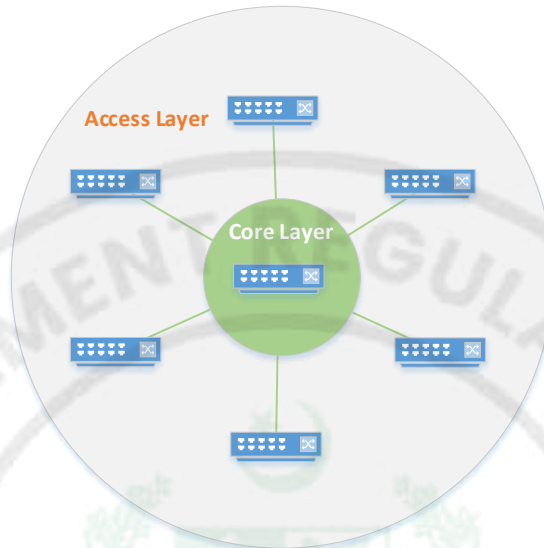


PART-II
PHYSICAL LAYER DESIGN GUIDE



Two-Tier STAR Topology - Small and Medium Sites

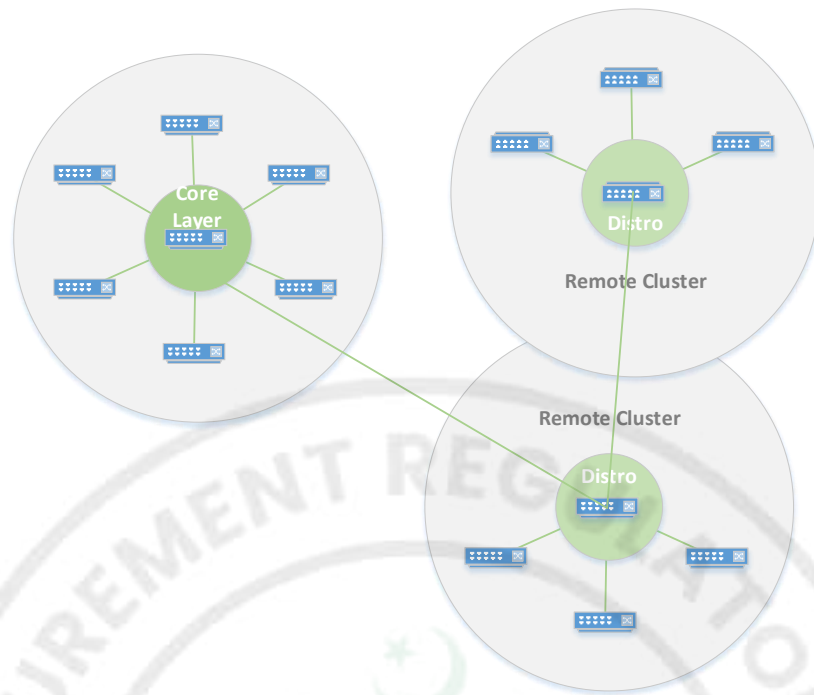
For Small and Medium sites, the design uses a collapsed Core/Distro layer. All Access Switch Stacks/clusters connect directly to the Core to form a Two-Tier Star topology. This physical topology provides loop-free connectivity between Access and Core Layers.



Three-Tier Hybrid Topology - Large or Distributed Sites

A Three-tier design with Hybrid Topology is proposed for Large sites with distributed clusters of remote networks. A mix of Star, Bus and Ring topologies can be employed to interconnect Remote Clusters to the central Network Core





Vertical Connections - Interconnecting IT Rooms

Connection between IT Rooms or buildings are called Uplinks or Vertical connections. Fibre Optic cables are preferred media for Vertical connectivity for **Large** and **Medium** sites. Copper can be used in limited cases with a sound reason (technical difficulty, integration with legacy setup etc.) after approval by RE/IT.

For **Small** sites either copper or fibre can be used as long as all technical requirements are met (eg distance limits, throughput etc.).

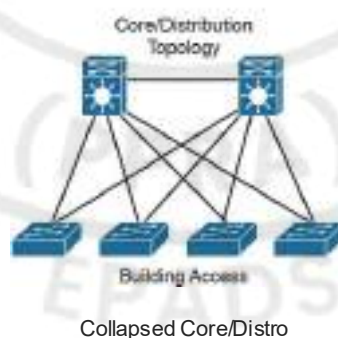


Figure 1. Uplink ports providing vertical connectivity between networks tiers

Vertical Connections are critical infrastructure elements that provide connectivity between physically separate sections of a site. Vertical connections are needed to connect different floors to the network Core or connect different buildings to a central aggregation point. Loss



of vertical connectivity can mean network blackout for the whole area serviced by that link. For Critical areas such an outage is unacceptable.

Vertical connections can be made resilient using Redundancy. Redundant connections are run between access and core/distro layers. The number of redundant connections will vary and depend upon throughput requirements and technical limitations offered by the platform. In most cases design calls for 2 uplink connections.

A number of technologies are available to provide redundancy for Uplink connections from Access to Aggregate layers:

1. Vertical Links configured as LAG (LACP/802.3ad/802.1ax)

Core switches in a stack act as a single virtual switch. Uplinks between access and core/aggregate layer can be configured as an aggregate link (LAG) using LACP. In most cases design calls for 2 uplink connections between Access and Core layers.

This is the preferred method for provisioning redundant links between access and core layers.

2. Vertical Links configured as MLAG/MC-LAG

LACP cannot be implemented across independent physical switches. And this poses a limitation where multiple core switches terminate uplink ports from access layer switches. In scenarios where core switches are not configured as a Virtual Chassis or Stack, Multi-chassis LACP can be used to 'extend' LACP between them. MC-LAG is an extension of standard LACP that can span multiple physical switches.

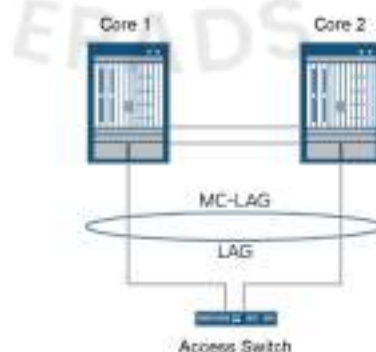


Figure 2. Multi-Chassis LACP



The figure shows two Core Switches (aggregate layer) that are not members of a stack or VC. Redundant uplink connections from the access switch connect to both Core1 and Core2. Core switches are configured with Multi-chassis LAG (MC-LAG). This allows the redundant uplinks to work as an aggregate Link (LAG).

Different vendors implement Multi-Chassis LACP under different names (MCEC, MC-LAG, M-LAG etc.). Vendor implementation are usually proprietary and it not possible to mix vendors to implement Multi-Chassis LACP.

3. Vertical links configured as VLAN tagged links

In cases where Multi-Chassis LACP is not available and Core switches are not in a stack/cluster then redundant link with VLAN tagging are an option. However due to Spanning Tree loop prevention one of the redundant links will be blocked and will not forward traffic. In case one of the links fail, the blocked port will move to forwarding state. This setup does provide redundancy, but all available ports cannot be utilized for traffic forwarding. **This is the least preferred method for redundant uplink port connectivity and not recommended.**

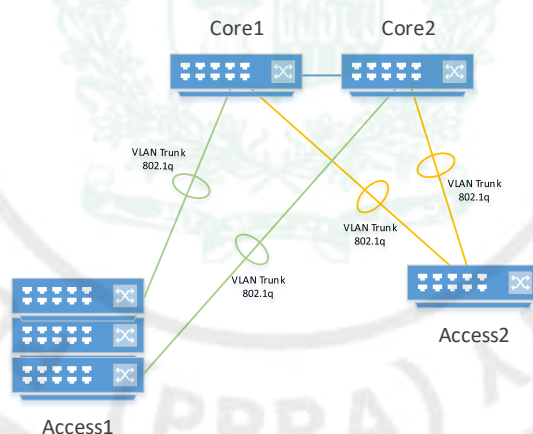


Figure 3. Redundant Links without LACP

High Level Wiring Diagram

Design calls for a flexible topology that can be easily configured to accommodate a variety of technologies and vendors. A central high speed and Highly Available switching layer acts as the aggregation point for various network domains – WAN, Access Layer, Server/DC Room etc.



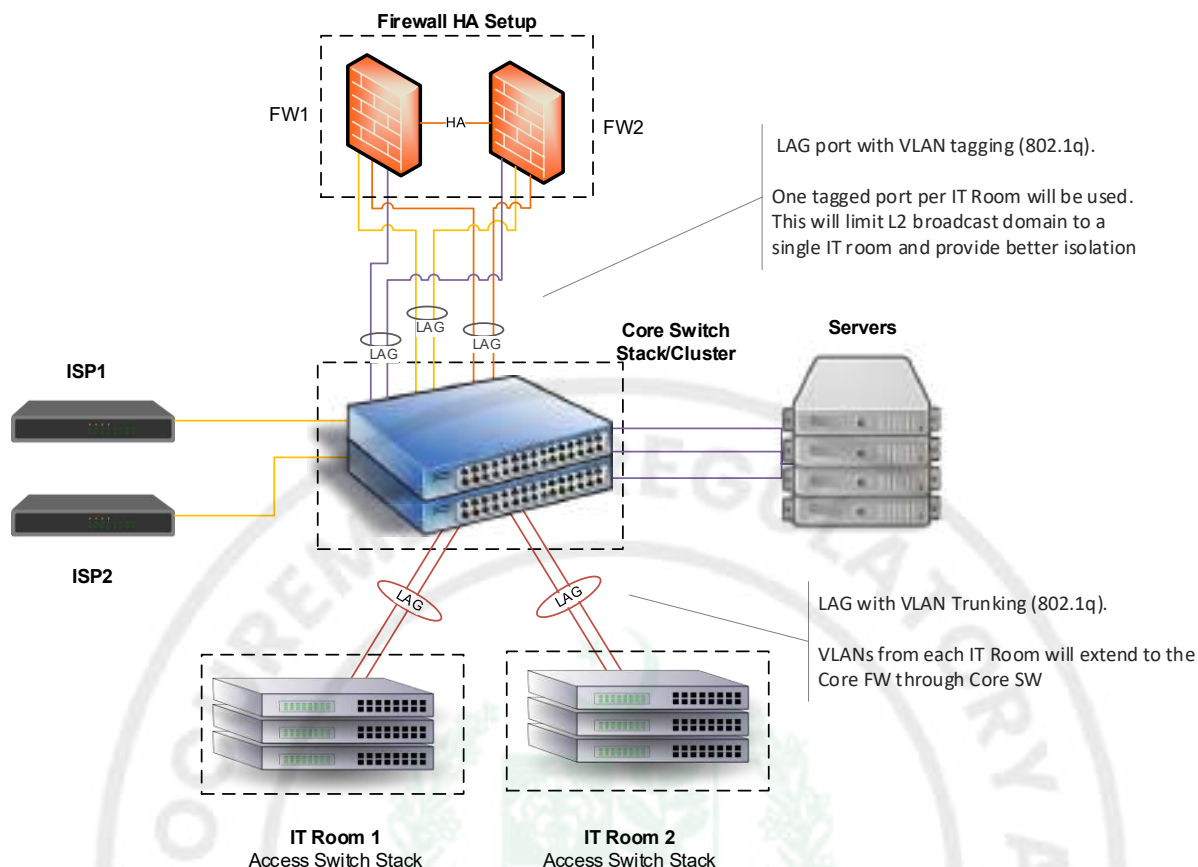


Figure 4. Switching Topology and wiring design

Contractor can propose an alternate topology while meeting the design goals. Alternate topology will need review and design approval before implementation.

Methods of Connecting Switches in a Rack

In many instances multiple switches have to be installed to accommodate large number of access ports in the area. Switches might be installed in a single rack or multiple racks. Different connectivity options are discussed below.



Figure 5. Switches mounted in a Rack

	Stacking/Clustering (Preferred)	VLAN Tagging + LAG	VLAN Tagging without LAG (Least Preferred)
Spanning Tree	No STP between member switches mean no blocking of ports	802.3ad/802.1ax/LACP member ports act as one STP	STP is used to setup switch interconnects. STP blocks redundant connect



		port. All member ports of a LAG forward traffic. The 'bundle' formed by LAG behaves like any normal ethernet port. STP is configured on the 'bundle'.	This should be avoided in favour of other interconnect options
Configuration and Management	Single Management pane – all switches are configured by the master switch. Stack appears as a single unit. Reduced management overhead	Each stack member needs to be configured independently.	Each stack member needs to be configured independently. Higher operations overhead
Cabling Topology	Ring Topology. This ensures redundant connectivity.	Ring Topology. This ensures redundant connectivity. STP ensure loop is not created	Ring Topology. This ensures redundancy. However redundant interfaces are blocked by STP limiting available BW
Multi-Vendor	Propriety. Each vendor implementation is different. Different vendor switches cannot be interconnected in a Stack	802.3ad/802.1ax/LACP is an open standard. Switches from different vendors can be interconnected using this method.	STP is standards based. Multi-vendor switches can be interconnected. Due to port blocking and limited BW, this method should be avoided in favour of other interconnecting options
Performance	Most implementations use direct backplane-to-backplane connection. Stack offers high throughput and low latency as compared to other interconnecting technologies	Throughput depends upon number of ports that are part of the LAG. Maximum of 8 ports can be used.	Throughput is limited to interface speeds. Due to BW limitations this setup should be avoided
Adjacency/ Distance	Short distance. Usual Stack implementations are limited to 3 meters. Due to short distances, stacking can only be configured between switches in the same rack or adjacent racks. Connectivity between IT rooms is not possible using stack setup.	Distance is limited by media used: On copper the distance is limited to 100m . This is in compliance with TIA-568. On Fibre the distance depends on the range of the optics: SX: 550m LX: 10km EX: 40km ZX: 80km	Distance is limited by media used (copper or fibre).



	Check vendor documentation to determine max distance.	(check vendor docs for exact figures)	
--	---	---------------------------------------	--

Table 1. Switch Connection Options

Stacking/Clustering/Virtual Chassis (Recommended method)

Stacking/*Clustering*/*VC* is a feature that allows configuration of multiple switches in a single virtual switch. Stacking has many benefits and is the preferred method for switch interconnectivity.

Vendors offer stacking technologies under different names – Virtual Chassis (Juniper), Stackwise (Cisco), iStack (Huawei) etc. All these implementations lead to the same end result.

Specific stack configurations are vendor dependent. However, in most cases one of the stack members become a Primary or Stack Master. Primary switch acts as the supervisor engine for the whole stack. Secondary or Slave stack members take on Primary role if the primary goes down.

Stacking provides a high-bandwidth interconnect between connecting switches. This allows near wire-speed connectivity between and hence **stacking is the preferred interconnecting solution**.

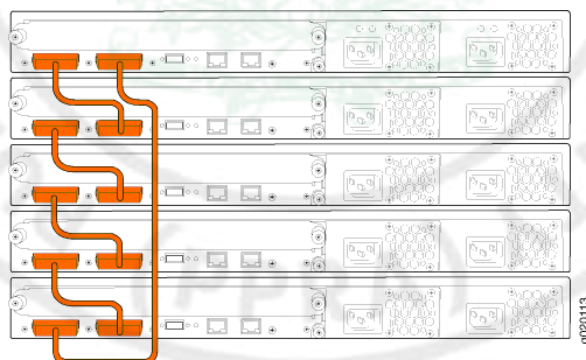


Figure 6. Single Rack - Ring Topology with short and one long cable

Properly cabled and configured stacks also provide enhanced resiliency and redundancy. If a switch in a stack goes down or is taken offline, the other switches in the stack will continue to operate without disruption. Stack cabling should follow vendor instructions and ensure operation continuity in case of failure.





Figure 7. Adjacent Racks - Ring Topology with long cables

Vendors use propriety stack cables with varying lengths. Common lengths are 0.5, 1 and 3 meters. Cable Lengths will depend upon placement of stack members. Smaller lengths will be used for switches in the same rack and longer for switches in adjacent racks.

VLAN Tagging (802.1q) with Link Aggregation (LACP/802.3ad/802.1ax)

Stacking is not applicable in all scenarios. For instance, stacking cannot be configured when multi-vendor switches are used in a rack. In such scenarios interconnect switches using Link Aggregation and VLAN tagging 802.1q.



Figure 8. Interconnectivity with ports configured in a LAG

With link aggregation (LAG) multiple ports can be configured in a 'bundle' and act as a single ethernet interface. Aggregating links act as a BW multiplier: when you aggregate two 1G links you get effective connection with 2G capacity.

Cabling for the LAG should be done in Ring Topology. STP will be configured on all LAG interfaces. This will ensure redundant and loop-free connectivity.

Switch interconnect with 802.1q Tagging without Link Aggregate (**Least Preferred**)

In low end switches Link Aggregation is not available. This leaves little option other than to interconnect the switches with simple connectivity using STP to ensure loop free topology.





Figure 9. Switch interconnect with VLAN Tagged interfaces - Ring Topology

Unlike the previous two interconnecting methods this setup cannot be used as BW multiplier. Any additional ports between the switches will get blocked by STP to prevent loops.

In this scenario the switches are interconnected in a ring topology. This offers redundant connectivity between the switches. If a switch or a port fails, the redundant port becomes active and starts forwarding traffic. **This is the least preferred method for interconnecting switches together and is not recommended.**





PART-III
SWITCHING DESIGN GUIDE



Introduction

The following design instructions are a guideline for the Contractor to build an enterprise grade Switching Network for the project. These are high-level design instructions. Final detailed design will be dictated by selected make/model/vendor of networking equipment.

Based on the below guidelines and vendor technologies the Contractor is required to submit a detailed Switching Network Design for review and approval.

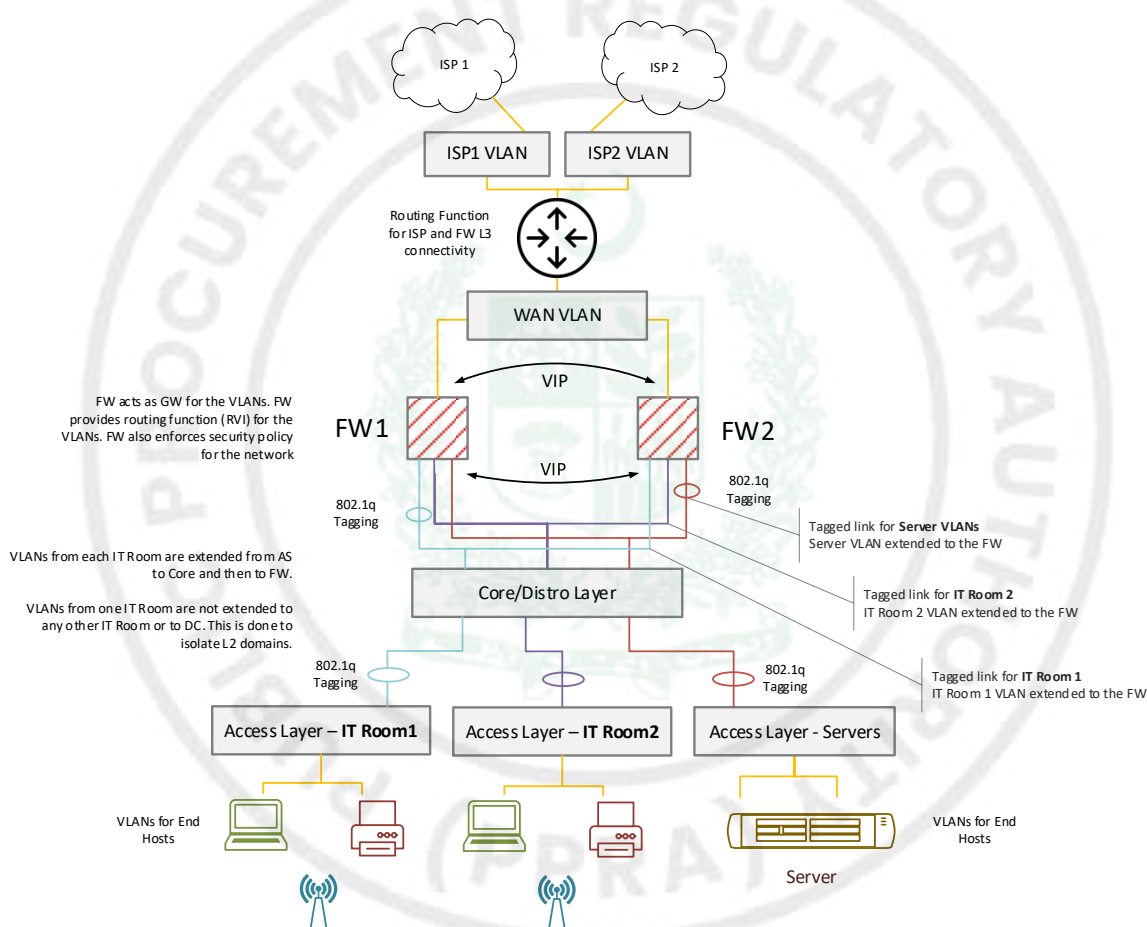


Figure 10. Switching Layer Logical Design

WAN to Firewall Switching Layer

Network layer between WAN links and Firewall is dependent heavily upon FW HA setup and topology supported by the ISP Vendor. Commonly ISP service handover is done over routed interfaces (Layer3), but there might be exceptions with L2 handover.



In most deployments Firewalls are configured in **Active/Passive** HA configuration. To make this work Firewalls need to present a floating MAC address and Virtual IP Address (VIP) to the WAN network. Floating MAC address dictates that a Layer2 switching layer is present between the WAN and FW devices.

In some HA configurations, floating MAC and VIP are NOT required. One example is when Firewalls are configured as **Active/Active**. In such instances the switching layer between WAN and FW might not be required.

The **Switching Layer Logical Design** diagram shows a distinct switching layer between the WAN and FW. Switching layer is provided by WAN, ISP1 and ISP2 VLANs. These VLANs can be created on WAN SW, Core SW or Firewall depending upon Contractor proposed design.

This switching layer makes the topology flexible and adaptable to all possible configurations for WAN and FW network connectivity.

Firewall to Core Switching Layer

In case Firewalls are configured in **Active/Passive** HA configuration, a floating MAC address and Virtual IP Address (VIP) will need to be presented to Core network. Floating MAC address dictates that a Layer2 switching layer is present between the Core and FW devices.

In some HA configurations floating MAC and VIP are NOT required, such as when Firewalls are configured as **Active/Active**. In such instances the switching layer between WAN and FW might not be required.

The **Switching Layer Logical Design** diagram shows switching layer between the FW and Core network. Switching layer is provided by Campus and Server VLANs. VLANs can be created on the Core SW or FW depending upon design requirements.

This switching layer makes the topology flexible and adaptable to all possible configurations Campus Core network.

Core to Access Layer

The design calls for a collapsed core/distro design, access layer connects directly to the core Switching layer.

VLANs configured for each IT Room will extend from AS switches all the way to Central FW. FW will enforce the security policy.

VLANs from IT rooms will NOT extend to other IT Rooms. This design decision has been made to keep Layer2 broadcast domains small and provide Layer2 isolation. In most circumstances Core SW will only forward VLAN traffic towards FW RVIs.



Rapid Per-VLAN Spanning Tree will be enabled for all VLANs. Core Switch will be configured as the Root for STP. Core switch will only host active VLANs. Any vlans not in use will be removed. All unused ports will be **shutdown** to protect against unauthorized use.

Access Layer and End User Devices

Access switch provides connectivity to End user Devices (desktops, laptops, printers, Aps etc.). Switch ports will be configured in their respective VLAN ports according to VLAN plan.

Rapid Per-VLAN Spanning Tree will be enabled for all VLANs. Access ports will be configured as edge-ports (port fast) for quick transition to forwarding state. Access ports will be configured with bpdu protection (edge blocking, bpdu guard) to protect against unauthorized switch connections and switching loops.

AS Switch will only host active VLANs. VLANs that are not in use will be removed from AS switches. All unused ports will be **shutdown** to protect against unauthorized use.

Spanning-Tree Design

Design calls for a Loop free physical Star Topology with all access switches connecting directly to Core. There is no direct physical connectivity between Access switches. VLAN traffic switches from Access layer to Core. None of the VLANs extend beyond Core Layer. Layer2 Domains for each IT room is isolated.

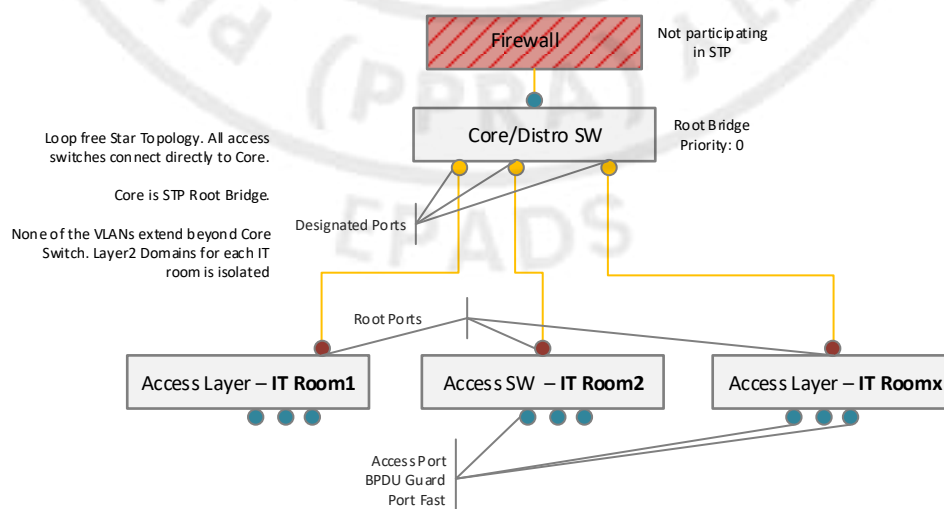


Figure 11. Spanning Tree Design



Generally Firewalls do not participate in STP domain. Most firewalls do not forward STP control packets. The design assumes FW is not part of STP domain and does not generate BPDUs.

STP Protocol Selection

The design calls for using Rapid Spanning tree operating per-VLAN in the Layer 2 domain. Rapid STP is sometimes called R-PVST. Most vendors support RSTP deployments on per VLAN basis.

RSTP provides a loop free and fast converging L2 networks. Enabling RSTP on individual VLAN gives flexibility and isolation to the network. Changes made to a single VLAN does not impact operations in rest of the VLANs.

STP Root

Design calls for 2 Core Switches deployed as a single virtual cluster/stack. Core Stack will appear as a single Layer2 device to the switching network. Core switch will be configured as STP root bridge. It is recommended that Root Bridge is configured with priority 0.

Device	Priority	Role
Core Switch Cluster or Stack	0	Root Bridge

Table 2. Root Bridge Priority

There can be scenarios where Core switches are not part of a stack or cluster and appear as independent nodes. In such circumstances Core Switches will be configured as Root and Secondary Root bridges.

Root Protection

Network will be configured to protect Core Switch as the Root bridge. Any unauthorized switch that attempts to take over as STP root will result in port blocking. Features like Root Guard or Root protection must be configured to protect the root bridge.

Loop Prevention



Network will be configured to prevent possible layer2 loops. Features like STP Loop Guard will be configured to prevent possible loops.

Unidirectional Link Detection and Loop Prevention

STP loops can be introduced in case a link develops a fault and becomes unidirectional. Vendor specific features to detect unidirectional links and prevent STP loops will be configured. Features like UDLD, DLDLP and 802.3ah based loop prevention mechanisms will be configured.

Access Ports and STP Edge Protection

Access ports will be configured as Edge Ports to allow for quick forwarding. Edge ports will be configured with protection to ensure only end-user devices are connected to the ports and no unauthorized switches become part of the L2 domain. This can be achieved with features like BPDU Guard etc. Such features will be configured to secure the edge of the network.

VLAN assignments

For VLAN Plan refer to Appendix A.

1. All unused VLANS have to be 'shutdown' and placed in the Dead VLAN
2. VLAN1 will be configured as the Untagged (Native) VLAN. All other VLANs are tagged. VLAN1 will carry Management traffic

Switching/Layer2 Services

Switch Networks use several protocols for management of different switching services. Key services are documented below.

VLAN Management

Design calls for **disabling** all VLAN management protocols on the switching network. VLAN management protocols reduce administration overhead in a switched network. When a new VLAN on one is created its information is distributed through all switches in the domain.

Different vendors have VLAN management implementations:

1. Juniper – Multiple VLAN Registration Protocol (MVRP)



2. Cisco – VLAN Trunking Protocol (VTP)
3. Huawei – VLAN Central Management Protocol (VCMP)
4. Multiple VLAN Registration Protocol (MVRP)
5. Generic VLAN Registration Protocol (GVRP)

While VLAN management protocols provide timesaving features, security issues outweigh the benefits. Contractor must ensure VLAN management protocols are disabled in a safe manner (VTP transparent mode etc.)

Discovery Protocols

Discovery protocols allow for quick neighbor discovery of switches. Using these protocols an engineer can build a topology of network.

Discovery Protocols are a known security risk and can be used by a malicious user for reconnaissance and network mapping. Keeping that in view Network Discovery protocols must be **disabled** once the network deployment is complete and before going into regular operations.

Different vendors implement network discovery using different protocols. Some of these are propriety.

Protocol	Propriety	Action
Cisco Discovery Protocol (CDP)	Propriety protocol implemented by Cisco	Disable once Operations start
Link Layer Discovery Protocol (LLDP)	Open Standard (802.1ab) This protocol has been implemented by all	Disable once Operations start
Industry Standard Discovery Protocol (ISDP)	Propriety. Used for interop with Cisco CDP	Disable once Operations start

Table 3. Disable Discovery Protocols

Discovery Protocols provide vital information about infrastructure around them that can assist during deployment and troubleshooting. For example, CDP reports on duplex mismatch, power draw for PoE, VTP domain, native VLAN etc. Such information is very useful during deployment phase of the Network. In view of that Network Discovery Protocol



be enabled during Network Deployment. However once operations start these protocols must be disabled.

Dynamic Link Negotiation

Vendors use propriety protocols to manage 802.1q trunk setup. Cisco uses DTP (Dynamic Trunking Protocol) and Huawei uses LNP. These protocols can reduce administration overheads. However, these are considered security risk and not recommended.

Design calls for **disabling** DTP/LNP etc. on the switching network

Port Configurations

Following guidelines should be followed to configure switch ports:

1. All unused ports must be disabled and shutdown. Unused ports will be member of 'Dead VLAN'
2. IP/L3 MTU configured for 1500 bytes
3. Auto Full Duplex
4. Auto Speed 1G/10G
5. Auto MDIX
6. Enable Storm Control to prevent interface from forwarding bulk BUM (broadcast, unknown, multicast) traffic over the interface
7. Set ARP inspection limit rate to 100 packets per second
8. Enable STP Port Fast on edge ports
9. Enable BPDU Guard on edge ports
10. Enable DHCP Snooping on ports that must not host a DHCP server
11. Set DHCP Snooping limit rate to 100 packets per second
12. DHCP Snooping must be enabled on all Access and Core switches that are part of the Network

Core Switches – Technical specifications

Refer to Technical Specifications section of the Tender document for detailed Core Switch specifications.



Core Switch Capacity Projection

Below table lists the throughput capacity for Core Switch. This is the traffic network core is expected to 'see' and switch. Calculation is based on 20:1 oversubscription ratio for enterprise networks.

Device	Total Project Port Count (gig ports)	Throughput Requirement (Campus to Core 20:1 Oversubscription Ratio)
Core Switch	1200	160 Gbps (full duplex)

Table 4. Core Traffic Projection

Core switch HA Setup

Network core is a critical area of the Network. It acts as the main aggregation and distribution point for ICT services. Core must be redundant and resilient with no single points for failure.

13. Redundant Core Switches
14. Core Switches will be configured as a Stack or Cluster based on vendor technology. VLAN Tagging (802.1q/tagging) based Core HA connectivity is not acceptable
15. Core Switches will use same Make/Model to ensure stacking/clustering
16. Link Aggregates (LAG) will be used to ensure redundancy of up-links and downlinks

Contractor is required to provide all modules, cables, licenses etc for setting up Core Switches in a Stack or a virtual cluster.

Core switch Racking, Cabling and Labeling

At least two Core switch in HA config will be deployed in main Server Room or DC. It is advised that Core switches are mounted in adjacent racks. This follows industry best practices for rack diversity. HA or Stacking cables will preferably use Inter-Rack patch panels. Propriety HA or Stacking cables can be run between racks preferably using installed cable trays.



Contractor to ensure that HA/Stacking/HeartBeat cables are long enough to allow for Core Switch installation in adjacent racks.

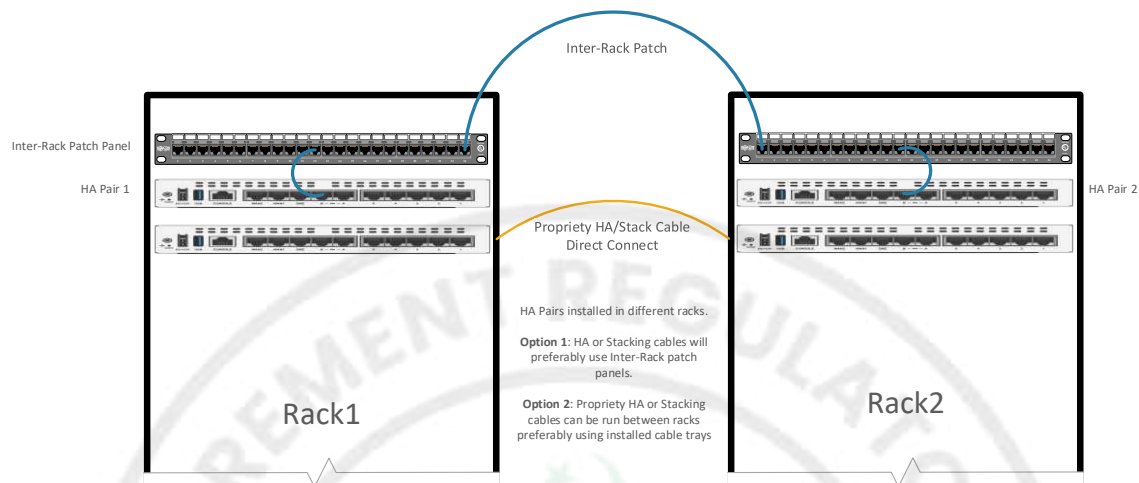


Table 5. Core Racking and Cabling

Access Switches – Technical specifications

Refer to Technical Specifications section of the Tender document for detailed Access Switch Technical specifications.

Access switch HA Setup

Access switches provide connectivity between end users and network core. A single stack of Access Switches can provide connectivity for many hundreds of end users. Access switch deployment must have High Availability features to ensure impacts of failures is limited.

Depending upon vendor technology Multiple switches will be connected in a Stack or Cluster configuration. This ensure that the switch stack stays operational even when one switch or port fails.

Another key HA design feature is redundant Uplink ports or vertical connectivity. Vertical connectivity options are discussed in detail in the section 'Interconnecting IT Rooms -



Vertical Connections'. Uplink ports from access switch stack will use two links configured in Link Aggregate (LAG).

1. Access Switches will be configured as a Stack or Cluster based on vendor technology. VLAN Tagging (802.1q/tagging) based Core HA connectivity is not acceptable
2. Access Switches will use same Make/Model to ensure stacking/clustering
3. Link Aggregates (LAG) will be used to ensure redundancy of up-links and downlinks

Contractor is required to provide all modules, cables, licenses etc for setting up Access Switches in a Stack or a virtual cluster.

Access switch Racking, Cabling and Labeling

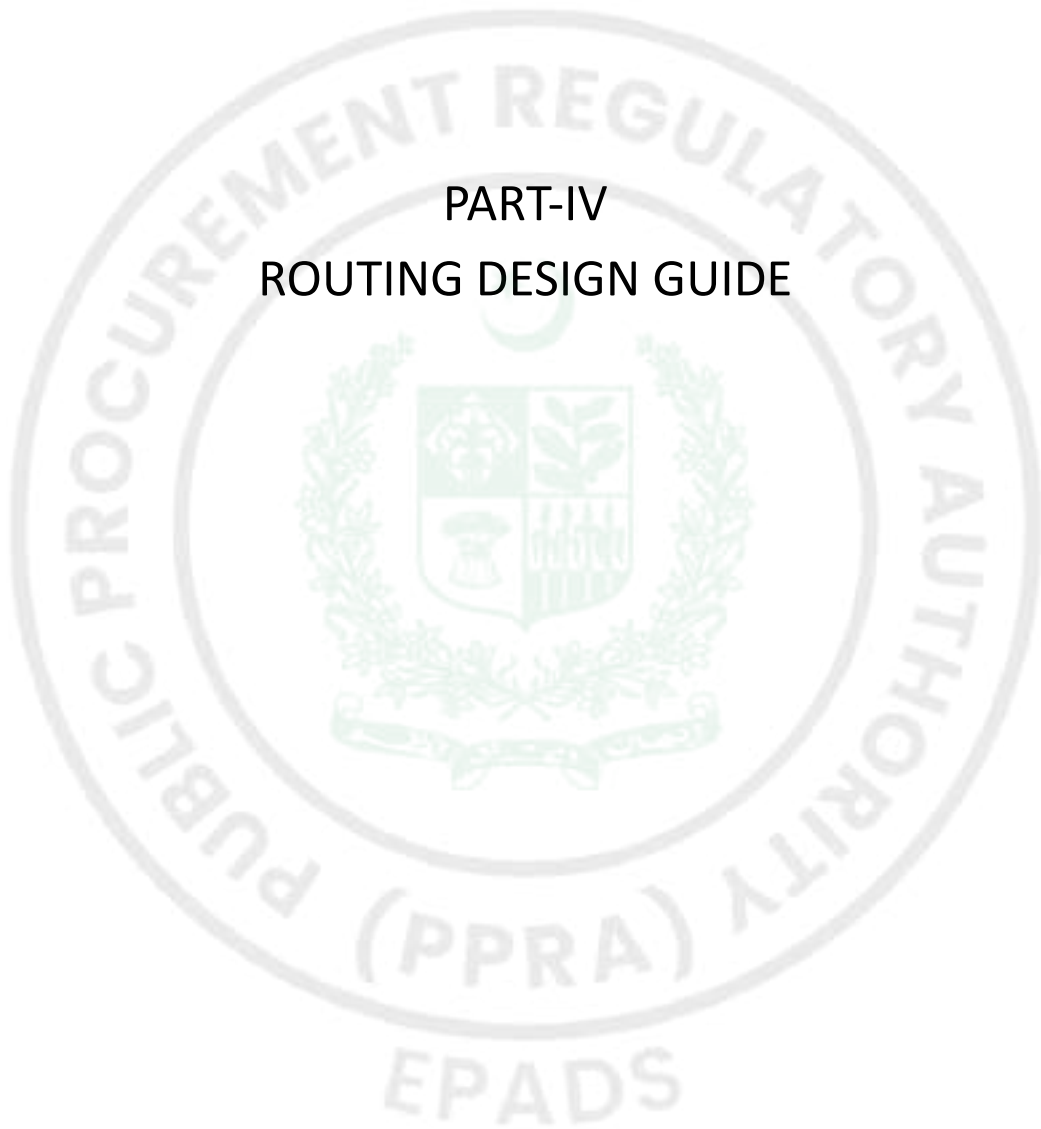
In rooms with multiple racks Access switches stack will be split in Adjacent Racks. Splitting the stack in multiple racks provide physical diversity which is a desirable design outcome.

HA or Stacking cables will preferably use Inter-Rack patch panels. Propriety HA or Stacking cables can be run between racks preferably using installed cable trays.

Contractor to ensure that HA/Stacking cables are long enough to allow for access Switch installation in adjacent racks.



PART-IV ROUTING DESIGN GUIDE



Introduction

Routing follows a standard Enterprise Network design. VLANs are extended from AS to Core and then to FW layer. FW provides the Virtual IPs (SVI/RVI) from the VLANs. VLANs use the FW virtual IPs as default GWs.

FW provides routing as well as security policy enforcement between End user devices, Servers in DC and traffic to/from the Internet.

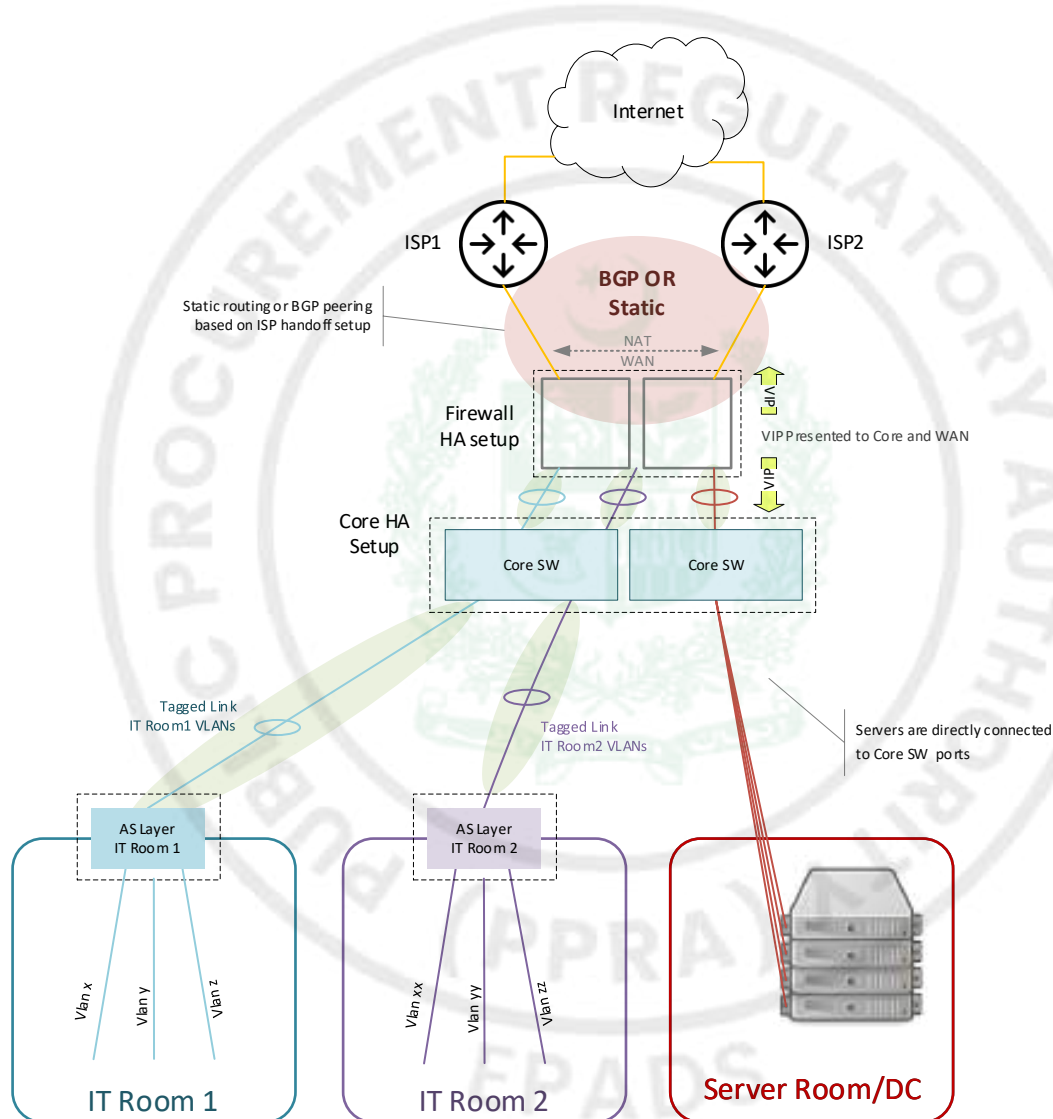


Figure 12. Logical Layer 3 Layout

Core and Access Layer

Design uses a collapsed Core/Distro layer. As discussed in the switching design section in details, VLANs from IT Rooms are extended from Access layer all the way to the FW. FW provides Layer2 aggregation point as well as Routing Function for the VLANs.



FW is configured in HA mode. FW is configured with Routed Virtual Interface (RVI / SVI) for the VLANs. These RVIs are presented to the VLANs as Virtual/Floating IPs.

VLANs are not extended beyond the FW routing layer. This provides isolation for the layer 2 broadcast domain. Small L2 domains are required to limit scope of faults.

FW, WAN (ISP) and CORE – BGP / Static / OSPF

Design calls for two separate ISP feeds for Internet connectivity. Commonly ISP connects with FW using Layer3 links.

Routing information exchange between ISP and FW will depend upon ISP supported protocols and topology. Static routes can be used. If required, BGP peering between FW and ISP device can also be used. In case of BGP only a single default route will be received from ISP network.

In case FWs are configured in Active/Passive then Floating/Virtual MAC and IP of FW will be presented to the ISP. Routing policy will be used to make forwarding decisions.

In case FWs are configured as Active/Active then both FWs will receive default route from the ISP. Port costs and path selection configuration will be used for packet forwarding decisions.

FW WAN links will be configured with Link Monitoring and Health Checks to identify up/down status. If a link is detected as down, any traffic to/from that link will be routed to the redundant link. This provides highly available Internet connectivity for client network.

FW NATs all Ingress and Egress traffic at the WAN port.

FW will advertise a default route towards Core Switch. FW and Core SW can run OSPF or Static routes for route exchange.

Client Public IP address Advertisements

FW will advertise client's Public IP range to the ISP. ISP will deploy policy to ensure Client Public addresses are not advertised to the Internet in case of link failure. ISP will ensure Primary link is preferred for receiving client's Public IP range.

FW will NAT client's public IP ingress traffic at the WAN interface.

High Throughput Traffic

Most VLAN traffic traverses the central FW. FW acts as the choke point for high throughput traffic. High Throughput application cannot be effectively serviced through the FW.



The design provides conditional flexibility for applications with high throughput requirements. Traffic flows originating from internal secure sources and destined for internal network can be configured to traverse the Core switch and bypass the FW policy checks.

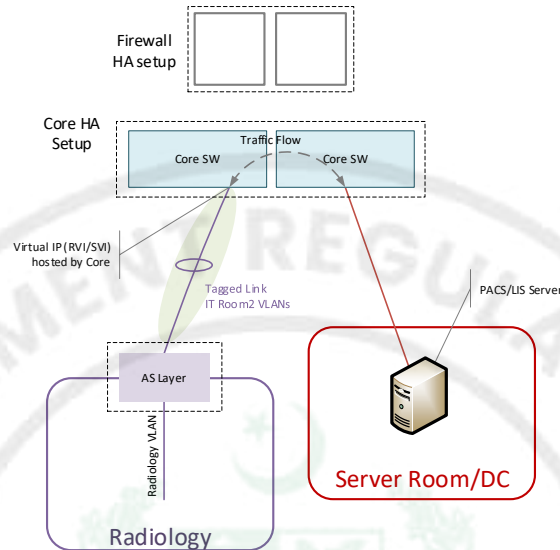


Figure 13. Traffic Flow for High Volume Traffic

For High Throughput traffic the Core switch will host the Virtual IP for the VLANs (RVI / SVI). Traffic will switch to the Core RVI/SVI and route to the destination. Traffic will not be forwarded to the Firewall.

TCP/IP Features

Following Layer3 features and services need to be incorporated in the design:

1. IPv4 Addressing

IP addressing will use Private subnets as allocated by IANA (RFC1918).

Refer to Appendix A for IP Subnet assignment plan. A complete IP addressing scheme for the project will be submitted as part of detailed design by the Contractor based on reference IP plan.

2. IPv6 Capability



All HW and OSES deployed by Contractor will be IPv6 capable. This will ensure that in future when IPv6 roll out is done none of the HW and OS components will change.

3. Path MTU Discovery (RFC1191) must be ensured

IP Hosts perform Path MTU discovery to work out MTU for IP path. All networking devices (switches, routes, FW) will be configured to ensure hosts can perform successful path MTU discovery as per standard.

IPv4 Plan

Refer to Appendix A for IP Subnet assignment.

PART-VI

Security Design Guide



Introduction

Network security is a key consideration for any network. ICT assets need protection from unauthorized access. Sensitive and private data needs to be protected against unauthorized access, exposure and loss.

This section covers high level security policy and design parameters for the project. Contractor is required to ensure the in-scope solution is deployed to meet these parameters.

Physical security policy

Contractor to ensure that deployed solution meets Physical security policy as much as possible. Any security issues must be noted down and communicated to site RE.

1. Control physical access to IT and server Rooms

Physical areas where IT infrastructure is deployed must be secured against unauthorized access. Contractor to verify that IT rooms and Server rooms are secured with locks. Keys to these areas should be accessible to only authorized personnel. During deployment activities, IT rooms must not be left unattended for long durations.

Any security issues must be noted and communicated to site RE.

2. Restricted access to physical cables and cable plant

Physical access to copper and fibre cable plant must be limited. Backbone cables should be protected against tampering and damage. Contractor to verify that critical cable runs are not open to unauthorized access.

Any security issues must be noted and communicated to site RE.

3. Other Physical Risk

Any physical risk to IT network must be noted down and reported to site RE. This could include risk due to water leakages/storage, high power electrical cables and EMI issues, damage to physical walls and structure, fire hazard etc.

Any physical risks identified must be noted and communicated to site RE.

Identity, access and authorization policy



A key security area that needs consideration is correct identification of authorized personnel and proper access policy. Access to assets must be limited to authorized staff only.

1. Strong Passwords

Its industry common practice to protect assets using Passwords. Contractor must ensure that strong passwords are used wherever applicable.

Password policy shall be applied to all information systems including workstations, laptops, servers and applications.

2. User Account/Password

Access to all information systems on the network (servers, devices, workstations, laptops) shall be restricted by a unique username and password for every user. Password sharing must be avoided wherever possible.

3. Need to know basis

Users will be granted access on a need-to-know basis. It will be ensured a user can only access assets and areas that he/she needs to work on.

4. All computers, devices and servers residing on the network must be registered in an official directory (Active Directory, LDAP etc)

Network SECURITY POLICY

1. All inter-domain traffic will be inspected
2. Access to resources limited to 'Need to Know' basis
3. All computers, devices and servers residing on the network must be registered in an official directory (Active Directory, LDAP etc)
4. Secure channels, VPN, shall be used for remote connectivity



5. Select stable OS version from vendor website with no critical bugs
6. Access to all information systems on the network (servers, devices, workstations, laptops shall be restricted by a unique username and password for every user.
7. Change all the default passwords of devices
8. Enable the password on console port, by following the secure password policy
9. Enable secure SSH on network devices. Disable telnet where possible
10. All unused services on the switches or routers must be disabled and turned off
11. Network Discovery Protocols such as CDP/LLDP/ISDP can be enabled during network deployment. However, in production network these protocols must be disabled.
12. Enable DHCP Snooping in the network to stop unauthorized DHCP servers on the network

Security Traffic Classes

Network traffic can be classified based on its security needs. Different traffic classes will be treated differently in terms of security management.

1. External

Uncontrolled traffic that is considered insecure including traffic originating on the public internet or other in-secure remote networks.
2. Internal Secure

Internal traffic originating in secure areas of the network.
3. Internal Insecure

Internal traffic originating in insecure areas of the network. Traffic originating on the Guest SSID is one example.
4. Remote VPN



Remote user and site VPN traffic. This traffic is uncontrolled traffic and considered less secure.

5. Control and Management

Management traffic for the network. This traffic originates in secure management vlans accessible to site administrators.

Security User Classes

Users can be grouped into different classes based on their use-cases security needs.

6. VIP Users
7. Doctors
8. ICT administration/management
9. Staff/Users
10. Guests

Security Domains

Network can be divided into following security domains. Security domains can be defined in the FW and other security apparatus for policy definition.

Domain	Security Rating	Traffic Class	Comments
WAN	Insecure	External	Public Internet. No control on traffic
DC/Server Room	Highly Secure	Internal Secure	Highly secure Environment hosting critical services
Campus LAN	Less Secure	Internal Insecure	User network with partial control over traffic
Remote VPN	Less Secure	Remote VPN	Remote users with partial control over traffic
Radiology	Secure	Internal Secure	Secure environment with access to limited trained users



Management

Secure

Control and
Management

Management traffic. Secure
and controlled by site admin

Security Domains and Cross-Domain Traffic

Cross domain traffic permissions between different security domains is listed below. Contractor to ensure Firewall is configured to ensure following policy is enforced. There can be exceptions to the below strategy. Prior approval from site RE will be required before changes can be made.

Cross-Domain Security Policy					
from	to				
from:WAN	-	Deny	Deny	Deny	Deny
from:Server Room	Allow	-	Allow	Allow	Allow
from:Campus LAN	Allow	Allow	-	Allow	Allow
from:Remote VPN	Allow	Allow	Allow	-	Allow
from:Radiology	Allow	Allow	Allow	Allow	-

* Allowed Traffic is policy driven

Security Consideration for High Throughput by-pass Traffic

Most VLAN traffic traverses the central FW with limited throughput capacity. So FWs acts as the choke point for high throughput traffic. Such traffic uses a FW By-Pass and gets forwarded directly by the Core Switch.



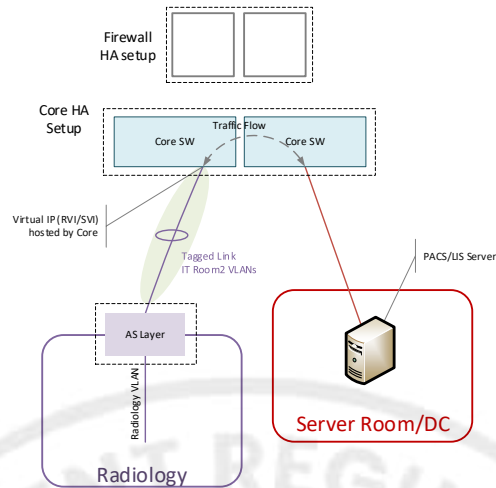


Figure 14. High Throughput Bypass traffic

Following security considerations need to be met before a service can be considered for FW by-pass:

1. Traffic will originate from Secure or Highly Secure domains.

Traffic originating from Insecure or Less Secure domains will NOT qualify for FW By-pass

2. Traffic destination will be Secure or Highly Secure domains.

Traffic destined for Insecure or Less Secure domains will NOT qualify for FW By-pass

3. Core SW will be configured to enforce basis L4 access list.

Policy will be enforced to ensure traffic source and destination are authorized.





PART-VII
Firewall Design



introduction

Design calls for a Next Gen Firewall with advanced security features. Deep packet inspection, application awareness, IPD/IDS features, and Malware protection are essential tools needed to effectively protect the environment.

Firewall Specifications

Refer to Technical Specifications section of the Tender document for detailed Firewall Technical specifications.

Firewall – High Availability

Firewall (FW) is a critical element of the Network. FW is the point where security policy for the network is enforced. This critical infrastructure must be redundant and resilient with no single point for failure.

1. Solution calls for redundant Firewalls. Redundancy is required to ensure High Availability of network security services
2. Redundant Firewalls will use same Make/Model to ensure interoperability and configurability
3. Redundant Firewalls will be configured in Active/Active or Active/Passive mode as per Vendor Defined configuration and Topology
4. Links to and from the FW will use Redundant links or Link Aggregation (LAG) to ensure high availability
5. Firewall Capacity and Throughput will be calculated to ensure that each member of the HA setup can process full network load

Active/Passive HA Design

In most deployments Firewalls are configured in **Active/Passive** HA configuration. One FW will act as the primary and other as secondary. System config, FW policy and port configurations are shared between the Active/Passive HA pair. Only the primary FW forwards traffic.



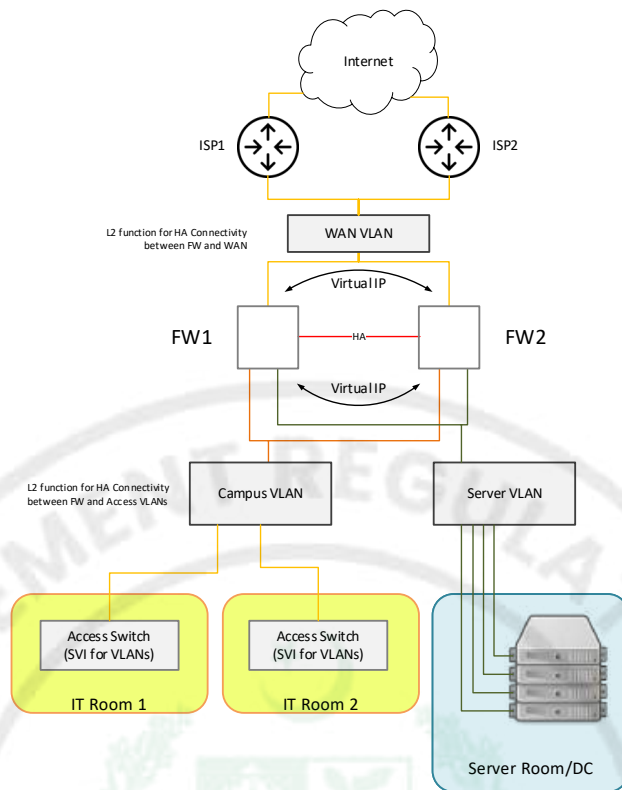


Figure 15. Logical Topology – Active/Passive Firewall setup

Active/Passive Firewalls need to present a floating MAC address and Virtual IP Address (VIP) to the network. This requires a Layer2 vlan between the FW and network for connectivity. The diagram shows a distinct switching layer between the WAN and FW. In this scenario switching layer is provided by a VLAN. These VLANs can be created on standalone switches, Core SW or Firewall depending upon design choice.

This switching layer makes the topology flexible and adaptable to all possible configurations for WAN and FW network.

Active/Active HA Design

Firewalls can be configured in Active/Active HA mode as well. In this case both FWs act as standalone units. Both FWs are capable of forwarding traffic. Unlike in Active/Passive mode, FWs have independent configurations and FW policy. There are some management overheads in this scenario where policy and config have to be manually maintained on both FWs. But this setup provides design flexibility. In Active/Active configuration Floating MAC and VIP are NOT required. As a result switching layer between FW and WAN/Core is not necessary.



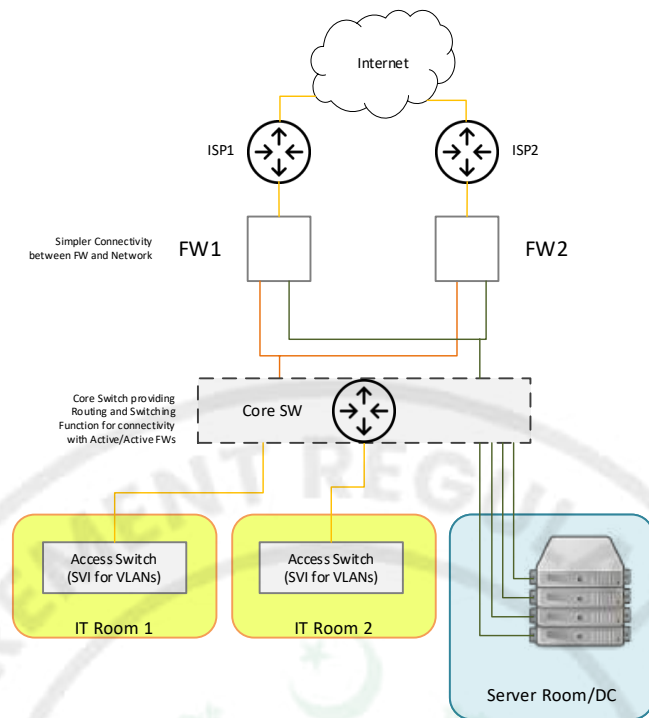


Figure 16. Logical Topology - Active/Active Firewall setup

Firewall Racking, Cabling and Labeling

Two Firewalls will be deployed in main Server Room or DC in HA config. It is advised that Firewalls are mounted in different racks. This follows industry best practices for rack diversity. HA cables will preferably use Inter-Rack patch panels. Propriety HA or Stacking cables can be run between racks preferably using installed cable trays.

Contractor to ensure that HA/Stacking/Heartbeat cables are long enough to allow for installation of Firewall pairs in adjacent racks.

Firewall Throughput Requirements

Firewall is the central point for security policy enforcement. All IP hosts including end users and IP based devices consume resource on the FW. Firewall has to be properly sized to ensure enough capacity is available to service traffic passing through the FW.

Firewall sizing and throughput estimates are made by first identifying all sources IP traffic in the network including WAN traffic and Services running the DC/Server Room. Based on required network throughput for each service total FW capacity can be estimated.

Following table shows FW Throughput requirements for two different types of policy requirements:

1. Layer 4 (Data Link) checks:



Data Link or Layer4 checks provide sufficient protection for clean traffic that flows within the Enterprise Network.

2. Threat Prevention checks:

Deep packet checks (Layer7), IPS/IDS inspection and Antivirus protection is required for 'dirty' traffic. Traffic that originates from public internet needs to be inspected deeply for threats.

L4 Checks (Mbps)	L7 + IPS + Malware Checks (Mbps)
3857	323

Table 6. FW Throughput Requirements

Layer4 Checks are less process intensive. Firewalls can provide higher throughput for L4 checks. However deep packet inspection with IPS/IDS and Malware checks require intensive processing and memory resulting in less throughput available for this type of inspection. Firewall sizing and capacity planning takes throughput requirement for different threat levels into account. Above table shows Layer4 and Deep Packet throughput requirements for the Firewall.

Firewall Port Count

Design calls for connecting each IT room to a separate physical Port on the Firewall. VLANs from that IT room are tagged and extended to the FW interface.

6. More than one port can be used for an IT Room if a single port does not offer enough throughput. In cases multiple ports are used they should be configured in a LAG
7. For smaller projects a single port can be used to carry traffic for multiple IT rooms as long as throughput requirements are met.



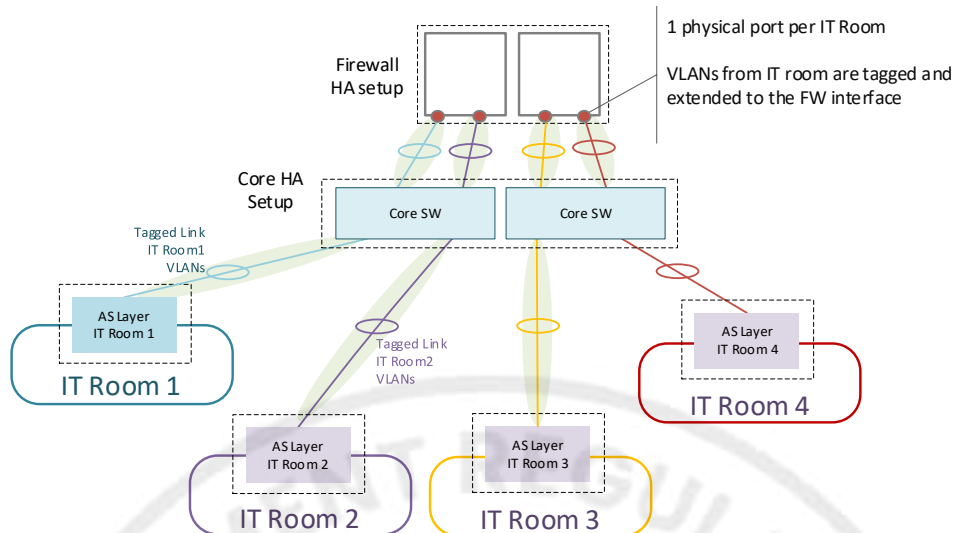


Figure 17. Firewall - VLANs and Port connectivity

Following table shows port count required by the FW for the project.

Firewall – Port Count per HA pair	
1G Eth Ports (SFP based or built-in)	
WAN	2
Campus LAN	09 (IT rooms + allied)
Server	4 (Server VLANs using 2 ports in a LAG)
Total FW Ports	17





PART-ix
Network Management Services



Introduction

Contractor is required to install, configure and bring into operation essential Management services required to operate the network.

Network Contractor will be responsible for selecting appropriate Open Source or commercially available software and deploy it on existing HW.

Management VLAN

Network Infrastructure will be configured in VLAN1. Given the sensitivity of management network only IT team and administrators will be granted access to VLAN1.

All Management IPs will be statically assigned. Dynamic Assignment is not recommended.

SNMP

SNMP is a client-server industry standard Network Management protocol. SNMP Manager is the central monitoring server. SNMP agents are installed on network devices. Manager can poll the Agents to gather performance stats. Stats can be stored to produce historical trends and analysis.

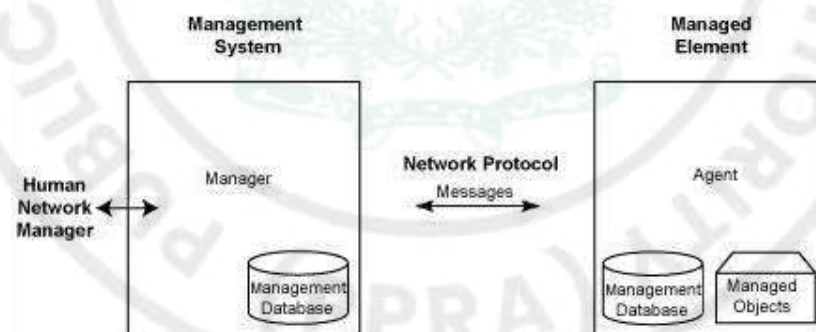


Figure 18. SNMP - Client Server model

SNMP has a number of versions including v1, v2, v2c, and v3. SNMPv1, v2 and v2c offer limited security features. Messages are exchanged in clear text and security is provided by a community string which is not encrypted. SNMPv3 has a robust security architecture. SNMP must be implemented in the network. All SNMP capable network devices must use properly configured SNMP.



Version	Recommendation	Features
SNMPv1	Must not be used	Insecure with clear-text and community based string Limited function with only 32-bit counters
SNMPv2c	Can be used with conditions	Insecure with clear-text password. SNMPv2c can be implemented only if enterprise-wide FW policy is enforced to allow snmp traffic to flow between authorized agents and managers.
SNMPv3	Preferred	SNMPv3 is the preferred version for deployment of SNMP. SNMPv3 must be implemented with authpriv security model

Design calls for use of **SNMPv3** due to its security features. **SNMPv2c** can be used if FW policy limiting SNMP exchange between authorized clients/servers is in place.

DHCP scope

DHCP server will be configured in the Server Room. DHCP relay (Helper Address) will be configured where necessary to forward DHCP request from VLANs to DHCP server.

Example DHCP scope and exclusion for a few sample subnets is below.

Subnet	GW IP	DHCP Scope (Address Pool)	Exclusions (Static Assignments)	Duration
10.xx.0.0/16	10.xx.0.1	10.xx.0.101 – 10.xx.255.254	10.xx.0.1 – 10.xx.0.100	8 hrs
10.10.0.0/16	10.10.0.1	10.10.0.101 – 10.10.255.254	10.10.0.1 – 10.10.0.100	8 hrs



10.11.0.0/16	10.11.0.1	10.11.0.101 – 10.11.255.254	10.11.0.1 – 10.11.0.100	8 hrs
--------------	-----------	--------------------------------	----------------------------	-------

Scope can be modified to accommodate VLAN requirements where necessary.

DNS

DNS server will be configured on the AD server. Relevant host entries for all ICT infrastructure will be added to the DNS server

NTP

AD server will be configured as the NTP server. All ICT devices will point to this NTP server as time source

NMS

Contractor NMS will be configured to monitor key parameters of the ICT infrastructure. Following Parameters must be included in the monitoring scope:

Metric Presentation

CPU Load GUI based

Showing Current CPU load of the host

Recording historical CPU load trend as a graph

Uptime GUI based

Showing availability of the host (up/down monitoring)

Recording historical UP/Down information for the host



Memory GUI based

Showing Current Memory usage of the host

Recording historical Memory usage trend as a graph

Port GUI based

Usage

Showing Current Port usage of the host

Recording historical Port usage as a graph (BW graph)

Storage GUI based

Showing Current Storage usage of the host

Recording historical Storage usage as a graph

Latency GUI based

Showing Current Latency for a host (latency to various destinations eg internet, Remote office, server in the DC etc)

Recording historical Latency as a graph

Packet GUI based

Loss

Showing Current Packet loss for a host (loss to various destinations eg internet, Remote office, server in the DC etc)

Recording historical Packet loss as a graph



Appendix A – VLAN and IP Allocation Plan

The following VLAN and IP plan uses patterns in IP subnet allocations. Patterns are repeated over VLANs and IT Rooms. Patterns ensures readily recognizable subnets for VLANs and IT rooms across the project. Patterns make troubleshooting and operations easier for human administrators.

	VLAN ID	IPv4 Subnet Assignment	Name	Description
Management Network	1	10.1.0.0/16	Management	Management VLAN for Routers, Switches, FW, PABX and any other IP based system
Main Server Room	02-May	10.255.0.0/16	Server VLAN x	VLANs for use in Server/Storage setup
	06-Sep	-	Unallocated	-
IT Room x (Address Pattern)	x0	10.x0.0.0/16	User	User VLAN - Wired Desktop, Laptop PCs
	x1	10.x1.0.0/16	Wireless Users	Wireless devices including Desktops, Laptops, Handheld devices
	x2	10.x2.0.0/16	SOE	Service Over Ethernet (IP based devices): Printers, scanners, labelling devices etc
	x3	10.x3.0.0/16	CCTV Security	CCTV Security Cameras
	x4	10.x4.0.0/16	Voice	IP Phones
	x5	10.x5.0.0/16	ELV Systems	Building systems including FirePanel, HVAC, ACS, Queue Management etc
	x6	10.x6.0.0/16	Public Address	IP based PA system
	x8	10.x8.0.0/16	Unallocated	Available for any service not already defined for the IT Room
	x9	10.x9.0.0/16	Unallocated	Available for any service not already defined for the IT Room
IT Room 1	10	10.10.0.0/16	User	User VLAN - Wired Desktop, Laptop PCs
	11	10.11.0.0/16	Wireless Users	Wireless devices including Desktops, Laptops, Handheld devices
	12	10.12.0.0/16	SOE	Service Over Ethernet (IP based devices): Printers, scanners, labeling devices etc.
	13	10.13.0.0/16	CCTV Security	CCTV Security Cameras
	14	10.14.0.0/16	Voice	IP Phones
	15	10.15.0.0/16	ELV Systems	Building systems including FirePanel, HVAC, ACS, Queue Management etc.
	16	10.16.0.0/16	Public Address	IP based PA system
	18	10.18.0.0/16	Unallocated	Available for any service not already defined for the IT Room
	19	10.19.0.0/16	Unallocated	Available for any service not already defined for the IT Room
IT Room 2	20	10.20.0.0/16	User	User VLAN - Wired Desktop, Laptop PCs
	21	10.21.0.0/16	Wireless Users	Wireless devices including Desktops, Laptops, Handheld devices
	22	10.22.0.0/16	SOE	Service Over Ethernet (IP based devices): Printers, scanners, labeling devices etc.
	23	10.23.0.0/16	CCTV Security	CCTV Security Cameras
	24	10.24.0.0/16	Voice	IP Phones
	25	10.25.0.0/16	ELV Systems	Building systems including FirePanel, HVAC, ACS, Queue Management etc
	26	10.26.0.0/16	Public Address	IP based PA system
	28	10.28.0.0/16	Unallocated	Available for any service not already defined for the IT Room
	29	10.29.0.0/16	Unallocated	Available for any service not already defined for the IT Room
IT Room 3	30	10.30.0.0/16	User	User VLAN - Wired Desktop, Laptop PCs

	31	10.31.0.0/16	Wireless Users	Wireless devices including Desktops, Laptops, Handheld devices
	32	10.32.0.0/16	SOE	Service Over Ethernet (IP based devices): Printers, scanners, labelling devices etc
	33	10.33.0.0/16	CCTV Security	CCTV Security Cameras
	34	10.34.0.0/16	Voice	IP Phones
	35	10.35.0.0/16	ELV Systems	Building systems including FirePanel, HVAC, ACS, Queue Management etc
	36	10.36.0.0/16	Public Address	IP based PA system
	38	10.38.0.0/16	Unallocated	Available for any service not already defined for the IT Room
	39	10.39.0.0/16	Unallocated	Available for any service not already defined for the IT Room
IT Room 4	40	10.40.0.0/16	User	User VLAN - Wired Desktop, Laptop PCs
	41	10.41.0.0/16	Wireless Users	Wireless devices including Desktops, Laptops, Handheld devices
	42	10.42.0.0/16	SOE	Service Over Ethernet (IP based devices): Printers, scanners, labeling devices etc.
	43	10.43.0.0/16	CCTV Security	CCTV Security Cameras
	44	10.44.0.0/16	Voice	IP Phones
	45	10.45.0.0/16	ELV Systems	Building systems including FirePanel, HVAC, ACS, Queue Management etc.
	46	10.46.0.0/16	Public Address	IP based PA system
	48	10.48.0.0/16	Unallocated	Available for any service not already defined for the IT Room
IT Room 5	49	10.49.0.0/16	Unallocated	Available for any service not already defined for the IT Room
	50	10.50.0.0/16	User	User VLAN - Wired Desktop, Laptop PCs
	51	10.51.0.0/16	Wireless Users	Wireless devices including Desktops, Laptops, Handheld devices
	52	10.52.0.0/16	SOE	Service Over Ethernet (IP based devices): Printers, scanners, labelling devices etc
	53	10.53.0.0/16	CCTV Security	CCTV Security Cameras
	54	10.54.0.0/16	Voice	IP Phones
	55	10.55.0.0/16	ELV Systems	Building systems including FirePanel, HVAC, ACS, Queue Management etc
	56	10.56.0.0/16	Public Address	IP based PA system
IT Room 6	58	10.58.0.0/16	Unallocated	Available for any service not already defined for the IT Room
	59	10.59.0.0/16	Unallocated	Available for any service not already defined for the IT Room
	60	10.60.0.0/16	User	User VLAN - Wired Desktop, Laptop PCs
	61	10.61.0.0/16	Wireless Users	Wireless devices including Desktops, Laptops, Handheld devices
	62	10.62.0.0/16	SOE	Service Over Ethernet (IP based devices): Printers, scanners, labelling devices etc
	63	10.63.0.0/16	CCTV Security	CCTV Security Cameras
	64	10.64.0.0/16	Voice	IP Phones
	65	10.65.0.0/16	ELV Systems	Building systems including FirePanel, HVAC, ACS, Queue Management etc
IT Room 7	66	10.66.0.0/16	Public Address	IP based PA system
	68	10.68.0.0/16	Unallocated	Available for any service not already defined for the IT Room
	69	10.69.0.0/16	Unallocated	Available for any service not already defined for the IT Room
	70	10.70.0.0/16	User	User VLAN - Wired Desktop, Laptop PCs
	71	10.71.0.0/16	Wireless Users	Wireless devices including Desktops, Laptops, Handheld devices



	72	10.72.0.0/16	SOE	Service Over Ethernet (IP based devices): Printers, scanners, labelling devices etc
	73	10.73.0.0/16	CCTV Security	CCTV Security Cameras
	74	10.74.0.0/16	Voice	IP Phones
	75	10.75.0.0/16	ELV Systems	Building systems including FirePanel, HVAC, ACS, Queue Management etc
	76	10.76.0.0/16	Public Address	IP based PA system
	77	10.77.0.0/16	Unallocated	Available for any service not already defined for the IT Room
	78	10.78.0.0/16	Unallocated	Available for any service not already defined for the IT Room
IT Room 8	80	10.80.0.0/16	User	User VLAN - Wired Desktop, Laptop PCs
	81	10.81.0.0/16	Wireless Users	Wireless devices including Desktops, Laptops, Handheld devices
	82	10.82.0.0/16	SOE	Service Over Ethernet (IP based devices): Printers, scanners, labelling devices etc
	83	10.83.0.0/16	CCTV Security	CCTV Security Cameras
	84	10.84.0.0/16	Voice	IP Phones
	85	10.85.0.0/16	ELV Systems	Building systems including FirePanel, HVAC, ACS, Queue Management etc
	86	10.86.0.0/16	Public Address	IP based PA system
	87	10.87.0.0/16	Unallocated	Available for any service not already defined for the IT Room
	88	10.88.0.0/16	Unallocated	Available for any service not already defined for the IT Room
IT Room 9	90	10.90.0.0/16	User	User VLAN - Wired Desktop, Laptop PCs
	91	10.91.0.0/16	Wireless Users	Wireless devices including Desktops, Laptops, Handheld devices
	92	10.92.0.0/16	SOE	Service Over Ethernet (IP based devices): Printers, scanners, labelling devices etc
	93	10.93.0.0/16	CCTV Security	CCTV Security Cameras
	94	10.94.0.0/16	Voice	IP Phones
	95	10.95.0.0/16	ELV Systems	Building systems including FirePanel, HVAC, ACS, Queue Management etc
	96	10.96.0.0/16	Public Address	IP based PA system
	97	10.97.0.0/16	Unallocated	Available for any service not already defined for the IT Room
	98	10.98.0.0/16	Unallocated	Available for any service not already defined for the IT Room
--	101 – 998	Unallocated	Unallocated	Available for future use
Dead VLAN	999	n/a	Dead VLAN	All unused ports will be allocated to dead VLAN. Dead VLAN will be shutdown.
P2P / VPN / Remote sites / other routed links	1000 - 1100	10.254.0.0/16	Network Routing	Allocated for Routed links, p2p links, VPN Address Ranges etc. in WAN, Core networks and others
--	1100 - 4096	unallocated	Unallocated	Available for future use





LOTS, BILL OF QUANTITIES & TECHNICAL SPECIFICATIONS

LOT	Description
LOT- 1	ICT Campus LAN Solution
LOT- 2	Voice Communication Solution
LOT- 3	Computer Server, Storage & Rack



LOT WISE BILL OF QUANTITIES

LOT #	Detail	Items / Product Description	Tentative Quantity (Nos.)
LOT # 1	ICT Campus LAN Solution	Item #1 - Core Switch 48 Port	02
		Item #2 - Access Switch - 48 Port	26
		Item #3 - Access Switch - 24 Port	05
		Item #4 - Access Switch - 48 Port PoE	47
		Item #5 - Access Switch - 24 Port PoE	03
		Item #6 - SFP 1GE Copper	20
		Item #7 - SFP+ 10GE Copper OR SFP+ 10G AOC Cable	20
		Item #8 - SFP 1G Fiber	60
		Item #9 - SFP+ 10G Fiber	96
		Item #10 - Outdoor Access Switches	18



LOT #	Detail	Items / Product Description	Tentative Quantity (Nos.)
LOT # 2	Voice Communication	Item # 1 –Telephone Exchange	01
		Item # 2 – IP Phones	388
LOT # 3	Computer Server, Storage & Rack	Item # 1 - Computer Server (Rack Mount)	02
		Item # 2 - Computer Storage Server (Rack Mount)	02
		Item # 3 - Floor Standing Server Rack	1



BILL OF QUANTITIES (BOQ)								
LOT #	Item	Product Description	Tentative Quantity (Nos.)	Unit Cost	Total Cost (Excluding Sales Tax)	Sales Tax %	Sales Tax Amount (PKR)	Total Annual Cost (Including Taxes)
LOT # 1	ICT Campus LAN Solution	Item #1 Core Switch 48 Port	02			18%		
		Item #2 Access Switch - 48 Port	26			18%		
		Item #3 Access Switch - 24 Port	05			18%		
		Item #4 Access Switch - 48 Port PoE	47			18%		
		Item #5 Access Switch - 24 Port PoE	03			18%		
		Item #6 SFP 1GE Copper	20			18%		
		Item #7 SFP+ 10GE Copper OR SFP+ 10G AOC Cable	20			18%		
		Item #8 SFP 1G Fiber	60			18%		
		Item #9 SFP+ 10G Fiber	96			18%		
		Item #10 - Outdoor Access Switches	18			18%		
		GRAND TOTAL OF LOT #1 (Inclusive of all applicable taxes)						



BILL OF QUANTITIES (BOQ)

LOT #	Item	Product Description	Tentative Quantity (Nos.)	Unit Cost	Total Cost (Excluding Sales Tax)	Sales Tax %	Sales Tax Amount (PKR)	Total Annual Cost (Including Taxes)
-------	------	---------------------	---------------------------	-----------	----------------------------------	-------------	------------------------	-------------------------------------

LOT # 2	Voice Communication	Item # 1 Telephone Exchange	1			18%		
		Item # 2 IP Phones	388			18%		
		GRAND TOTAL OF LOT # 2 (Inclusive of all applicable taxes)						

LOT #	Item	Product Description	Tentative Quantity (Nos.)	Unit Cost	Total Cost (Excluding Sales Tax)	Sales Tax %	Sales Tax Amount (PKR)	Total Annual Cost (Including Taxes)
-------	------	---------------------	---------------------------	-----------	----------------------------------	-------------	------------------------	-------------------------------------

LOT # 3	Computer Server, Storage & Rack	Item # 1 - Computer Server (Rack Mount)	02			18%		
		Item # 2 - Computer Storage Server (Rack Mount)	02			18%		
		Item # 3 - Floor Standing Server Rack	01			18%		
		GRAND TOTAL OF LOT # 3 (Inclusive of all applicable taxes)						



TECHNICAL SPECIFICATIONS

LOT#1 – ICT CAMPUS LAN SOLUTION

- The Bidder shall fill in below Yes/No column and submit it as part of Technical Bid
- The bidder shall provide OEM technical product data sheets for all the IT equipment mentioned in the Technical Specifications.
- Documentation including Datasheets, MAL, other support documents shall be uploaded to E-Procurement Portal under Section “TECHNICAL.”
- These are the minimum specs required for the solution. The bidder is expected to meet or exceed the below specifications.
- Same OEM brand for all switches.

Technical Specification for LOT #1 – Item #1 (Core Switch)			
Sr.	Spec	Description	Compliance Status (Yes/No)
1	Cooling System	Cooling system to operate between 0°C to 45°C	
		Front to Rear / Side to Rear / Side to Side air flows are acceptable	
2	Power Supply	AC 220V	
3	Port density	48x 10G SFP+ (compatible with 10/100/1000 SFP Transceivers)	
3	Throughput Requirements	960 Gbps or higher	
4	Throughput Requirements	Non-Blocking switch Ports	
		Switching at Wire Speed	
5	Packet rate Requirements	714 Mpps or higher (64Byte IP Packet, untagged)	
6	Installation	Should be mountable on Standard 19" Rack	
7	Stacking or Clustering	Core switches will be configured in a Stack or clustering setup	
		Stacking cable length: Contractor to ensure that HA/Stacking/HeartBeat cables are long enough to allow for Core Switch installation in adjacent racks (where applicable)	
		All related modules/cables for stacking or clustering to be provided for a fully operational solution	
		The bidder must provide switches from a single OEM only and shall not propose any switch model that can be stacked exclusively with identical models; all proposed PoE and Non-PoE switch models must be mutually interoperable and capable of forming a common stack with each other.	
8	Port Aggregation	Support Link Aggregation (LACP or equivalent)	
9	VLANs	Two types of interfaces: Access, Trunk	
		VLAN switching	
		Support for 512 or more SVI/RVI (Virtual Interfaces for VLANs)	
		MAC address table size: 16k or higher	



10	Mac Address	MAC address learning and aging	
		Static and dynamic MAC address entries	
		Limit on the number of MAC addresses learned on ports	
		MAC address filtering	
11	IP Routing	IPv4 routing protocols, such as RIPv1/v2, OSPFv2, BGP, PIM	
		IPv6 dynamic routing protocols	
12	DHCP	DHCP Relay Support	
		DHCP Snooping protection	
13	Switching	Support for per VLAN Rapid STP configuration	
		Support for STP Root Protection	
		Support for STP Loop Protection	
		Support for STP Unidirectional Link Detection and loop prevention	
		Storm Control - block BUM traffic (Broadcast, unknown, Multicast)	
		Support for STP Edge Port	
		Auto-MDI/MDIX feature	
14	Configuration	Fully Managed Switch	
		Console connectivity	
		SSH based secure remote connectivity	
		Remote File uploading and downloading using FTP and TFTP OR SCP	
		USB OR SD Card port for files / config transfer etc.	
16	Security and Management	802.1x authentication	
		Command Line OR GUI based authentication	
		Authentication based on RADIUS, TACACS and Local users	
		Different user levels for commands, preventing unauthorized users from using certain commands	
		Network management protocols, such as SNMP v1/v2c/v3	
		Defense against: MAC Flooding attack DHCP Spoofing ARP Spoofing ICMP broadcast attack (Smurf) TCP Syn Flood UDP Flood Broadcast storms Attacks against STP	
		Network flow information capability (NetFlow, sFlow, jFlow, NetStream or equivalent)	
17	Power Cable	Compatible with IEC 60320 C13 Socket / Universal 3 Pin Socket	
	Solution	The Contractor is required to carefully read entire "IDAP Enterprise Network Design Guidelines (NSS)" document to understand design requirements of the project	



18	Implementation following Technical Guidelines	"Based on the design guidelines the Contractor shall submit a ' Detailed Design Document '. Detailed design will include low level details about the proposed solution. Detailed design will be delivered for approval before solution deployment starts. "	
		"The Contractor is required to fully deploy and configure the solution according to approved detailed design document. Delivery of a fully operational solution is part of Project deliverable"	
19	MAL	OEM Authorization Letter from the Manufacturer Required	
20	Licenses	Licenses for delivered HW, software inclusive of all required features must be valid for at least 1 year from start of operations	
21	Warranty	1 Year Local Warranty along with Parts and Labor warranty for all components on site.	

Technical Specification for LOT #1 – Item #2 (Access Switch - 48 Port)			
Sr.	Spec	Description	Compliance Status (Yes/No)
1	Cooling System	Cooling system to operate between 0°C to 45°C	
		Front to Rear / Side to Rear / Side to Side air flows are acceptable	
2	Power Supply	AC 220V	
3	Port density	x48 10/100/1000BaseT ports x2 10G SFP+ (backward compatible with 1G SFP)	
4	Throughput Requirements	136 Gbps minimum (full duplex)	
		Non-Blocking switch Ports	
		Switching at Wire Speed	
5	Packet rate Requirements	101 Mpps (64 Byte IP Packet, untagged)	
6	Installation	Should be mountable on Standard 19" Rack	
		All mounting rails, cage nuts, trays etc to be provided for installation	
7	Stacking or Clustering	Access switches will be configured in a Stack or clustering setup	
		Stacking cable length: Contractor to ensure that HA/Stacking/HeartBeat cables are long enough to allow for Access Switch installation in adjacent racks where applicable	
		All related modules/cables for stacking or clustering to be provided for a fully operational solution	
		The bidder must provide switches from a single OEM only and shall not propose any switch model that can be stacked exclusively with identical models; all proposed PoE and Non-PoE switch models must be mutually interoperable and capable of forming a common stack with each other.	
9	Port Aggregation	Support Link Aggregation (LACP or equivalent)	
10	VLANs	Two types of interfaces: Access, Trunk	
		VLAN switching	
		Support for RVI/SVI (Virtual Interfaces for VLANs)	
		MAC address learning and aging	
		MAC address table size: 8k or higher	



11	Mac Address	Static and dynamic MAC address entries	
		Limit on the number of MAC addresses learned on ports and VLANs	
		MAC address filtering	
12	IP Routing	IPv4 Gateway assignment	
13	DHCP	DHCP Snooping protection	
14	Switching	Support for per VLAN Rapid STP configuration	
		Support for STP Root Protection	
		Support for STP Loop Protection	
		Support for STP Unidirectional Link Detection and loop prevention	
		Storm Control - block BUM traffic (Broadcast, unknown, Multicast)	
		Support for STP Edge Port	
		Auto-MDI/MDIX feature	
15	Configuration	Fully Managed Switch	
		Console connectivity	
		SSH based secure remote connectivity	
		Remote File uploading and downloading using FTP and TFTP OR SCP.	
		USB or SD card port or Ethernet port for files transfer etc.	
16	Security and Management	802.1x authentication	
		Command Line OR GUI based authentication	
		Authentication based on RADIUS, TACACS and Local users	
		Different user levels for commands, preventing unauthorized users from using certain commands	
		Network management protocols, such as SNMP v1/v2c/v3	
		Defense against: MAC Flooding attack DHCP Spoofing ARP Spoofing ICMP broadcast attack (Smurf) TCP Syn Flood UDP Flood Broadcast storms Attacks against STP	
		Network flow information capability (NetFlow, sFlow, jFlow, NetStream or equivalent)	
17	Power Cable	Compatible with IEC 60320 C13 Socket / Universal 3 Pin Socket	
18	Solution Implementation following Technical Guidelines	The Contractor is required to carefully read entire "IDAP Enterprise Network Design Guidelines (NSS)" document to understand design requirements of the project	
		"Based on the design guidelines the Contractor shall submit a ' Detailed Design Document '. Detailed design will include low level details about the proposed solution. Detailed design will be delivered for approval before solution deployment starts. "	



		"The Contractor is required to fully deploy and configure the solution according to approved detailed design document. Delivery of a fully operational solution is part of Project deliverable"	
20	MAL	OEM Authorization Letter from the Manufacturer Required	
21	Warranty	1 Year Local Warranty along with Parts and Labor warranty for all components on site.	



Technical Specification for LOT #1 – Item #3 (Access Switch - 24 Port)

Sr.	Spec	Description	Compliance Status (Yes/No)
1	Cooling System	Cooling system to operate between 0°C to 45°C	
		Front to Rear / Side to Rear / Side to Side air flows are acceptable	
2	Power Supply	AC 220V	
3	Port density	x24 10/100/1000BaseT ports x2 10G SFP+ (backward compatible with 1G SFP)	
4	Throughput Requirements	88 Gbps minimum (full duplex)	
		Non-Blocking switch Ports	
		Switching at Wire Speed	
5	Packet rate Requirements	65.4 Mpps (64Byte IP Packet, untagged)	
6	Installation	Should be mountable on Standard 19" Rack	
		All mounting rails, cage nuts, trays etc to be provided for installation	
7	Stacking or Clustering	Access switches will be configured in a Stack or clustering setup	
		Stacking cable length: Contractor to ensure that HA/Stacking/HeartBeat cables are long enough to allow for Access Switch installation in adjacent racks where applicable	
		All related modules/cables for stacking or clustering to be provided for a fully operational solution	
		The bidder must provide switches from a single OEM only and shall not propose any switch model that can be stacked exclusively with identical models; all proposed PoE and Non-PoE switch models must be mutually interoperable and capable of forming a common stack with each other.	
8	Port Aggregation	Support Link Aggregation (LACP or equivalent)	
9	VLANs	Two types of interfaces: Access, Trunk	
		VLAN switching	
		Support for RVI/SVI (Virtual Interfaces for VLANs)	
10	Mac Address	MAC address learning and aging	
		MAC address table size: 8k or higher	
		Static and dynamic MAC address entries	
		Limit on the number of MAC addresses learned on ports and VLANs	
		MAC address filtering	
11	IP Routing	IPv4 Gateway assignment	
12	DHCP	DHCP Snooping protection	
13	Switching	Support for per VLAN Rapid STP configuration	
		Support for STP Root Protection	
		Support for STP Loop Protection	
		Support for STP Unidirectional Link Detection and loop prevention	
		Storm Control - block BUM traffic (Broadcast, unknown, Multicast)	
		Support for STP Edge Port	



		Auto-MDI/MDIX feature	
14	Configuration	Fully Managed Switch	
		Console connectivity	
		SSH based secure remote connectivity	



		Remote File uploading and downloading using FTP and TFTP OR SCP	
		USB or SD card port or Ethernet port for files transfer etc.	
15	Security and Management	802.1x authentication	
		Command Line OR GUI based authentication	
		Authentication based on RADIUS, TACACS and Local users	
		Different user levels for commands, preventing unauthorized users from using certain commands	
		Network management protocols, such as SNMP v1/v2c/v3	
		Defense against: MAC Flooding attack DHCP Spoofing ARP Spoofing ICMP broadcast attack (Smurf) TCP Syn Flood UDP Flood Broadcast storms Attacks against STP	
		Network flow information capability (NetFlow, sFlow, jFlow, NetStream or equivalent)	
16	Power Cable	Compatible with IEC 60320 C13 Socket / Universal 3 Pin Socket	
17	Solution Implementation following Technical Guidelines	The Contractor is required to carefully read entire "IDAP Enterprise Network Design Guidelines (NSS)" document to understand design requirements of the project	
		"Based on the design guidelines the Contractor shall submit a ' Detailed Design Document '. Detailed design will include low level details about the proposed solution. Detailed design will be delivered for approval before solution deployment starts. "	
		"The Contractor is required to fully deploy and configure the solution according to approved detailed design document. Delivery of a fully operational solution is part of Project deliverable"	
18	MAL	OEM Authorization Letter from the Manufacturer Required	
19	Warranty	1 Year Local Warranty along with Parts and Labor warranty for all components on site.	



Technical Specification for LOT #1 – Item #4 (Access Switch - 48 Port PoE)			
Sr.	Spec	Description	Compliance Status (Yes/No)
1	Cooling System	Cooling system to operate between 0°C to 45°C	
		Front to Rear / Side to Rear / Side to Side air flows are acceptable	
2	Power Supply	AC 220V Power Budget and Power Supply Sizing: Power Supply must be sized to ensure the switch can support max load for attached PoE+ devices. Bidder will deploy dual-power-supply for switches that have higher power requirements. It is Bidder's responsibility to ensure correct power supply sizing to meet site requirements.	
3	Port density	x48 10/100/1000BaseT PoE+ (802.3at) or better ports	
		x2 10G SFP+ (backward compatible with 1G SFP)	
4	Throughput Requirements	136 Gbps minimum (full duplex)	
		Non-Blocking switch Ports	
		Switching at Wire Speed	
5	Packet rate Requirements	101 Mpps (64Byte IP packet, untagged)	
6	Installation	Should be mountable on Standard 19" Rack	
		All mounting rails, cage nuts, trays etc to be provided for installation	
7	Stacking or Clustering	Access switches will be configured in a Stack or clustering setup	
		Stacking cable length: Contractor to ensure that HA/Stacking/HeartBeat cables are long enough to allow for Access Switch installation in adjacent racks where applicable	
		All related modules/cables for stacking or clustering to be provided for a fully operational solution	
		The bidder must provide switches from a single OEM only and shall not propose any switch model that can be stacked exclusively with identical models; all proposed PoE and Non-PoE switch models must be mutually interoperable and capable of forming a common stack with each other.	
8	Port Aggregation	Support Link Aggregation (LACP or equivalent)	
9	VLANs	Two types of interfaces: Access, Trunk	
		VLAN switching	
		Support for RVI/SVI (Virtual Interfaces for VLANs)	
10	Mac Address	MAC address learning and aging	
		MAC address table size: 8k or higher	
		Static and dynamic MAC address entries	
		Limit on the number of MAC addresses learned on ports and VLANs	
		MAC address filtering	
11	IP Routing	IPv4 Gateway assignment	
12	DHCP	DHCP Snooping protection	



13	Switching	Support for per VLAN Rapid STP configuration	
		Support for STP Root Protection	
		Support for STP Loop Protection	
		Support for STP Unidirectional Link Detection and loop prevention	
		Storm Control - block BUM traffic (Broadcast, unknown, Multicast)	
		Support for STP Edge Port	
		Auto-MDI/MDIX feature	
14	Configuration	Fully Managed Switch	
		Console connectivity	
		SSH based secure remote connectivity	
		Remote File uploading and downloading using FTP and TFTP OR SCP	
		USB or SD card port or Ethernet port for files transfer etc.	
15	Security and Management	802.1x authentication	
		Command Line OR GUI based authentication	
		Authentication based on RADIUS, TACACS and Local users	
		Different user levels for commands, preventing unauthorized users from using certain commands	
		Network management protocols, such as SNMP v1/v2c/v3	
		Defense against: MAC Flooding attack DHCP Spoofing ARP Spoofing ICMP broadcast attack (Smurf) TCP Syn Flood UDP Flood Broadcast storms Attacks against STP	
		Network flow information capability (NetFlow, sFlow, jFlow, NetStream or equivalent)	
16	Power Cable	Compatible with IEC 60320 C13 Socket / Universal 3 Pin Socket	
17	Solution Implementation following Technical Guidelines	The Contractor is required to carefully read entire "IDAP Enterprise Network Design Guidelines (NSS)" document to understand design requirements of the project	
		"Based on the design guidelines the Contractor shall submit a ' Detailed Design Document '. Detailed design will include low level details about the proposed solution. Detailed design will be delivered for approval before solution deployment starts. "	
		"The Contractor is required to fully deploy and configure the solution according to approved detailed design document. Delivery of a fully operational solution is part of Project deliverable"	
18	MAL	OEM Authorization Letter from the Manufacturer Required	
19	Warranty	1 Year Local Warranty along with Parts and Labor warranty for all components on site.	



Technical Specification for LOT #1 – Item #5 (Access Switch - 24 Port PoE)			
Sr.	Spec	Description	Compliance Status (Yes/No)
1	Cooling System	Cooling system to operate between 0°C to 45°C	
		Front to Rear / Side to Rear / Side to Side air flows are acceptable	
2	Power Supply	AC 220V Power Budget and Power Supply Sizing: Power Supply must be sized to ensure the switch can support max load for attached PoE+ devices. Bidder will deploy dual-power-supply for switches that have higher power requirements. It is Bidder's responsibility to ensure correct power supply sizing to meet site requirements.	
3	Port density	x24 10/100/1000BaseT PoE+ (802.3at) or better ports	
		x2 10G SFP+ (backward compatible with 1G SFP)	
4	Throughput Requirements	88 Gbps minimum (full duplex)	
		Non-Blocking switch Ports	
		Switching at Wire Speed	
5	Packet rate Requirements	65.4 Mpps (64 Byte IP Packet, untagged)	
6	Installation	Should be mountable on Standard 19" Rack	
		All mounting rails, cage nuts, trays etc to be provided for installation	
7	Stacking or Clustering	Access switches will be configured in a Stack or clustering setup	
		Stacking cable length: Contractor to ensure that HA/Stacking/HeartBeat cables are long enough to allow for Access Switch installation in adjacent racks where applicable	
		All related modules/cables for stacking or clustering to be provided for a fully operational solution	
		The bidder must provide switches from a single OEM only and shall not propose any switch model that can be stacked exclusively with identical models; all proposed PoE and Non-PoE switch models must be mutually interoperable and capable of forming a common stack with each other.	
8	Port Aggregation	Support Link Aggregation (LACP or equivalent)	
9	VLANs	Two types of interfaces: Access, Trunk	
		VLAN switching	
		Support for RVI/SVI (Virtual Interfaces for VLANs)	
10	Mac Address	MAC address learning and aging	
		MAC address table size: 8k or higher	
		Static and dynamic MAC address entries	
		Limit on the number of MAC addresses learned on ports and VLANs	
		MAC address filtering	
11	IP Routing	IPv4 Gateway assignment	
12	DHCP	DHCP Snooping protection	

13	Switching	Support for per VLAN Rapid STP configuration	
		Support for STP Root Protection	
		Support for STP Loop Protection	
		Support for STP Unidirectional Link Detection and loop prevention	
		Storm Control - block BUM traffic (Broadcast, unknown, Multicast)	
		Support for STP Edge Port	
		Auto-MDI/MDIX feature	
14	Configuration	Fully Managed Switch	
15	Security and Management	Console connectivity	
		SSH based secure remote connectivity	
		Remote File uploading and downloading using FTP and TFTP OR SCP	
		USB or SD card port or Ethernet port for files transfer etc.	
		802.1x authentication	
		Command Line OR GUI based authentication	
		Authentication based on RADIUS, TACACS and Local users	
16	Power Cable	Different user levels for commands, preventing unauthorized users from using certain commands	
		Network management protocols, such as SNMP v1/v2c/v3	
		Defense against: MAC Flooding attack DHCP Spoofing ARP Spoofing ICMP broadcast attack (Smurf) TCP Syn Flood UDP Flood Broadcast storms Attacks against STP	
17	Solution Implementation following Technical Guidelines	Network flow information capability (NetFlow, sFlow, jFlow, NetStream or equivalent)	
		Compatible with IEC 60320 C13 Socket / Universal 3 Pin Socket	
		The Contractor is required to carefully read entire "IDAP Enterprise Network Design Guidelines (NSS)" document to understand design requirements of the project	
		"Based on the design guidelines the Contractor shall submit a ' Detailed Design Document '. Detailed design will include low level details about the proposed solution. Detailed design will be delivered for approval before solution deployment starts. "	
18	MAL	"The Contractor is required to fully deploy and configure the solution according to approved detailed design document. Delivery of a fully operational solution is part of Project deliverable"	
19	Warranty	OEM Authorization Letter from the Manufacturer Required	
		1 Year Local Warranty along with Parts and Labor warranty for all components on site.	



Technical Specification for LOT #1 – Item #6 (1G SFP Copper)			
Sr.	Spec	Description	Compliance Status (Yes/No)
1	OEM Hardware	SFP will be OEM and supplied by HW (Switch, Router, Server, WLC, etc) manufacturer	
2	Specifications	Industry Standard Small Form Factor pluggable (SFP)	
		1 Gigabit Interface - connection over electrical cable	
		Hot-swappable operation	
		1GBASE- Electrical	
		lengths up to 100 MTR	
		8P8C connector	
3	Licenses	Licenses for delivered HW, software inclusive of all required features must be valid for at least 1 year from the start of operations	
4	Warranty	1 Year Local Warranty along with Parts and Labor warranty for all components on site.	

Technical Specification for LOT #1 – Item #7-A (SFP+ 10G AOC Cable)			
Sr.	Spec	Description	Compliance Status (Yes/No)
1	OEM Hardware	OEM Hardware: SFP based will be OEM and supplied by HW (Switch, Router, Server, WLC etc.) manufacturer	
2	Specifications	Form Factor: (10G SFP+ AOC cable)	
		Media: SFP+ AOC	
		Hot swapable operation	
		Specifications: 10GBASE (SFP+) AOC	
		Transmission Distance: Cable link length 10m or above	
		Licenses: Licenses for delivered HW, software inclusive of all required features must be valid for at least 1 years from start of operations	
		Warranty: 1 Year Local Warranty along with Parts and Labor warranty for all components on site.	



OR

Technical Specification for LOT #1 – Item #7-B (SFP+ 10G Copper)			
Sr.	Spec	Description	Compliance Status (Yes/No)
1	OEM Hardware	OEM Hardware: SFP based will be OEM and supplied by HW (Switch, Router, Server, WLC etc.) manufacturer	
2	Specifications	Form Factor: (10G SFP+) OR (10G SFP+ DAC)	
		Media: SFP+ with CAT6/A or DAC cable with Twinax copper	
		Hot swappable operation	
		Specifications: 10GBASE-T (SFP+) OR 10GBASE-CX1 (DAC/Twinax)	
		Transmission Distance: Cable link length 10m or above	
		Licenses: Licenses for delivered HW, software inclusive of all required features must be valid for at least 1 years from start of operations	
		Warranty: 1 Year Local Warranty along with Parts and Labor warranty for all components on site.	

Technical Specification for LOT #1 – Item #8 (1G SFP Fiber)			
Sr.	Spec	Description	Compliance Status (Yes/No)
1	OEM Hardware	OEM Hardware: SFP will be OEM and supplied by HW (Switch, Router, Server, WLC etc) manufacturer	
2	Specifications	Specifications: Industry Standard Small Form Factor pluggable (SFP)	
		Specifications: Gigabit Interface Converter - connection over Single Mode Fiber Optic Cable	
		Specifications: Hot swappable operation	
		Specifications: 1000BASE-LX/1000BASE-LH (1310nm)	
		Specifications: Single Mode Fiber lengths up to 5 km	
		Specifications: Duplex LC connector	
		Licenses: Licenses for delivered HW, software inclusive of all required features must be valid for at least 1 years from start of operations	
		Warranty: 1 Year Local Warranty along with Parts and Labor warranty for all components on site.	



Technical Specification for LOT #1 – Item #9 (10G SFP Fiber)			
Sr.	Spec	Description	Compliance Status (Yes/No)
1	OEM Hardware	SFP will be OEM and supplied by HW (Switch, Router, Server, WLC, etc.) manufacturer	
2	Specifications	Industry Standard Small Form Factor pluggable (SFP+)	
		10 Gigabit Interface - connection over Single Mode fiber optic cable	
		Hot-swappable operation	
		10GBASE-LR fiber	
		Single Mode Fiber lengths up to 10 km	
		Duplex LC connector	
3	Licenses	Licenses for delivered HW, software inclusive of all required features must be valid for at least 1 year from the start of operations	
4	Warranty	1 Year Local Warranty along with Parts and Labor warranty for all components on site.	

Technical Specification for LOT #1 – Item #10 (Outdoor Switch)		
Spec	Description	Compliance Status (Yes/No)
	The Bidder shall fill in below Yes/No column and submit it as part of Technical Bid	
	The bidder shall provide OEM technical product data sheets for all the IT equipment mentioned in the Technical Specifications.	
	Documentation including Datasheets, MAL, other support documents shall be uploaded to E-Procurement Portal under Section "TECHNICAL"	
	Cooling System: Support Operating Temp between 0°C to 60°C	
	Cooling System: Fanless	
	AC Power Supply: 220V	
	Port density: x16 10/100/1000BaseT PoE+ ports (PoE+ or Enhanced PoE (802.3at) or better.	
	Port density: x2 1G SFP (Uplink)	
	Throughput Requirements: 20 Gbps minimum	
	Throughput Requirements: Non-Blocking switch Ports	
	Throughput Requirements: Switching at Wire Speed	
	Packet rate Requirements: 14.8 Mpps	
	Installation: Should be mountable on Standard 19" Rack / DIN Rail Kit for Standard 19" Rack	
	Installation: All mounting rails, cage nuts, trays etc to be provided for installation	
	Port Aggregation: Support Link Aggregation (LACP or equivalent)	
	VLANs: Two types of interfaces: Access, Trunk	
	VLANs: VLAN switching	
	VLANs: Support for RVI/SVI (Virtual Interfaces for VLANs)	
	Mac Address: MAC address learning and aging	
	Mac Address: MAC address table size: 8k or higher	



Mac Address: Static and dynamic MAC address entries	
Mac Address: Limit on the number of MAC addresses learned on ports and VLANs	
Mac Address: MAC address filtering	
IP Routing: IPv4 Gateway assignment	
DHCP: DHCP Snooping protection	
Switching: Support for per VLAN Rapid STP configuration	
Switching: Support for STP Root Protection	
Switching: Support for STP Loop Protection	
Switching: Support for STP Unidirectional Link Detection and loop prevention	
Switching: Support for STP Edge Port	
Switching: Auto-MDI/MDIX feature	
Configuration: Fully Managed Switch	
Configuration: Console connectivity	
Configuration: SSH based secure remote connectivity	
Configuration: Remote File uploading and downloading using FTP and TFTP	
Security and Management: 802.1x authentication	
Security and Management: Command Line OR GUI based authentication	
Security and Management: Authentication based on RADIUS, TACACS and Local users	
Security and Management: Different user levels for commands, preventing unauthorized users from using certain commands	
Security and Management: Network management protocols, such as SNMP v1/v2c/v3	
Security and Management: Defense against: MAC Flooding attack DHCP Spoofing ARP Spoofing ICMP broadcast attack (Smurf) TCP Syn Flood UDP Flood Broadcast storms Attacks against STP	
Security and Management: Network flow information capability (NetFlow, sFlow, jFlow, NetStream or equivalent)	
Power Cable: Compatible with Universal/Free Connect Socket	
The Contractor is required to carefully read entire "IDAP Enterprise Network Design Guidelines (NSS)" document to understand design requirements of the project	
Based on the design guidelines the Contractor shall submit a 'Detailed Design Document'. Detailed design will include low level details about the proposed solution. Detailed design will be delivered for approval before solution deployment starts.	
The Contractor is required to fully deploy and configure the solution according to approved detailed design document. Delivery of a fully operational solution is part of Project deliverable	
MAL: OEM Authorization Letter from the Manufacturer Required	
Warranty: 1 Year Local Warranty along with Parts and Labor warranty for all components on site.	



TECHNICAL SPECIFICATIONS

LOT# 2 – Voice Communication Solution

- The Bidder shall fill in below Yes/No column and submit it as part of Technical Bid
- The bidder shall provide OEM technical product data sheets for all the IT equipment mentioned in the Technical Specifications.
- Documentation including Datasheets, MAL, other support documents shall be uploaded to E-Procurement Portal under Section “TECHNICAL.”
- These are the minimum specs required for the solution. The bidder is expected to meet or exceed the specifications below.

Technical Specification for LOT # 2 – Item # 1 Telephone Exchange			
Sr.	Spec	Description	Compliance Status (Yes/No)
S. #	Items	Description	Required Qty
1.	PTA Approved	The vendor must have PTA Approved Letter of quoted model and manufacturers authorization letter	YES
2.	System General	Physical Hardware based 19” standard RACK mount with RACK rails etc. on premises IPBX Telephone Exchange with required software licenses etc. complete in all aspects.	YES
3.	High Availability	High Availability enabled with required hardware & software licenses.	YES
4.	Analog trunk Lines	Pre- Installed Analog trunk / gateway with CLI capability	16 Nos
5.	SIP trunk Lines	Pre- Installed SIP trunk with multiple channels (as per site requirement) with DID and DOD	16 Nos
6.	ISDN LINES	PRI Supported	YES
7.	Gate way	Gate ways of same manufacturer with IP & Analog Trunks to connect with service providers	YES
8.	IP Extensions	Pre-Installed / Active IP Extensions with CLI	500
9.	System Expandability	800 or higher Ports	YES
10.	IP Phone	Non propitiatory / Third party iPhone acceptability	YES
11.	Concurrent users	Min. 120 concurrent users	YES
12.	Class of services	Different Class of services as per OEM / Manufacturer Standard for different users	YES
13.	Call Manager	Call manager + Reporting with OEM Standard features	YES
14.	Auto Attendant	Integrated Direct Inward System Access & auto attendant for simultaneous access	YES
15.	Other Features	Music on Hold, Call Hold, Call Forwarding, Call Logs, Reporting Feature	YES
16.	VOIP Protocols	All standard VOIP protocol support	YES
17.	System	HA Based Physical On-Premises system	YES
18.	Power backup	UPS with dry batteries backup – UPS as per above PABX power requirements with maintenance free batteries with min. 01-hour backup at full load in case of power outage.	YES



19.	Operator Console	Fully functional IP Operator Console Capability (Manufacturer recommended) Full Color, PoE, Min. 80 lines direct dial, with Hand free function with Standard OEM feature	09 Sets
20.	Training	Local, Onsite Training of the same according to requirements	YES
21.	Fault Tolerance	On-Premises AND OR remote diagnostic & fault tolerance features	YES
22.	Licensing	Solution to include all licensing cost etc.	YES
23.	Warranty	Warranty: 1-year local warranty along with Parts and Labor for all components on site. Contractor is responsible for installation, commissioning, testing, integration with other services of IP exchange.	YES

Technical Specification for LOT # 2 – Item # 2 IP Phones

Spec – Description		Compliance Status (Yes/No)
IP Phones	Physical Phone with IP/ SIP 2 lines Based Telephone (Same or Equivalent Brand) Mono / color display, two port 10/100M Ethernet with integrated PoE for extended network, Full Duplex hands-free speakerphone, local phonebook entries, FTP, TFTP/HTTP/HTTPS auto provision, ROHS, ISO 9001.	
	Caller ID, Call logs, redial, call back with other standard OEM features.	
	The Contractor is required to deliver a fully operational solution, as part of Project deliverable.	
	Warranty: 1 Year Local Warranty along with Parts and Labor warranty for all components on site.	



TECHNICAL SPECIFICATIONS LOT# 3 – Server Storages & Rack

- The Bidder shall fill in below Yes/No column and submit it as part of Technical Bid
- The bidder shall provide OEM technical product data sheets for all the IT equipment mentioned in the Technical Specifications.
- Documentation including Datasheets, MAL, other support documents shall be uploaded to E-Procurement Portal under Section “TECHNICAL.”
- These are the minimum specs required for the solution. The bidder is expected to meet or exceed the specifications below.

LOT # 3 - Item # 1 - Computer Server (Rack Mount) (Branded)	
Specs - Description	Compliance Status (Yes/No)
The Bidder shall fill in below Yes/No column and submit it as part of Technical Bid	
The bidder shall provide OEM technical product data sheets for all the IT equipment mentioned in the Technical Specifications.	
Documentation including Datasheets, MAL, other support documents shall be uploaded to E-Procurement Portal under Section “TECHNICAL”	
Rack Mountable Chassis with atleast 8 x 3.5"/2.5" SAS/SATA Hard Drives Slot	
Processor: 2 x Intel Xeon Silver 2.1G, 8 Core/16T or higher	
RAM: 2 x 16GB RDIMM, 3200MHz	
RAID Controller 2GB Cache, Support RAID 0,1,5,6,10	
SSD for OS: 2 x 960 GB with RAID-1	
Hard Drives: 3 x 8TB 7.2K RPM NLSAS 12Gbps 3.5/2.5 in Hot-plug Hard Drive with RAID-5	
Network Connectivity: 4 x 1GbE BASE-T, 2 x 10G SFP+	
Connectivity: 2 x USB 2.0 or higher , 2 x USB 3.0 or higher , 1 x VGA	
Operating System: Windows Server 2022 Standard (Factory Installed)	
Power Supply: Dual, Hot-plug, Redundant Power Supply (1+1), 750W	
Accessories: OEM Rack/Sliding Rails, OEM Jumper Cord and the provided Server Machine shall be complete in all respect.	
The Bidder shall configure the Server Machine for high availability and reliability, of all hardware and software.	
The Contractor shall submit a detailed design document ensuring all design guidelines/requirements of the project are met, as part of Project deliverable before the delivery of Goods	
The Contractor is required to deliver a fully operational solution, as part of Project deliverable	
MAL: OEM Authorization Letter from the Manufacturer Required	
1 Year Local Warranty along with Parts and Labor warranty for all components on site.	



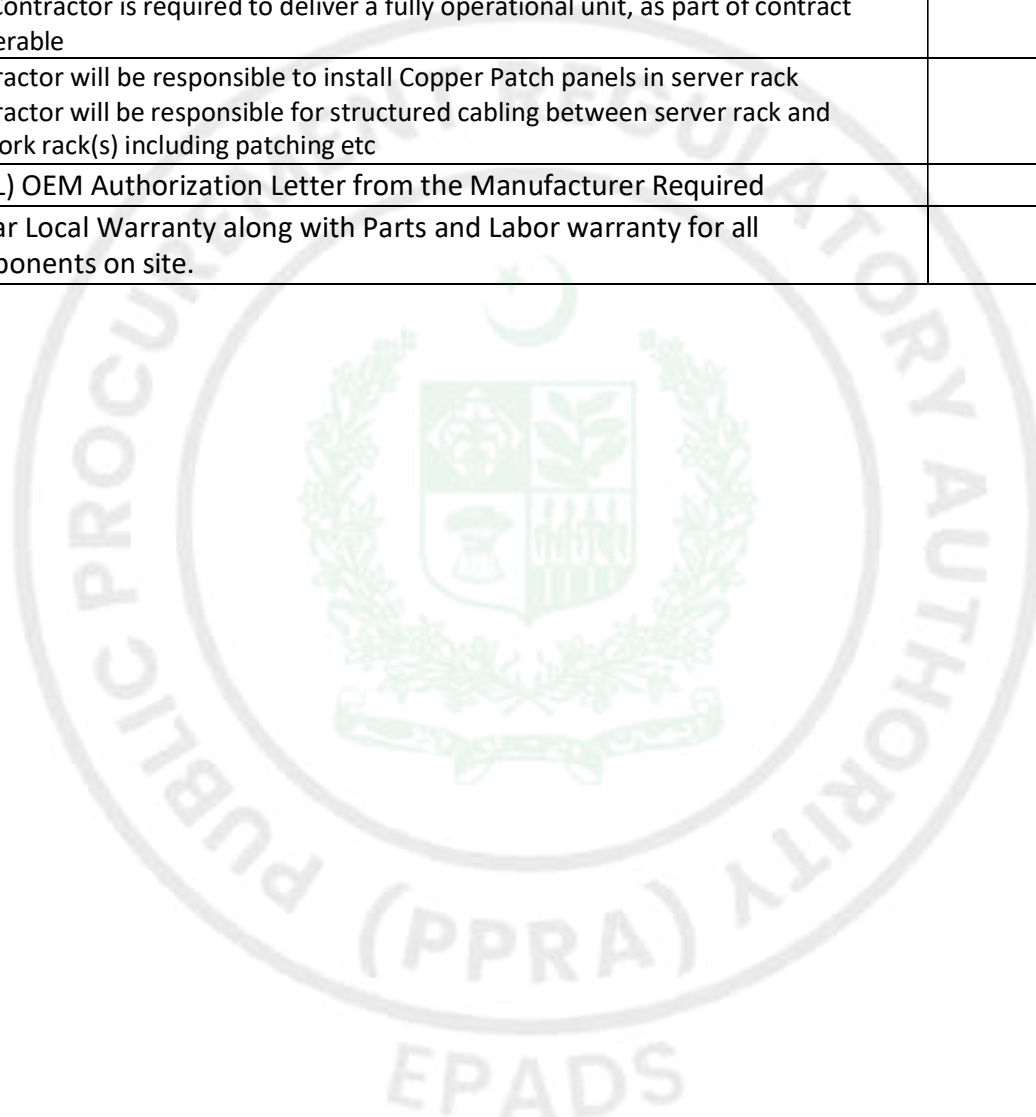
LOT # 3 - Item # 2 - Computer Storage Server (Rack Mount) (Branded)		
Specs	Description	Compliance Status (Yes/No)
	The Bidder shall fill in below Yes/No column and submit it as part of Technical Bid	
	The bidder shall provide OEM technical product data sheets for all the IT equipment mentioned in the Technical Specifications.	
	Documentation including Datasheets, MAL, other support documents shall be uploaded to E-Procurement Portal under Section "TECHNICAL"	
	Rack Mountable Chassis with at least 12 x 3.5"/2.5" SAS/SATA Hard Drives Slot	
	Processor: 2 x Intel Xeon Silver 2.1G, 8 Core/16T or higher	
	RAM: 4 x 32GB RDIMM, 2666MHz, Dual Rank	
	RAID Controller 4GB Cache, Support RAID 0,1,5,6,10	
	SSD for OS: 2 x 960 GB with RAID-1	
	Hard Drives: 6 x 10TB 7.2K RPM NLSAS 12Gbps 3.5/2.5 in Hot-plug Hard Drive with RAID-6	
	Network Connectivity: 4 x 1GbE BASE-T, 2 x 10G SFP+	
	Connectivity: 2 x USB 2.0 or higher, 2 x USB 3.0 or higher, 1 x VGA	
	Operating System: Windows Server 2022 Standard (Factory Installed)	
	Power Supply: Dual, Hot-plug, Redundant Power Supply (1+1), 750W or higher as per above requirements	
	Accessories: OEM Rack/Sliding Rails, OEM Jumper Cord and the provided Server Machine shall be complete in all respect.	
	The Bidder shall configure the Server Machine for high availability and reliability of all hardware and software.	
	The Contractor shall submit a detailed design document ensuring all design guidelines/requirements of the project are met, as part of Project deliverable before the delivery of Goods	
	The Contractor is required to deliver a fully operational solution, as part of Project deliverable	
	MAL: OEM Authorization Letter from the Manufacturer Required	
	1 Year Local Warranty along with Parts and Labor warranty for all components on site.	



LOT # 3 - Item # 3 - Floor Standing Server Rack (Branded)	
Specs - Description	Compliance Status (Yes/No)
The Bidder shall fill in below Yes/No column and submit it as part of Technical Bid	
The bidder shall provide OEM technical product data sheets for all the IT equipment mentioned in the Technical Specifications.	
Documentation including Datasheets, MAL, other support documents shall be uploaded to E-Procurement Portal under Section "TECHNICAL"	
42U Universal Rack	
Width: EIA-310 Standard 19" Rack Rails	
External Width: 800mm	
Height: 2,000mm / Rack Units: 42U	
Depths: 1000mm	
Features: Rack Castors Rack Leveling Feet Removable Side Panels (tool less) Front and Rear Door (Dual Perforated Metal) Removable Doors (tool less) Adjustable Vertical Mounting Rails Roof panel with large openings for power and network cable drops Power Cables with Universal Plug Large Capacity vertical cable managers	
Accessories: Qty.2 - 24 port Copper Patch Panel with RJ45 (8P8C) I/Os Qty.8 - Horizontal Cable Managers Cable Management HW: Cable ties , Velcro Straps or equivalent Cage Nuts for the whole rack	
Cat-6 Cable Coil: Qty.1 Coil - Cat6 Coil for Structured Cabling (305m) 23 AWG, 4 Pair UTP Compliant to ISO/IEC 11801 CM Rated UL Listed	
Vendor-neutral EIA-310 19 inch Rack Mounting Compatibility	
Power Distribution Unit (PDU): Qty.2 - PDU Single Phase, 32 AMP. Output Plug Type: Minimum x12 IEC 60320 C13 Input Plug Type: IEC 60309 32A Mounting Position: Vertical Cord length: 10 ft Two PDUs are required per rack for redundancy	



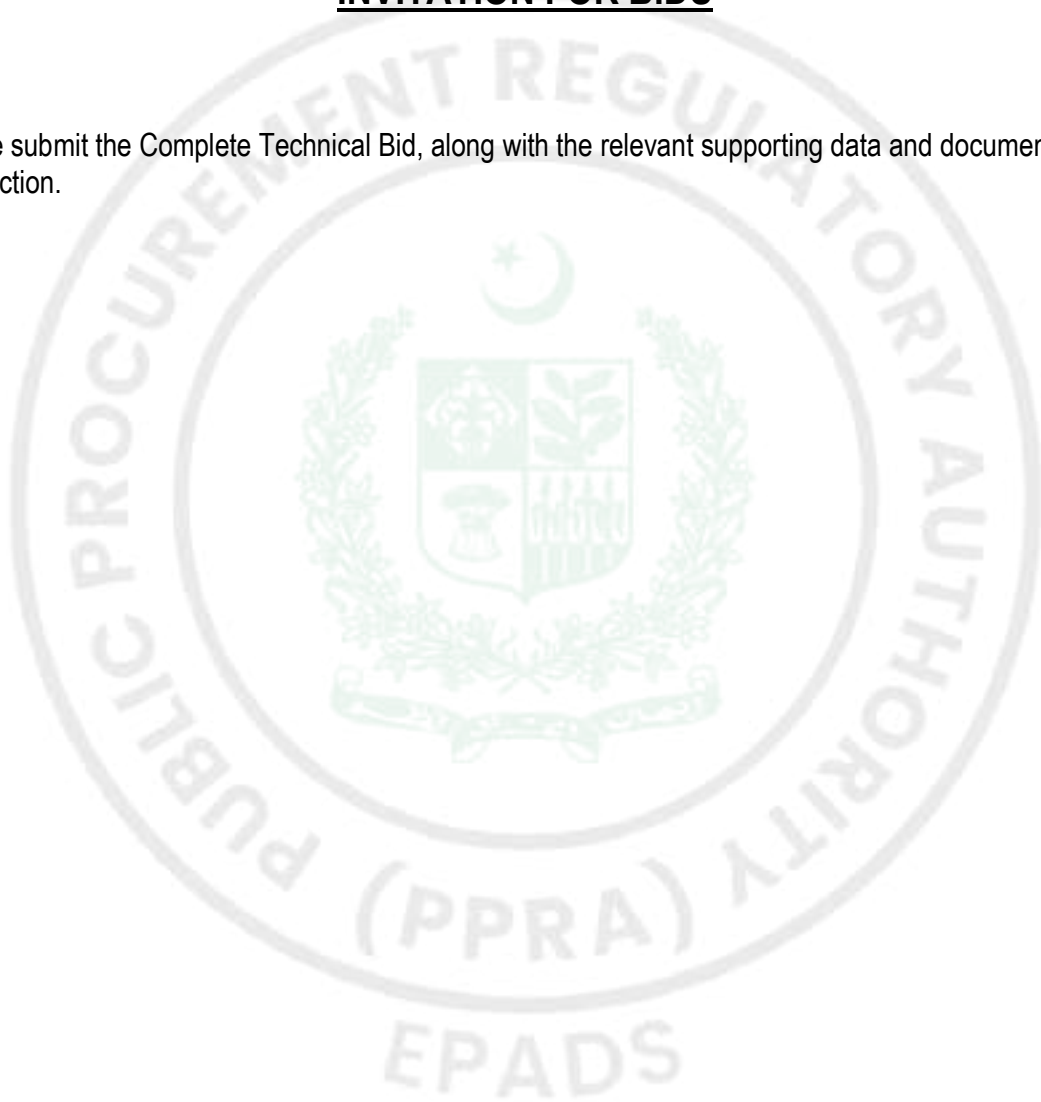
The Contractor shall ensuring all design guidelines/requirements of the project are met when installing the racks ensuring rack placement, cable drops etc is in accordance with design guidelines	
The Contractor shall install and configure the equipment as per Manufacturer's guidelines and industry best practices. Contractor will be responsible to do proper cable management using Vertical and Horizontal Cable Managers. Contractor will provide any other hardware/software where required for proper commissioning and deployment of equipment. The Contractor is required to deliver a fully operational unit, as part of contract deliverable	
Contractor will be responsible to install Copper Patch panels in server rack Contractor will be responsible for structured cabling between server rack and network rack(s) including patching etc	
(MAL) OEM Authorization Letter from the Manufacturer Required	
1 Year Local Warranty along with Parts and Labor warranty for all components on site.	



**PROVISION, INSTALLATION, TESTING & COMMISSIONING OF IT EQUIPMENT
(CAMPUS LAN, VOICE COMMUNICATION, SERVER STORAGE) FOR
ESTABLISHMENT OF FEDERAL GOVERNMENT POLYCLINIC (PGMI)-II AT
G/11/3, ISLAMABAD**

INVITATION FOR BIDS

Please submit the Complete Technical Bid, along with the relevant supporting data and documents in this section.



CONDITIONS OF CONTRACT



CONDITIONS OF CONTRACT

1. Definitions

1.1 The following words and expressions shall have the meanings hereby assigned to them:

- (a) "Completion" means the fulfillment of the supply of Goods by the Supplier in accordance with the terms and conditions set forth in the Contract. The Project will be considered complete when the following conditions are met.
 - (i) Goods are delivered in Site
 - (ii) Installation and Commissioning is complete as per design document.
 - (iii) Integration (with existing IP system)
 - (iv) Goods are handed over to the Purchaser and TOC Is issued
 - (v) Warranty period is elapsed as mentioned in the Contract
- (b) "Contract" means the Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, schedules and all documents incorporated by reference therein.
- (c) "Contract Documents" means the documents listed in the Agreement, including any amendments thereto.
- (d) "Contract Price" means the price payable to the Supplier as specified in the Agreement, subject to such deductions therefrom, as may be made pursuant to the Contract.
- (e) "Day" means calendar day.
- (f) "Delivery" means the transfer of the Goods from the Supplier to the Purchaser in accordance with the terms and conditions set forth in the Contract.
- (g) "Goods" means all of the commodities, raw material, machinery and equipment, and/or other materials/ Licenses that the Supplier is required to supply to the Purchaser under the Contract as per required specifications.
- (h) "Purchaser" means the Infrastructure Development Authority of the Punjab.
- (i) "Supplier" means the natural person, private or government entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Agreement and includes the legal successors or permitted assigns of the Supplier.
- (j) "Site," is Government Polyclinic (PGMI)-II At G/11-3, Islamabad

- (k) "Warranty Period" means the time period for warranty of the Goods required in technical specifications. This period will start from the date mentioned in Taking-over Certificate.

2. Contract Document

All documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory.

3. Interpretation

- 3.1 If the context so requires it, singular means plural and vice versa where the context requires.

3.2 Entire Agreement

The Contract constitutes the entire agreement between the Purchaser and the Supplier and supersedes all communications, negotiations and agreements (whether written or oral) of parties with respect thereto made prior to the date of Contract.

3.3 Amendment

No amendment or other variation of the Contract shall be valid unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party thereto.

3.4 Nonwaiver

- (a) Subject to Clause 3.4(b) below, no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, neither shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.
- (b) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

3.5 Severability

If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

4. Language

- 4.1 The Contract as well as all correspondence and documents relating to the Contract exchanged by the Supplier and the Purchaser, shall be written in English language. Supporting documents and printed literature for the Goods offered by the Supplier may be in another language provided they are accompanied by an accurate translation of

the relevant passages in English language. For the purpose of interpretation, the translation in English language shall prevail.

- 4.2 The Supplier shall bear all costs of translation to English language and all risks of the accuracy of such translation.

5. Joint Venture, Consortium or Association

- 5.1 If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfillment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.

6. Notices

- 6.1 Any Notice given by one party to the other pursuant to the Contract shall be in writing to the address specified below:

The Purchaser:
Chief Technology Officer,
Infrastructure Development Authority of the Punjab,
50-B-III, Gulberg, III. Lahore.

The Supplier:

The term "in writing" means communicated in written form with proof of receipt.

- 6.2 A Notice shall be effective when delivered or on the Notice's effective date, whichever is later.

7. Governing Law

- 7.1 The Contract shall be governed by and interpreted in accordance with the laws of Islamic Republic of Pakistan.

8. Settlement of Disputes

- 8.1 The Purchaser and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

- 8.2 If the parties fail to resolve such a dispute or difference by mutual consultation within twenty-eight (28) days from the commencement of such consultation, either party may require that the dispute be referred for resolution under Pakistan Arbitration Act, 1940. The place of arbitration shall be Lahore and the Courts of Lahore shall have exclusive jurisdiction to adjudicate upon any matter related to or arising out of this Contract.

- 9. Scope of Supply**
- 9.1 The Goods to be supplied shall be as specified in the Specifications and of the best quality as per applicable international standards.
- 9.2 The Scope of Supply shall include all such items not specifically mentioned in the Contract but that can be reasonably inferred from the Contract as being required for attaining Delivery and Completion of the Goods as if such items were expressly mentioned in the Contract without any additional cost to the Purchaser.
- 10. Delivery**
- 10.1 Subject to Clause 24, the Delivery of the Goods shall be made within Seventy-Five (75) days for all lots, from the date of issuance of notification of award.
- 10.2 Goods shall be considered delivered after a 'Material Inspection Report (MIR)' have been signed by the Purchaser. Inspection shall be conducted on location, date and time agreed by the Purchaser and the Supplier. The signing of the MIR does not constitute handover to the Client.
- 10.3 If the Site is not ready for receipt of Goods then Supplier shall stage/configure the Goods at his premises/warehouse, on the date and time decided by the Purchaser, until the Site gets ready for installation and commissioning of the Goods. No separate payment shall be made to the Supplier for configuration of equipment at his premises or delivery, installation and commissioning afterwards at the Site.
- 10.4 Installation and Commissioning shall be carried out at Site and will be considered complete after following conditions are met.
- (i) Design document for installation of Goods are submitted by the Supplier and approved by the Purchaser.
 - (ii) Goods are installed and configured at Site as per approved design.
 - (iii) Goods are active and tested.
 - (iv) Goods are in use at Site as per their scope.
- 10.5 A 'Taking Over Certificate (TOC)' shall be issued by the Purchaser to the Supplier after Delivery, Installation and Commissioning of Goods at the Site.
- 11. Supplier's Responsibilities**
- 11.1 The Supplier shall supply all the Goods included in the Scope of Supply in accordance with Clause 09 and Clause 10.
- 12. Purchaser's Responsibilities**
- 12.1 Wherever the supply of Goods requires that the Supplier obtain permits, approvals, and import and other licenses from local public authorities, the Purchaser shall, if so requested by the Supplier, make its best effort to assist the Supplier in complying with such requirements in a timely and expeditious manner. However, obtaining such permits, approvals, and licenses shall remain the sole responsibility of the Supplier.

- 13. Terms of Payment**
- 13.1 Payment shall be released as per the following schedule.
- (i) 100% of the Contract Price shall be released after delivery at Site and MIR is signed by the Purchaser.
- 13.2 Payments shall be made promptly by the Purchaser, no later than Thirty (30) days after submission of an invoice or request for payment by the Supplier, and the Purchaser has accepted it.
- 13.3 In case this Contract is terminated before Completion and Delivery of the Goods, part payment shall be made to the Supplier subject to acceptance of the portion of the Goods supplied to and accepted by the Purchaser.
- 13.4 Notwithstanding the terms of this clause or any other clause of the Contract no payment shall be made to the Supplier, until the performance security has been provided by the Supplier and approved by the Purchaser.
- 14. Taxes and Duties**
- 14.1 For Goods supplied from either within or outside of Pakistan, the Supplier shall be entirely responsible for all taxes, duties including stamp duties, license fees, and other such levies incurred until delivery of the Goods to the Purchaser imposed as per law.
- 15. Confidential Information**
- 15.1 The Purchaser and the Supplier shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract, except as required under the law.
- 16. Subcontracting**
- The Supplier shall not subcontract supply of any or all Goods to any other person except with the approval of the Purchaser.
- 17. Specifications**
- 17.1 The Supplier shall ensure that the Goods comply with the technical specifications and other provisions of the Contract.
- 18. Packing and Documents**
- 18.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. During transit, the packing shall be sufficient to withstand, without limitation, rough handling and exposure to extreme temperatures, salt and precipitation, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the final destination of the Goods and the absence of heavy handling facilities at all points in transit.
- 18.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including any other

instructions given by the Purchaser without any additional cost to the Purchaser.

19. Liquidated Damages

- 19.1 Except as provided under Clause 23, if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, the Purchaser may without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to an amount of One-tenth per cent (0.1 %) of the Contract Price for each day of delay, subject to a maximum deduction of Ten per cent (10 %) of the Contract Price. Once the maximum limit of liquidated damages is reached and the Supplier is still delaying Delivery of the Goods, the Purchaser may either at the risk and cost of the Supplier:
- a) purchase the Goods from open market and charge the difference between the price quoted by the Supplier and the price on which such Goods were purchased from open market, to the Supplier; or
 - b) terminate the Contract pursuant to Clause 26.

20. Warranty

- 20.1 The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials.
- 20.2 Subject to Clause 17, the Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in Pakistan.
- 20.3 The warranty shall remain valid for the period mentioned in the Specifications. Warranty period and software licenses shall start after issuance of Taking-over Certificate.
- 20.4 The Purchaser shall give Notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.
- 20.5 Upon receipt of such Notice, the Supplier shall, within five (05) working days, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.
- 20.6 If having been notified, the Supplier fails to remedy the defect within the period specified in Sub-Clause 20.5, the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under this Contract.

21. Patent Indemnity

- 21.1 The Supplier shall, subject to the Purchaser's compliance with Sub-Clause 21.2, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative

proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of the Delivery of the Goods by the Supplier or the use of the Goods in Pakistan.

21.2 If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to in Sub-Clause 21.1, the Purchaser shall promptly give the Supplier a notice thereof, and the Supplier shall at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

21.3 If the Supplier fails to notify the Purchaser within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Purchaser shall be free to conduct the same on its own behalf at the sole risk and cost of the Supplier.

21.4 The Purchaser shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim, and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.

22. Change in Laws and Regulations

22.1 Unless otherwise specified in the Contract, if after the date of invitation for Bids, law related to Sales Tax only have been changed in the place of the Purchaser's country where the Site is located (which shall be deemed to include any change in interpretations or application by the competent authorities) that subsequently affects the Delivery Date and/or the Contract Price, then such Delivery Date and/ or Contract Price shall be correspondingly increased or decreased, to the extent that the Supplier has thereby been affected in the performance of any of its obligations under the Contract.

23. Force Majeure

23.1 The Supplier shall not be liable for forfeiture of liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

23.2 For purposes of this Clause, "Force Majeure" means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, wars or revolutions, floods, epidemics, quarantine restrictions, and freight embargoes.

23.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is

reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

24. Change Orders and Contract Amendments

24.1 The Purchaser may at any time instruct the Supplier through Notice to make changes within the general scope of the Contract in any one or more of the following:

- (a) any increase or decrease in the quantity of the Goods;
- (b) the method of packing;
- (c) the place of delivery; and
- (d) Any other

24.2 If any such change causes an increase or decrease in the time required for the Supplier's performance under the Contract, an equitable adjustment shall be made in the Delivery and Completion time and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this Clause must be asserted within Seven (07) days from the date of the Supplier's receipt of the Purchaser's change order.

25. Extensions of Time

25.1 If at any time during performance of the Contract, the Supplier should encounter conditions impeding timely Delivery of the Goods, the Supplier shall promptly notify the Purchaser in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of

25.2 the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, in which case the extension shall be ratified by the parties by amendment of the Contract.

25.3 Except in case of Force Majeure, as provided under Clause 23, a delay by the Supplier in the performance of its Delivery and Completion obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to Clause 19, unless an extension of time is agreed upon, pursuant to Sub-Clause 25.1.

26. Termination

26.1 Termination for Default

(a) The Purchaser, without prejudice to any other remedy for breach of Contract, by Notice of default sent to the Supplier, may terminate the Contract in whole or in part:

(i) if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to Clause 25; or

(ii) if the Supplier fails to perform any other obligation under the Contract.

(b) In the event the Purchaser terminates the Contract in whole or in part, pursuant to Clause 25.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods and / or related services similar to those undelivered and

/ or not performed, and the Supplier shall be liable to the Purchaser for any additional costs for such similar Goods and / or related services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

- (c) if the Supplier, in the judgment of the Purchaser has engaged in corrupt and fraudulent practices in competing for or in executing the Contract.

26.2 Termination for Insolvency

The Purchaser may at any time terminate the Contract by giving Notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In such event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to the Purchaser.

26.3 Termination for Convenience

- (a) The Purchaser, by Notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The Notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
- (b) The Goods that are complete and ready for shipment within Seven (07) days after the Supplier's receipt of the Notice of termination shall be accepted by the Purchaser at the Contract terms and prices.

27. Assignment

- 27.1 The Supplier shall not assign, in whole or in part, its obligations under this Contract, except with prior written consent of the Purchaser.

28. Performance Security

- 28.1 The Supplier shall, within Twenty-Eight (28) days of notification of Contract award or such other period as decided by the Purchaser, provide a Performance Security for the due performance of the Contract of an amount equal to Ten per cent (10 %) of the Contract Price. The performance security shall be issued by a Scheduled Bank in Pakistan or from a bank located outside Pakistan duly counter-guaranteed by a Scheduled Bank in Pakistan.
- 28.2 The proceeds of the Performance Security shall be payable to the Purchaser as compensation for the Supplier's failure to complete its obligations under the Contract.

- 28.3 The Performance Security shall be denominated in the Pakistan Rupees and shall be in the form provided by the Purchaser in the Bidding Documents, or in another form acceptable to the Purchaser.
- 28.4 The Performance Security shall be discharged by the Purchaser and returned to the Supplier not later than twenty-eight (28) days following the date of Completion of the Supplier's performance obligations under the Contract, including any warranty obligations, if any.



FORM OF CONTRACT
FORM OF PERFORMANCE SECURITY
&
INTEGRITY PACT



FORM OF CONTRACT

THIS CONTRACT AGREEMENT (hereinafter called the "Contract") made on the _____ day of _____, 2022

By & Between

M/S INFRASTRUCTURE DEVELOPMENT AUTHORITY OF THE PUNJAB having office at 50-B-III, Gulberg III, Lahore, Pakistan (hereafter called the "Purchaser" which expression shall include the successors, legal representatives and assigns) of the one part, and

M/S _____ having head office at _____ (hereafter called the "Supplier" which expression shall include the successors, legal representatives and permitted assigns) of the other part.
(the Purchaser and the Supplier are, hereinafter, individually referred to as "Party" and collectively as "Parties")

WHEREAS the Purchaser is desirous for procurement of certain IT equipment described in the Specifications (hereinafter referred to as the "Goods") from the Supplier and has accepted the bid by the Supplier for Completion of Delivery of the Goods and the remedying of any defects therein.

NOW this Contract witnesseth as follows:

1. In this Contract words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents after incorporating addenda and response to queries, if any, shall be deemed to form and be read and construed as part of this Contract, viz:
 - a. This Contract Agreement;
 - b. Conditions of Contract;
 - c. Specifications; and
 - d. Bill of Quantities.
3. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the Goods and remedy defects therein in conformity and in all respects in accordance with the provisions of the Contract.
4. The Purchaser hereby covenants to pay the Supplier, in consideration of provisions of the Goods as per provisions of the Contract, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS WHEREOF the Parties hereto have caused this Contract to be executed on the day, month and year first before written in accordance with laws of Islamic Republic of Pakistan.

For and on behalf of

M/S INFRASTRUCTURE DEVELOPMENT AUTHORITY OF THE PUNJAB

Witness

Signature _____

Name _____

Title _____

CNIC _____

Address _____

Signature _____

Name _____

Title _____

(Seal)

For and on behalf of

Witness

Signature _____

Name _____

Title _____

CNIC _____

Address _____

Signature _____

Name _____

Title _____

(Seal)

FORM OF PERFORMANCE SECURITY

Guarantee No. _____
Executed on _____
Expiry date _____

Name of Guarantor (Bank) with address: _____
(Scheduled Bank in Pakistan)

Name of Principal (the Supplier) with address: _____

Penal Sum of Security (express in words and figures) _____

Contract No. _____ Dated _____

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the terms of the Bidding Documents and above said Contract (hereinafter called the Documents) and at the request of the said Principal we, the Guarantor above named, are held and firmly bound unto the M/s Infrastructure Development Authority of the Punjab (hereinafter called the Purchaser) in the penal sum of the amount stated above for the payment of which sum well and truly to be made to the said Purchaser, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has entered into a contract for Provision of _____ with the Purchaser.

NOW THEREFORE, if the Principal (the Supplier) shall well and truly perform and fulfill all the undertakings, covenants, terms and conditions of the said Documents during the original terms of the said Documents and any extensions thereof that may be granted by the Purchaser, with or without notice to the Guarantor, which notice is, hereby, waived and shall also well and truly perform and fulfill all the undertakings, covenants terms and conditions of the Contract and of any and all modifications of said Documents that may hereafter be made, notice of which modifications to the Guarantor being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue till all requirements of Clause 28, Performance Security, of Conditions of Contract are fulfilled.

Our total liability under this Guarantee is limited to the sum stated above and it is a condition of any liability attaching to us under this Guarantee that the claim for payment in writing shall be received by us within the validity period of this Guarantee, failing which we shall be discharged of our liability, if any, under this Guarantee.

We, _____ (the Guarantor), waiving all objections and defences under the Contract, do hereby irrevocably and independently guarantee to pay to the Purchaser without delay upon the Purchaser's first written demand without cavil or arguments and without requiring the Purchaser to prove or to show grounds or reasons for such demand any sum or sums up to the amount stated above, against the Purchaser's written declaration that the Principal has refused or failed to perform the obligations under the Contract which payment will be effected by the Guarantor to Purchaser's designated Bank & Account Number.

PROVIDED ALSO THAT the Purchaser shall be the sole and final judge for deciding whether the Principal (the eligible

Supplier) has duly performed his obligations under the Contract or has defaulted in fulfilling said obligations and the Guarantor shall pay without objection any sum or sums up to the amount stated above upon first written demand from the Purchaser forthwith and without any reference to the Principal or any other person.

IN WITNESS WHEREOF, the above-bounden Guarantor has executed this Instrument under its seal on the date indicated above, the name and corporate seal of the Guarantor being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

		_____ Guarantor (Bank)
Witness:		
1. _____		Signature _____
_____		Name _____
Corporate Secretary (Seal)		Title _____
2. _____		

Name, Title & Address		Corporate Guarantor (Seal)

(INTEGRITY PACT)
DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC. PAYABLE BY THE
SUPPLIERS OF GOODS, SERVICES & WORKS

Contract No. _____

Dated _____

Contract Value: _____

Contract Title _____

M/s _____ hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of the Punjab (GoP) or any administrative subdivision or agency thereof or any other entity owned or controlled by GoP through any corrupt business practice.

Without limiting the generality of the foregoing, M/s _____ represents and warrants that it has fully declared the brokerage, commission, fees etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

M/s _____ certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoP and has not taken any action or will not take any action to circumvent the above declaration, representation or warranty.

M/s _____ accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other rights and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, M/s _____ agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by M/s _____ as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP.

Infrastructure Development _____

Authority the Punjab: _____

Signature: _____

[Seal]

Signature: _____

[Seal]



BILL OF QUANTITIES (BOQ)								
LOT #	Item	Product Description	Tentative Quantity (Nos.)	Unit Cost	Total Cost (Excluding Sales Tax)	Sales Tax %	Sales Tax Amount (PKR)	Total Annual Cost (Including Taxes)
LOT # 1	ICT Campus LAN Solution	Item #1 Core Switch 48 Port	02			18%		
		Item #2 Access Switch - 48 Port	26			18%		
		Item #3 Access Switch - 24 Port	05			18%		
		Item #4 Access Switch - 48 Port PoE	47			18%		
		Item #5 Access Switch - 24 Port PoE	03			18%		
		Item #6 SFP 1GE Copper	20			18%		
		Item #7 SFP+ 10GE Copper OR SFP+ 10G AOC Cable	20			18%		
		Item #8 SFP 1G Fiber	60			18%		
		Item #9 SFP+ 10G Fiber	96			18%		
		Item #10 - Outdoor Access Switches	18			18%		
		GRAND TOTAL OF LOT #1 (Inclusive of all applicable taxes)						



BILL OF QUANTITIES (BOQ)

LOT #	Item	Product Description	Tentative Quantity (Nos.)	Unit Cost	Total Cost (Excluding Sales Tax)	Sales Tax %	Sales Tax Amount (PKR)	Total Annual Cost (Including Taxes)
-------	------	---------------------	---------------------------	-----------	----------------------------------	-------------	------------------------	-------------------------------------

LOT # 2	Voice Communication	Item # 1 Telephone Exchange	1			18%		
		Item # 2 IP Phones	388			18%		
		GRAND TOTAL OF LOT # 2 (Inclusive of all applicable taxes)						

LOT #	Item	Product Description	Tentative Quantity (Nos.)	Unit Cost	Total Cost (Excluding Sales Tax)	Sales Tax %	Sales Tax Amount (PKR)	Total Annual Cost (Including Taxes)
-------	------	---------------------	---------------------------	-----------	----------------------------------	-------------	------------------------	-------------------------------------

LOT # 3	Computer Server, Storage & Rack	Item # 1 - Computer Server (Rack Mount)	02			18%		
		Item # 2 - Computer Storage Server (Rack Mount)	02			18%		
		Item # 3 - Floor Standing Server Rack	01			18%		
		GRAND TOTAL OF LOT # 3 (Inclusive of all applicable taxes)						



Past Experience / Contracts

Contracts over <i>[insert amount]</i> during the last three years:				
Procuring Agency	Value	Year	Goods/Services Supplied	Country of Destination



Historical Contract Non-Performance, and Pending Litigation and Litigation History

[The following table shall be filled in for the Applicant and for each member of a Joint Venture]

Applicant's Name: *[insert full name]*

Date: *[insert day, month, year]*

Joint Venture Member Name: *[insert full name]*

IFP No. and title: *[insert IFP number and title]*

Page *[insert page number]* of *[insert total number]* pages

☐ Not debarred due to deviation from commitment of Bid Securing Declaration- ☐ Not debarred due to non-performance			
Year	Non-performed portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and PKR equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Procuring Agency: <i>[insert full name]</i> Address of Procuring Agency: <i>[insert street/city/country]</i> Reason(s) for nonperformance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>
Pending Litigation, in accordance with Section III, Qualification Criteria and Requirements			
☐ Pending litigation in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.3 as indicated below.			
Year of dispute	Amount in dispute (currency)	Contract Identification	Total Contract Amount (currency), US\$ PKR Equivalent (exchange rate)

[insert year]	[insert amount]	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Procuring Agency: [insert full name] Address of Procuring Agency: [insert street/city/country] Matter in dispute: [indicate main issues in dispute] Party who initiated the dispute: [indicate "Procuring Agency" or "Supplier"] Status of dispute: [Indicate if it is being treated by the Adjudicator, under Arbitration or being dealt with by the Judiciary]	[insert amount]
☐ No consistent history of court/arbitral award decisions in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.4. ☐ Consistent history of court/arbitral award decisions in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.4 as indicated below.			
Year of award	Outcome as percentage of Net Worth	Contract Identification	Total Contract Amount (currency), PKR Equivalent (exchange rate)
[insert year]	[insert percentage]	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Procuring Agency: [insert full name] Address of Procuring Agency: [insert street/city/country] Matter in dispute: [indicate main issues in dispute] Party who initiated the dispute: [indicate "Procuring Agency" or "Supplier"] Court/ arbitral award decision: [Indicate if the award decision was against the Applicant or any member of a joint venture.]y]	[insert amount]

Average Annual Turnover (Annual Sales Value)

[The following table shall be filled in for the Applicant and for each member of a Joint Venture]

Applicant's Name: *[insert full name]*

Date: *[insert day, month, year]*

Joint Venture Member Name: *[insert full name]*

IFP No. and title: *[insert IFP number and title]*

Page *[insert page number]* of *[insert total number]* pages

Annual Turnover Data			
Year	Amount Currency	Exchange rate* (If applicable)	PKR equivalent
<i>[indicate calendar year]</i>	<i>[insert amount and indicate currency]</i>		
Average Annual Turnover **			

* Refer ITA for date and source of exchange rate.

** Total PKR equivalent for all years divided by the total number of years. See Section III, Qualification Criteria and Requirements, ITA.